

PO.EX

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PO.EX: Essays from Portugal on Cyberliterature and Intermedia

by Pedro Barbosa, Ana Hatherly, and E.M. de Melo e Castro

Edited by Rui Torres and Sandy Baldwin

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PO.EX

***ESSAYS FROM PORTUGAL
ON CYBERLITERATURE &
INTERMEDIA***

***BY PEDRO BARBOSA, ANA
HATHERLY, AND E.M. DE
MELO E CASTRO***

***EDITED BY
RUI TORRES
AND SANDY BALDWIN***

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Rui Torres. This book would not exist without the support, patience and motivation offered by the authors (re)presented in it: Ana Hatherly, E. M. de Melo e Castro and Pedro Barbosa. I acknowledge their generous permission to translate and publish these pioneering essays, and I extend my indebtedness to their legacy, hoping that readers outside Portugal can now understand its historical importance for the emerging field of electronic literature. I would also like to thank my colleagues Manuel Portela and Pedro Reis for their interest and authorization to republish their essays, as they illustrate how the theorization of experimental and electronic poetry of Hatherly, Melo e Castro and Barbosa is still alive and operative. The incentive and guidance of Sandy Baldwin was key to this book, and the questions and conversations that this book has encouraged between us allowed me to learn a great deal about the context in which these essays could be disseminated. I would also like to thank Isabel Basto, the translator of the texts, and Manuel Portela and Elsa Simões for their important revisions and relevant edits. This book is one of the results of the project “PO.EX’70-80: Digital Archive of the Portuguese Experimental Literature” (Ref. PTDC/CLE-LLI/098270/2008), sponsored by FCT-Fundação para a Ciência e a Tecnologia [Portuguese Foundation for Science and Technology] and the European Union. With this support, we were able to study Portuguese literary experimentalism of the 1960s, 70s and 80s, including in our corpus concrete, visual and sound poetry, videopoetry, happening/performance, and electronic literature. Even though the primary goal of this project was the creation of a publicly accessible database of works and their critical reception—available at www.po-ex.net—it also allowed us to contribute to a better knowledge and dissemination about the importance of Portuguese authors. We expect that this awareness will motivate new theoretical propositions and new didactic and research methodologies in the field of experimental writing and digital literature.

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PO.EX: AN INTRODUCTION

SANDY BALDWIN AND RUI TORRES



Polemics

PO.EX: Essays from Portugal on Cyberliterature and Intermedia is a radical and polemical work.¹ It is polemical in displacing and re-situating accepted views and histories of electronic literature. It also displaces and re-situates view and histories of avant-garde writing from Portugal. It is radical in going to the roots of its topics, providing a systematic and persuasive account of cyberliterature and intermedia. For all this, it is a generous book. The polemics are aimed not to take apart but to construct a larger and more expansive field. The radical account of cyberliterature and intermedia is practical, and points to real and everyday ways of reading and writing.

PO.EX is a book against many things. This is a book *against Portugal*. Such a statement may be surprising in reference to a book of essays from Portugal. To be precise: this a book against a certain “imaginary Portugal.” To understand this, the first question to ask: why Portugal? The second question to ask is: why do we ask this question? Why ask why? Is it a surprise to read essays from Portugal—of all places!—on intermedia and cybertext literature? Is this something unexpected? Perhaps so. Do we not think of Portugal as a minor player in contemporary literary criticism, and not even on the map of criticism of new media and electronic literature? Perhaps. We face various imaginary Portugals. These imaginings root Portugal in tradition, in the nostalgia of a former empire, in the backward gaze on classical works such as the *Lusiads*, in years of dictatorship, and in an emphasis on culture as tourism (port wine, beaches, castles). As with any imaginary, the stakes are competing investments and spectacles. The investment

¹ PO.EX stands for EXperimental POetry, an acronym created by E. M. de Melo e Castro in the 1980s for the exhibition PO.EX/80 at the National Gallery of Modern Art, Lisbon. This acronym was also used in the title of the book ‘PO.EX: Theoretical Texts and Documents from the Portuguese Experimental Poetry’, edited by Melo e Castro and Hatherly (1981). Experimental Poetry, on the other hand, was the title of a magazine with two issues. The first was organized by Herberto Helder and António Aragão (1964) and the second by Aragão, Helder and Melo e Castro (1966).

involves distributions of culture and capital; the spectacle involves the appearance that we recognize as “Portugal.”

Against this imaginary Portugal, *PO.EX* presents another imaginary: it recognizes an intense practice and theory of intermedia and cybertext in a transatlantic context; it re-sets Portuguese literary tradition as an experimental, avant-garde incubator; and it insists on the political aspects of the poetics involved in Portuguese intermedia and cybertext. This new repertoire of images can now be recognized as a Portugal at the forefront of artistic and scholarly activity involving intermedia and cybertext. Of course, the *PO.EX* project—funded by the Portuguese government and the European Union as *PO.EX'70-80: Digital Archive of Portuguese Experimental Literature* and later under the title *PO.EX: Portuguese Experimental Poetry*—that led to this book of essays is the most obvious example, with its research into experimental literature providing a standard for other projects around the world. Coordinated by Rui Torres, the project *PO.EX'70-80* (FCT Ref. PTDC/CLE-LLI/098270/2008) was itself a continuation of a previous project (FCT Ref. POCI/ELT/57686/2004) which studied Portuguese literary experimentalism of the 1960's and created an interactive CD-ROM with the most relevant magazines, catalogs, and publications of that group of poets. By extending it to the reproduction of Portuguese experimental poetry in the 1970's and 1980's, it now includes in its corpus visual and sound poetry, videopoetry, happenings, and cybernetic literature. Characterized by its openness and free access to resources, these projects have led to a digital archive with 4500 items of different media types of sources.

If this is a book against Portugal, it is also a book *against the USA*. Or rather, against a certain imaginary USA that is implied in and necessary to the constitution of the academic study of electronic literature as it exists today. This imaginary acts as a paradigm that in turn determines conditions of recognition and evaluation of all electronic literature, a paradigm projected back onto all previous works and ahead towards the future. If we are to believe N. Katherine Hayles in *Electronic Literature: New Horizons for the Literary*, a 2008 work that remains the only English-language scholarly monograph specifically on electronic literature, the field is recognizable by works and genres appearing in the 1980's. Moreover, these works are characterized by “linking structures.” The examples she gives, both of works such as Michael Joyce's *Afternoon* and tools such as Storyspace, clearly set out the paradigm. Of course, Hayles knows better

than simply to reduce electronic literature in this way, and she carefully states that the varieties of electronic literature are diverse, but the paradigm remains in force: the forms, technologies, and historical moments—linking structures, hypertext, the 1980—are the exemplars against which all else are understood. The spatial, performative, and rhetorical claims for hypertext links remain the default definition of electronic literature. A glance at the Electronic Literature Organization's admirable collections, especially volume 1, shows the dominance of linking structures and hypertext-like works.

PO.EX opened the paradigm of electronic literature to a very different set of origins and exemplary structures. Most notably, cybertext is concerned not only with the jumps of linking but also with text as computation and procedure. Intermedial practices, especially as archaeologically set out in the commerce between Brazilian and Portuguese concrete poetry, activates the semiotics of character and image rather than the structures of juxtaposition implicit in hypertext. The point is not simply a new or alternative set of references but an open horizon where all forms of literary practice become material for electronic literature. With this break away from 1980's American hypertext, a broad vista becomes visible, including a different and more heterogeneous view of American electronic literature. The result is no longer a paradigm but a discontinuous textual relation across histories and forms, creating productive and poetic apparatuses from combinations such as the Baroque and the postmodern or the South American and the European. Once again, the polemic is meant as an act of generosity: "against America" means against an imperialism of electronic literature and for a cosmopolitan view. Electronic literature is the forum where subjects in the global network act out and struggle over their location and situation. Electronic literature must be global or it will not be.

Finally, this is a book *against the future directions* implied in the histories and geographies assumed in academic paradigms of electronic literature. It is too easy to fall into prognostications of electronic literature as the end of literature or as a new beginning. The results of such claims are provocative but nonsense: a basic premise of the Computing Literature book series, where *PO.EX* appears as the fourth volume, is the flexibility of literature as an anthropological fact without determinate ends or beginnings, but certainly with intense possibilities in digital media. In short: this is a book against eschatological views of electronic literature as the end times of literature, and even against the notion that electronic literature

begins or ends anything. Such views imply too much teleology, and see electronic literature purely as the unfolding of the possibilities of the apparatus. The rhetorical logic at work is *literalization*, i.e. taking literary works as the sum of their technical features. This logic is in the service of a technocratic culture where all writing practices fall under corporate and industrial management. Once again, Hayles offers an exemplary version of this literalization:

the history of electronic literature is entwined with the evolution of digital computers as they shrank from the room-sized IBM 1401 machine on which I first learned to program (sporting all of 4K memory) to the networked machine on my desktop. (2)

From one machine to another, the entwined history follows an in-built program of computers as they develop. The sequence of apparatuses makes possible a sequence of literary forms. The term “electronic literature” is itself a literalization, “electronic” supplying the technical answer to the aesthetic questions of “literature.” The essays in *PO.EX* are not fascinated by the apparatus.

Rather than an end game or fulfillment, literature in *PO.EX* is always and already beginning. Rather than technological literalization, with the inevitability of electronic literature being a symptomatic outcome of the hypertext-based World Wide Web, think of Gilles Deleuze and Felix Guattari’s “machinic phylum,” where diverse trajectories exist between experience, language, and materials. Literature includes the computer and the web, not the other way round.

Experiments

PO.EX presents a wide range of poetic experimentation. At times, it comes close to the aesthetics of the Concretism movement, but it moves beyond these frontiers to include sound and visual poetry, video, cybernetic, and performative practices. Situated within the international movement of concrete and visual poetry, experimental poets in Portugal frequently pointed to the importance of literary semiotics, communication, and information theories, ultimately situating poetic discourse and literary practices as forms of understanding the media environments and world that surrounds us.

The dismissal of experimental literature by official criticism, as well as its absence in the general curricula of literary studies, did not hinder dissemination and development of these diverse practises. Such ongoing growth and freedom is

reinforced by more recent digital incursions that remain rooted in concrete and experimental poetry. Emerging practices in e-poetry, cyberpoetry, and digital poetry led scholars to study the systemic affiliation of concrete poetics to digital media (Block and Torres 2007; Portela 2006; Simanowski 2004).

The form and materials used in *PO.EX* are eclectic, ranging from the verbal plasticity of non-verbal arts to object-poems and artists' books; from the use of handwriting and calligraphy to refined combinatorial techniques; and from photocopying and electrography to videopoetry. In all this, the turn to digital media is evident. Authors such as Ana Hatherly and E. M. de Melo e Castro sought a general theory of visual texts. Meanwhile, Pedro Barbosa was an outsider to established academic criticism who offered an important theorization of cybertext and cyberliterature. The major arguments of these authors are collected here for the first time, many appearing in their first English translations.

Equally important for Portuguese experimentalists was the recognition of a historical tradition of innovative poetry. Portuguese poets have often recovered, as well as re-written, historical texts that they considered "experimental." Hatherly achieved an important recuperation of tradition in her book, *A experiência do prodígio* (1983), gathering texts from the fifteenth century and beyond. In *A reinvenção da leitura*, she pursued a study of "image-texts, comprised of hieroglyphics, ideograms, cryptograms, diagrams, rebuses, mandalas, amulets, jewels, toys, gravestones, and even some monuments" (45). Both texts are included here in English for the first time.

A major strategy of renovation involves re-writing and re-textualizing "classic" poems such as those by Luís Vaz de Camões (c. 1524-1580). Examples include Herberto Helder's "'Transforma-se o amador na coisa amada,' com o seu" (1961), Hatherly's *Anagramático* (1970), Barbosa's cybernetic poetry programs "Texal" and "Permuta" (1975), and Melo e Castro's *Re-Camões* (1980). The relevance of re-evaluation for Portuguese poets is aptly summarized in the words of Hatherly: "if, for some, tradition exists and should be *imitated*, for others, if it exists it is to be reinvented" (*Poemografias*, 17).

The oppositions and juxtapositions we find in experimental poetry promote a general idea of the *ideogram* as a constitutive element of the poem's semantic organization. In turn, *repetition*—which is a key element of *PO.EX*—promotes a differential result through the combinatorial possibilities in which it engages the reader.

Experimental poets rarely presented themselves in Portugal as a group until the publication of *Poesia experimental: 1º Caderno antológico* (Aragão and Helder 1964), where the title was an explicit reference to the word *Caderno* (chap-book), and where the works were reproduced as individual leaflets. *Visopoemas* (1965), a collective exhibition of visual and kinetic poetry at the Gallery *Divulgação* in Lisbon, was an event that enabled poets to extend the materials to new and innovative frontiers, such as poems in the form of objects and posters. The exhibit attested to the transposition of concrete poetry to a new and broader vision.

The variety of intermedia approaches was confirmed and emphasized by the second issue of *Poesia experimental* (Aragão, Helder, and Melo e Castro, 1966). The inside cover shows a semi-pictorial text of Lewis Carroll, and the issue included guests from Brazil (Pedro Xisto, Haroldo de Campos, and Edgard Braga) and France (Pierre Garnier and Henri Chopin). The *Conferência-objecto* which took place at Gallery *Quadrante*, Lisbon, April 13, 1967, demonstrated the self-referential attitude mentioned above. This conference was programmed as a literary happening to present the magazine *Operação* (Melo e Castro 1967) and engaged in an explanation of the poems included in the magazine. Poets including Hatherly, Melo e Castro, and José-Alberto Marques, accompanied by experimental musician Jorge Peixinho, presented theories that included information theory, semiotics, and structuralism. *Operação* represented an effort to explain and to inform, but also to demystify archaic conceptions about the poem and poetry in general.

However important these early experiences proved, it was during the 1980s that the international dissemination of experimental poetry became a reality, mostly with the important activities of Fernando Aguiar (b. 1956). Significant milestones include the publication of a special issue of the French magazine *DOC(K)S* ("Portugal, Poesie Visuelle, La Performance," 1987) and the German anthology *Visuelle Poesie aus Portugal* (1990). In addition, significant exhibits and catalogues included *Mappe dell'Imaginario – Poesie Visuelle Portoghese* (Salerno 1987), *Concreta. Experimental. Visual – Poesia Portuguesa 1959-1989* (Palazzo Hercolani, Bologna), and at the Centro Cultural Português of the Fundação Calouste Gulbenkian (Paris 1989), all of which also opened spaces for international dissemination.

A new generation of Portuguese poets came along in the early 1980s. *Poemografias* (Aguiar and Pestana, 1985) was their point of departure. Important new authors include Antero de Alda (b. 1961), António Barros (b. 1953), António Dantas (b. 1954), Emerenciano (b. 1946), César Figueiredo (b. 1954), Armando

Macatrão (b. 1957), António Nelos (b. 1949), Silvestre Pestana (b. 1949), and Gabriel Rui Silva (b. 1956), as well as Fernando Aguiar.

Along with *Poemografias*, these experiences are well documented in Melo e Castro and Hatherly's *PO.EX - Textos e Documentos da Poesia Experimental Portuguesa* (published by Moraes Editores, Lisbon, 1981), which stands as the primary reference work for the field.

The texts translated for this volume continue this process of explanation, information, and demystification. *PO.EX: Essays from Portugal on Cyberliterature and Intermedia* primarily gathers and presents the crucial works of Melo e Castro, Barbosa, and Hatherly. No doubt these authors are not well-enough known outside of Portugal, and no doubt their thinking will rewrite and revise the global map of cyberliterature and intermedia.

Melo e Castro was a pioneer of videopoetry, which explored the grammatical and expressive possibilities of video, while simultaneously researching new codifications for creativity that manifest through writing and reading. Further, he coined and theorized the practice of “infopoetry,” which produces texts with poetic quality through special machines. Melo e Castro considered a wide typology of experimental poetry: Visual poetry; Auditive poetry; Tactile poetry; Respiratory poetry; Linguistic poetry; Conceptual and mathematical poetry; Synesthetic poetry; Spatial poetry; and so on. His studies using numerology to understand combinatory poems led him to conceptualize and present historical antecedents that allow us today to better understand the archeology of poetic forms available for creativity and practice.

Barbosa started experimenting with cybernetic literature at the Laboratory of Automatic Calculation (LACA) at the Faculty of Sciences of the University of Porto in 1976, where he collaborated with the engineer Azevedo Machado to program his virtual texts. This joint effort resulted in the programs “Texal” and “Permuta.” The code of both programs, written using Fortran and Algol, is available but unreadable. In the years that followed, Barbosa tried to update the software and improve the algorithm. The program “Sintext,” published in 1996 in the electronic book *Teoria do Homem Sentado*, is a migration/translation of the early experiments into the programming language C++. This textual synthesizer was created in collaboration with engineer Abílio Cavalheiro. In 2000, in collaboration with engineer José Manuel Torres, Barbosa further developed “Sintext” into “Motor Textual.” In the process, he migrated the textual generator to a new

version entitled “Sintext-W,” designed in accordance with the thinking of newer computers and the Internet. This version was developed using the Java programming language.

Finally, Hatherly is a prominent figure in scholarship on experimental poetics—as noted above—as well as a poet in her own right. As she states in one of her articles, what drove her from literary and artistic experimentation towards the historical investigation of “visual texts” was “the discovery of a surprising technical resemblance between some of my compositions from the sixties and some of the Medieval and Baroque creations I encountered there for the first time” (13). This archaeological work allowed her to argue for a convergence between the basic principles of “experimentalism” and electronic literature. Hatherly showed that historical texts determined by combinatory processes, such as labyrinths and anagrams, share the use of a “program” with works of electronic literature.

The critical rereading of tradition is also important for the development of the specific poetics developed in the creative works of Melo e Castro, Hatherly, and Barbosa. The term “plagiotropy,” which led to the expression “plagiotropic movement,” was coined by the poet and essayist Haroldo de Campos, theorized by Maria dos Prazeres Gomes, and used by Hatherly and Torres, among others. It was used to associate translation with tradition, and to promote the metamorphosis of texts and the transformation of ancient forms and experimentation.

In this context of re-writing and re-reading as critical and reflexive practices, the last three articles included in this book point out the future of *PO.EX*, by showing how experimental poetry has naturally led to digital poetry.

Pedro Reis addresses these same processes of reinvention, arguing that they end up revitalizing the verbal dimension of the word itself, as well as enriching its capacity of producing meaning. He explains that these digital re-writings of “classic” experimental poems allow us to identify, in digital and electronic literature, composition methods and techniques previously explored by experimentalists, such as atomization, juxtaposition, agglutination, interpenetration, redistribution, etc.

Rui Torres explains how the work *Húmus* by Herberto Helder (1967), which is based on a previous novel of Raul Brandão with the same title, goes beyond the simple intertextual suggestion of a text, instead transforming and reviving it. Borrowing from Haroldo de Campos and Maria dos Prazeres Gomes’ concept of plagiotropia (in *Outrora Agora*, 1993), Torres created a computer-pro-

grammed version of *Húmus* that tries to achieve the “critical-ludic-transgressive attitude” (22) that Gomes refers, therefore promoting “a critical rereading of tradition” (20). Creatively exploring the plagiotropic relationships between Helder and Brandão’s works, Torres engages in his own plagiotropic experiment in the creation of a third work, drawing upon its predecessors as databases, and allowing readers to re-read tradition and conceptualize the links between its historical forbears.

Finally, Manuel Portela analyzes digital re-readings (“Releituras”) of experimental poems contained in the digital archive PO.EX, addressing electronic remediations of texts of E. M. de Melo e Castro, Herberto Helder, José-Alberto Marques, Salette Tavares, and António Aragão, conducted by Rui Torres and Pedro Reis. Portela concludes that these digital recreations not only redefine the source texts by means of specific programming codes, but also express the complex linguistic and graphical coding of the printed page itself.

We can clearly see that one aspect of this poetics was “reading as critical reading.” Hatherly argued that experimental poets had “a critical apparatus”—semiotics, structuralism, information theory—which was important for the reception and explanation of their innovative works. Hatherly also argued for the avant-garde’s political role, including a fundamental resistance to commodification and an opposition to the stratified structures of “power.”

These theories led to a view of the poem as an open text, both formally and semantically. The critical role was therefore a part in the process of creating texts that must be executed by the reader. The author was merely the proponent of models to generate texts. In turn, as Barbosa has argued, the “virtual text” was a work existing in multiple forms, a latent text that holds the genetic program of works to be generated. The computer merely intervenes as a “complexity telescope,” a “synthesizer of texts” implying the notion of automatic generation: a creative program that interposes the machine upon the traditional relationship between author and reader.

As a result, literature’s communicational circuit was altered, both from the side of creation and from the side of reception: as Pedro Barbosa has mentioned, the act of reading at last becomes interactive, involving the participation of the reader in the co-creation of the final text according to a simultaneous process of writing-reading or *wreading* (*escrileitura*).

If this book is against many things, what is it for? What is *PO.EX*? The PO refers to “Portuguese” and the EX to “Experimental” literature, but the parts of the title could be read otherwise. Perhaps they can be replaced with Poetic and Experience? All the readings are simultaneous: poetry, Portuguese, experience, experimentation—and many other possible expressions—all in full operation. Once again, Deleuze and Guattari write: “experimentation is always that which is in the process of coming about—the new, remarkable, and interesting that replace the appearance of truth and are more demanding than it is” (111). *PO.EX*, in all its readings, is a book of essays for experimentation. Here are your instructions: take this as a handbook and begin experimenting poetically.

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THE H2 ROBOT POET¹

ANA HATHERLY

He was just a man. An ordinary man, a common example of the species. Simply a man. He stood out. He was also nondescript, an ecological example of his particular type, because being distinguishable is precisely what characterizes the human species, not only from other species but also within itself. He is a man in the sense of having the particularity of endless variation and of being defined according to such endlessness.

He was therefore a man, the common homo sapiens, appearing at that evolutionary stage in which prognathism was already quite lessened; the frontal region, and in general the whole skull, were gaining amplitude, and the ability to move increased in the opposite ratio to muscle importance.

He was a transient individual, with relatively too much baggage but with the peculiarity of dispensing it to acquire more baggage; it was not a gradual elimination process but merely the result of a curious serial chaining; the most recent acquisitions were added to the former, keeping them precisely where they were, fixing them. Thus, he traveled with hinged baggage, a dépliant,² which besides being his Baedeker,³ his vade mecum,⁴ was also his guide and pilot. It was also his pantry, his lunch bag, his picnic basket, and his hand-fan.

One day, when a new fold was taking shape in the map and when it was time to close the pantry, a little crumb, shiny and small as a mouse's eye, fell from the picnic basket and started jumping up and down before the man. It jumped and jumped, ran and hopped, perhaps trying to say something.

Very kindly, the man bent until the angle of incidence equaled the angle of reflection.

When he reached the highest degree of refringence, the little crumb jumped into his eye. Hanging from his brow, it slid to his ear, slipped down his neck, down his back, climbed his shoulder, slipped down his arm, climbed a fin-

1 Ana Hatherly, "O poeta robot H2" (from *Um calculador de improbabilidades*, 2001, [originally published in *Sigma*, 1965], pp. 58-60). Translation by Isabel Basto.

2 Translator's note (T.N.): folder.

3 T.N.: travel guide book.

4 T.N.: hand book.

ger, crossed his chest gravely, went around his waist, until it penetrated his skin by osmosis and traveled the paths leading to the spot the guidebook had indicated as the telegraph office. Upon arriving, it knocked on the door and ordered all the lights to be turned on.

At that moment—due to the laws of geometrical construction of images by spherical concave mirrors—as the object was accurately focused, the image formed at infinity. That was an outstanding event because if the object were at infinity, the image would be real and would be focused, but there would be no representation.

Total reflection takes place when all incident light is reflected. Due to total reflection, the observer sees mirrored images of distant objects.

Optics defines a prism as a transparent medium limited by two sloped, flat surfaces. But objects seen through a prism are not very clear. Images are virtual and diverted to the edge.

That was the reason why the total reflection prism—for example, the periscope or the telescope—that reached an incidence angle larger than the limit was an extremely precious instrument to overcome distance.

And by folding these events, the telegram was delivered. Actually, the telegram delivered itself. The delivery coincided with the moment the TV set was on and fully operational, and the telegram was broadcast by all channels on all wavelengths, so that the message fully impregnated everything, saying:

IF YOU WANT TO BE HAPPY USE THE ROBOT

The homo sapiens understood perfectly. He turned off the TV set, grabbed his tools, placed them in the basket, went down the stairs, turned off the lights, closed the door, went down to the basement, lit a dim light, opened the basket, picked up his tools, placed them neatly on the table, and started making the robot.

For many days he worked. He made his calculations, chose materials, made the pieces, and began assembling. He mounted the engine, connected the wires, completed the finishing touches, painted it, and left it to dry for a few days. He took that time to produce the code by which the robot would be guided. He passed it on to his Baedeker, his maps, and his instructions.

All very complex for the outcome to be exquisite.

When the paint was totally dry, the man took the robot. As he left, carrying it in his arms, he remembered he didn't tidy the workshop, which could be a

hindrance for future work. And he prepared himself to lay the robot on the floor to tidy the workshop when it told him:

No! From now on you won't need to do anything. I will work for you. You will place me at the most southern promontory, and while you sleep lying on the sand, I will work. When a cloud passes by, I will shut my lid and shed a tear inside. When a bird passes by, I will create laughter, and when the stormy sea approaches, I will shiver. When the wind blows, I'll start singing, and at the setting sun, I will create the night's propitiatory dance. I'll be intoxicated with the smell of pollen, a sea perfume will color my strong emotions, and at each beating of your heart, I will create a name, and with all that, I will make the poem. When the sun has gone, you will climb the promontory. Every night you will lay me down with you, and according to the drawing in your dreams, I will renew my cells. In the morning, I will wake you gently, and in your arms, you will carry me to the promontory where I will remain eternally shuddering until night brings us together.

The man heard all this and agreed.

He headed towards the promontory. Settled the robot. Headed towards the beach. Undressed. Laid down. The sea approached and recoiled. The day gradually ended. The robot worked exceptionally. There was one and only one shudder. A single tremor.

When the night had almost fallen, the man went up the promontory. Took the robot in his arms and headed home. According to schedule, he laid the robot by his side and fell asleep. The robot fulfilled his nightwatch and the next morning was even more awake and alert.

The man stood up, headed towards the promontory. Settled the robot. Headed towards the beach. Undressed. Laid down. The sea was approaching.

The sea was approaching.

The sea was approaching. The day deflecting. The sea approaching. The day recoiling. The robot poetizing. The man sleeping. The sea approaching. The sea approaching. The day recoiling. The robot poetizing. The man recoiling. The day falling asleep. The robot approaching. The day advancing. And the sea poetizing. The man recoiling. The sea falling asleep, the day poetizing, and the Robot advancing.

The sea

CONTRIBUTION TOWARDS A QUANTUM THEORY OF CYBERTEXT⁵

PEDRO BARBOSA

The whole universe must be considered a quantum system with visible-real and invisible-virtual states. (Schäfer 89)

Quantum theory—originally conceived as a physical theory to be applied to the inner structure of matter and the paradoxical properties of the microparticles (electrons, protons, atoms, and molecules)—contains philosophical assumptions that open a new way of thinking about reality. We know the risk involved in often fanciful extrapolation of this theory onto other levels of organization of reality. However, the quantum chemist, Lothar Schäfer, is adamant that these properties do not merely manifest in the field of microphysics: “Molecules are the basis of life and molecules are quantum systems” (86). The mathematician Roger Penrose corroborates: “Quantum mechanics is omnipresent even in everyday life and is at the heart of many areas of high technology, including electronic computers” (55).

Without the intent to invade a domain that is not our specialty, we are interested in the epistemological assumptions of this theory and not its scientific operability. Although our boldness will not reach far beyond the right to quote, we propose a homology between the quantum model and text theory, whose applicability to computer generated texts we find particularly rich in potential.

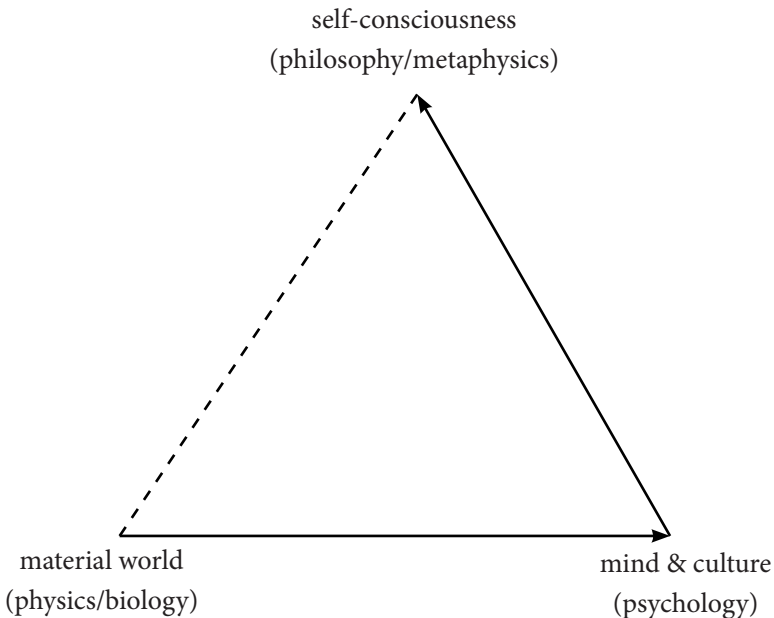
I will often use the expression quantum text. Why quantum? For a fad? Well, first of all as a metaphor but one that is not strictly a metaphor at all. Later on, this apparent contradiction will be better understood. For now, we will refer to a paradigm shift.

It all starts when we consider the computational text, not within the atomistic-structuralist paradigm, but within a different paradigm, akin to quantum thinking. This leads us not only to consider each word as an atom of sense,

⁵ This text was published as “Contributos para uma teoria quântica do cibertexto” in *Revista de Estudos Literários*, a serial publication of the *Faculdade de Letras da Universidade de Coimbra*, Number 2, Special issue organized by Manuel Portela with the title *Literatura no século XXI*, pages 121-184, 2012. ISSN 2182-1526. [First published as “Aspectos quânticos do Cibertexto” in *Cibertextualidades*, 1, pages 11-42, 2006. ISSN 1646-4435.]. Translation by Isabel Basto.

but the whole speech as a production of meaning, made word by word, with all the words interacting with each other in a holistic manner. From one word to another, there is what we may consider a leap of meaning, or a qualitative leap of informational energy, which is comparable to what the quantum model considers in electronic orbits, the quantum leap.

Thus, from one word to another, there is a real leap of meaning in discourse, an informational quantum leap (allowing the analogy), but always in such a manner that the network interrelation and entanglement of all the words in the text creates the full production of meaning in discourse. In a sort of nonlocality, or supra-spatiality, even the last word of the text may interact with the first word, changing the meaning of the whole. All words are linked together in a complex network of progressive interactions during the act of reading, just as all microparticles of matter may interact regardless of the distance between them in the universe. And when we suggest the idea of a supra-spatiality in the text, this is nothing more than a leap from one dimension to another in the textual structure: from the signifier level onto the level of signified, and from this to the level of meaning. In this leap, one arrives exactly at a dimension that exists only in the psychic realm, or consciousness, and no longer exists in the level of matter (sound or writing). This dimension is beyond space and time, and is extensive but



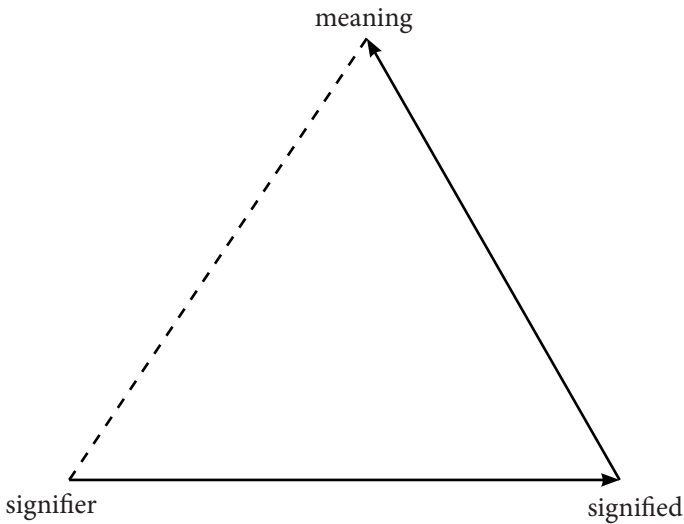
not local. The leap moves from the corpuscular state (letter or phoneme) onto the wave-like state, from matter to energy, and from there to the mental plane, where it transmutes into information.⁶

In this line of thought, the semiotic transit underneath the text—

signifier → signified → meaning

—would roughly correspond in the natural world to the passage equivalent to the triad:

matter → energy → information.



And this leads us to the theory of the three classical worlds: matter, life, spirit (atoms, cells, mind). Or: inorganic, biological, and psychic worlds.

In short, the three epistemological domains of official science are as follows: physics, biology, and psychology (matter, brain, and information).

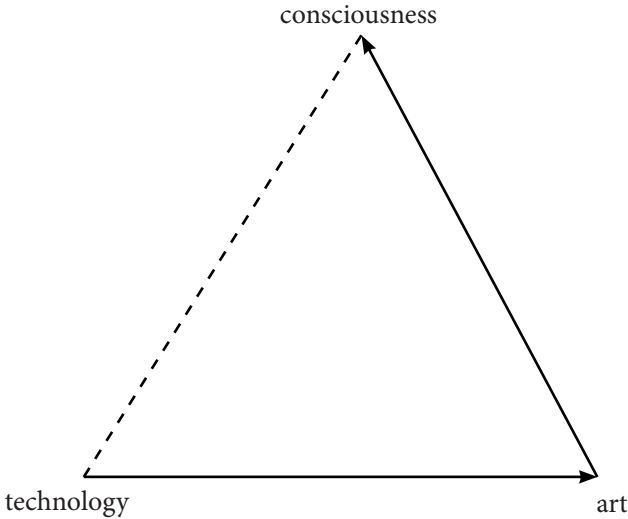
⁶ This is local/corpuscular character versus extensive/undulatory character. In quantum theory, quantum systems have both local properties—punctual and traceable characteristics of the corpuscles—and non-punctual properties of extension, which are attributes of waves. It should be noted that at the quantum level, there is a difference between the concepts of particle and corpuscle: a particle is a quite complex system possessing extent and location while a corpuscle is an entity characterized only by its position.

But it is now possible and even advisable to extend this triadic model in a strictly materialistic or scientific manner.

- World 1, i.e. the material world, consisting of atoms and energy, inserted in space-time, includes matter (physics, chemistry, astronomy) and cell (biology, neurology, brain). It corresponds in language to the signifier level.
- World 2, i.e. the mental and cultural world, includes psychic phenomena and information fields; mental phenomena, non-spatial and non-material. It corresponds in language to the signified level.
- World 3, i.e. the level of consciousness and the self, includes spirituality, soul, and consciousness (philosophy, metaphysics). It corresponds in language to the meaning level.

These three worlds are sealed off to each other, while hierarchically interdependent: the third depends on the second and the second is based on the first.

- World 1 is inorganic: matter has never created life in the laboratory; life seems to emerge from life itself. Only life generates life by reproduction.



- World 2 exchanges information, it is where dictionaries encode meanings, and it is with this information where minds communicate with each other and make culture, creating the social field.
- World 3 is strictly personal, non-shareable, the intimate setting for the self and consciousness (individual but trans-personal), and remains tightly sealed when a body with a brain lacks consciousness (when in a coma, for instance).

The worlds considered here do not correspond exactly to the three worlds described by Popper, but they correspond to the three vertices of the semiotic triangle (signifier, signified and meaning).

Hence, there are three sealed levels that are hierarchically interrelated, even considering the continuous complexification of matter and structural jumps according to the dialectic law of transformation of quantity into quality.

- Matter level (mechanism): the inorganic realm (in language, the signifier: the sound, the image, the letter, the “ink painted papers” according to the poet).
- Vital level (vitalism): animals react, feel pain, think, etc., they express mental phenomena in different degrees (in language, the signified and syntax dynamics).
- Mental/consciousness level (animism): the intimate experience and not shareable “self” and consciousness (in language, the meaning and semantic immateriality).

In the field of aesthetics, these levels are represented as Technology—Consciousness—Art (TAC).

Atomism, in the science of matter, inspires atomism in the science of language (Structuralism). Language was considered an infinite hierarchical combination of signs (phonemes, letters, morphemes, lexemes, words, phrases, etc.) just as chemistry from the nineteenth century saw substances in nature as an infinite combinatory of a small number of elements on Mendeleev’s restricted table. Linguistic structuralism demonstrated its effectiveness in the understanding of language mechanisms at the level of the signifier and the signified (and, therefore, at the level of their junction in syntax).

Nevertheless, at the level of meaning, structural semantics seems to gain much more functionality if the atomistic-structural paradigm shifts to the quantum paradigm—much like physics and chemistry in the twentieth century. That is, instead of only treating words like atoms, isolated from meaning, it also treats them as waves, whose vibratory power splayed throughout the whole length of the text, interacting in a complex pattern whose intersection results in the final meaning.⁷ In this wave-like theory of meaning, any word—due to its extensional wave-like properties—would be seen interacting with the others from the whole text, from first to last, overlapping and intersecting like the undulations and currents of water in a lake.

Quantum systems may be dual, but they still have properties of corpuscle, location, and wavelength. Depending on the experimental situation, one or another aspect is manifest. I likewise propose the consideration of words under this double feature of duality: corpuscular and wave-like.

Having said that, the scope of textualities is especially apparent in the advent of computer technology, as is the case of computer-animated poetry, virtual text, automatic text, generative text, and hypertext and hypermedia. In correspondence, a different way of looking at language and the construction of meaning is required.⁸ The basic assumptions of quantum thought turn out to be significantly operative for this new theory of the text. Among them, we highlight the following:

- the introduction of the notion of information in the structure of matter and dynamics of nature (in addition to the two classical notions of matter and energy);
- the value placed on randomness in the interaction of elementary particles, also seen as an intimate property of the natural world, and the

⁷ This is thoroughly illustrated in *The History of the Siege of Lisbon* by Saramago, where the extensive power of a simple typo introduced by a proofreader, the word “no,” alters and subverts the whole meaning of the history fictionalized in the novel.

⁸ In this respect, one must recall the essay: “*Un modèle fonctionnel des textes procéduraux*” (*A functional model of procedural texts*), by Philippe Bootz, digital poet and theoretical physicist. Bootz uses an assumption of quantum theory, the interference of the observer on the observed object, and applies it to computer animated poetry. Among many possibilities for learning about the richness and creative variety in this line of digital poetry, we suggest the personal page of Manuel Portela: <http://www1.ci.uc.pt/pessoal/mportela/>.

unpredictability of their effects leading to the notion of knowledge as probabilistic order;

- overcoming the logical principle of identity or non-contradiction, which seems to open up towards a new convergence of coincidence of opposites (the case of unitary duality of quantum particles, as in the famous metaphor of Schrödinger's cat);
- the revival of the old concepts of virtuality and actuality;
- and the importance awarded to the observer in the real manifestation of the physical properties of matter.

These assumptions open doors to approaching the real and also to the concept of text: as an organized matter of signs, with which we store, convey, and exchange information.

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**VISUALITY AND INTERMEDIALITY IN
EXPERIMENTAL LITERATURE**

PREFACE⁹

ANA HATHERLY

What drove me from literary and artistic Experimentalism onto the historical investigation of “visual text” was my discovery of a surprising technical resemblance between some of my compositions from the 1960’s and some Medieval and Baroque creations.

Impressed by this similarity, I subsequently began studying the European visual poetry that spread throughout the entire Middle Ages since the Alexandrine Greek re-flourishing during the Renaissance. The same visual poetry exploded during the Baroque period, disappeared during the nineteenth century, and reemerged transfigured in the twentieth century.

Being a European phenomenon, ancient visual poetry was nevertheless basically unknown in our time, and therefore I also felt the need to find traces of that tradition in Portuguese culture. For the sake of method, I limited my research to the seventeenth and eighteenth centuries, a period during which visual poetry underwent a remarkable development and expansion throughout Europe, including Portugal. After decades of thorough research, I was able to find countless examples of such poetic and artistic practices and published samples in diverse articles, some of which are included in *The Experience of the Prodigy*.¹⁰ In that publication, I not only compiled some of the “visual texts” I had found; I also sought to place them in their particular theoretical framework, thus illuminating their formal genesis and intentionality.

My research was not fueled by a desire to justify twentieth century visual poetry, as some European and American anthologists did in the 1970’s, elaborating impersonal and international panoramas of “visual texts” across the centuries without any theoretical support. Instead, my desire involved finding the roots of the visual text and following its path along the ages but also understanding its foundations. In addition, I wanted to establish what had happened in Portugal.

9 Ana Hatherly, “Prólogo,” from *A Casa das Musas*, 1995, pp. 9-14. Translation by Isabel Basto.

10 Original title: *A Experiência do Prodígio—Bases Teóricas e Antologia de Textos-Visuais Portugueses dos Séculos XVII e XVIII*, by Ana Hatherly, published by INCM—Imprensa Nacional Casa da Moeda, Lisbon, 1983.

In fact, it was an archaeological work, for the texts I was looking for were buried in national libraries, and most of them were submerged in oblivion. Their recovery was very difficult and lengthy because there were no clues to their locations. Yet, their existence had at one time been signaled, namely by deprecatory references here and there, for instance by Verney,¹¹ but their locations were problematic.

My efforts were finally rewarded, and I unveiled a remarkable production of “visual texts” from diverse categories, belonging to diverse groups and families I systematized.

As my research progressed and consolidated, I managed not only to reach some conclusions concerning the set of main categories of visual text produced during the Portuguese Baroque period (coinciding with those made throughout Europe and the colonized Americas) but also to find common denominators for them. The most interesting one to me was the fact that the texts involved compositions in which a *program* was a determining factor. Another one was the fact that such a program, besides an aesthetic value, had an experiential value, both for the author and for the reader.

As commonly known, one of the basic principles of Experimentalism is the conception and execution of a program, which validates and justifies the whole creative process, from conception to execution. But that process also works inversely—from execution to conception—because experimental work is a particular sort of discovery that teaches its author.

The program may therefore exist from the beginning, but its execution may lead to changes which in turn may originate new programs. The value is the experience, which is only valid and confirmed if the author and the reader are conscious of the effects of a successful work.

In *Maps of Imagination and Memory*,¹² I illustrated the value of the creative gesture’s awareness regarding my studies in Chinese archaic writing.

11 T.N.: Luís António Verney (1713–1792), Portuguese theologian, educational reformer and writer, who spent many years in Rome and is generally considered a major representative of the Enlightenment.

12 Original title: *Mapas da Imaginação e da Memória*, by Ana Hatherly, published by Moraes Editores, Lisbon, 1973.

I declared that my hand had become intelligent because as I performed I was able to observe, experimentally, the act of knowing.¹³

Already in 1967, in an article published in “Diário Popular,”¹⁴ I paraphrased Pedro Barbosa’s expanded translation of Abraham Moles’ *Art et Ordinateur*,¹⁵ referring to Experimentalism’s emphasis on artistic creation as a process in which “experience is the most significant factor.”¹⁶

Because some of the basic rules of twentieth century Experimentalism were surprisingly applicable to Experimentalism of the past, my perspective on the Experimental principle allowed me to understand ancient visual poems. Once their theoretical bases were known—especially in the labyrinths, anagrams, and texts in which combinatory process is privileged—the reward of bringing a program to completion became obvious, in and of itself. Those texts resorted to combination and permutation, and this feature made them resemble present day Experimentalism.

Moles, who in the 1960’s defined Permutational Art as the passage from an analytical world to a synthetic world, considered permutation not only one of the possibilities available to the creator (through much help of the computer), but also a sort of “rational thought’s fundamental instinct that allows for variety within uniformity” (133).

On the other hand, as I discussed in *A Reinvenção da Leitura* and my essay “Concrete Poetry and Experimentalism,” my research on the Baroque visual text led me to develop a new way of reading texts, images, and everything that is historically regarded as reading.

As highlighted in the article “Texto e Visualidade” in 1977, “the difficulty of deciding where the visual poem historically starts or ends would be identical

13 “Maps of Imagination and Memory,” *Mapas da Imaginação e da Memória*, by Ana Hatherly published by Moraes Editores, Lisbon, 1973.

14 T.N.: Lisbon’s daily newspaper with large national circulation between 1942 and 1991.

15 Future quotes of Moles are from Pedro Barbosa’s translation, an expanded version of the original.

16 “PO.EX—Texts and Documents from Portuguese Experimental Poetry,” *PO.EX - Textos e Documentos da Poesia Experimental Portuguesa*, by E. M. de Melo e Castro & Ana Hatherly, published by Moraes Editores, Lisbon, 1981.

to the difficulty of deciding where the poetic text historically starts and ends.”¹⁷ Yet we could actually broaden this issue if we state instead that the difficulty is deciding what writing is or is not, what representation is or is not, and last but not least, what reading is or is not.

This was one more point in which Experimentalism in the twentieth century converged with the practice of the Baroque visual text. Such convergence did not lie in the textual intentionality but rather in the poetic intentionality, with both coinciding in merging or overlapping ikon and logos, despite ideological and even programmatic differences.

Therefore, what I verified was the existence of a continuum that established a connection between the ancient and the modern that did not constitute a quarrel, but rather a kind of recognition or identification of family bonds. The continuum I found was that of the creative act as a process, one that must be brought to consciousness in order to be efficiently carried out.

The verification of such a continuum, as far as I’m concerned, does not justify repetition even though many European and American Experimentalists in the 1960’s and 1970’s imitated Baroque, Medieval, or Alexandrine texts. I believe the value of knowing those ancient texts lies in the certainty that those forms existed, that they remain in the general constellation of the arts where everything coexists. In such a constellation, the arts are available and valid in their horizon of expectations, and we may enjoy and appreciate them with no need to copy, although nothing prevents us from glossing them, reinventing them, and reintegrating them in our intertextual camaraderie.

The coincidence of verified methods in some cases confirms the validity and ductility of the process, allowing for its survival down to our own time because the cultural heritage is something we carry within us, even if unconsciously. Verifying the convergence of several creative processes between Baroque poetic creations and present ones has led the most conscientious Experimentalists to promote the often forgotten and ridiculed Baroque poets (authors of visual texts or not) and to adopt the defense of the Baroque and Mannerist tradition as the singular sign of their experimentation. Alongside

17 Original Portuguese (O.P.): “a dificuldade que haveria em decidir onde começa ou acaba historicamente o poema visual seria idêntica à dificuldade de decidir onde começa e acaba historicamente o texto poético.” (In: *O Espaço Crítico*, by Ana Hatherly, published by Caminho, Lisbon, 1979).

some poets illustrating the most radical avant-garde, Felix Krull and Luís de Camões appeared in the first issue of the magazine *Poesia Experimental* in 1964. They would become among the most beloved masters, glossed regularly by Melo e Castro and myself.

Portuguese Experimentalism's disruption of twentieth century poetry was not a rupture like Futurism, for instance, which postulates a total disconnection from the past and overrates the future. Experimentalist poems, rather, assume the present intervenes in poems, challenge academic and conventional features of non-experimental poems, and reconnects with tradition through style, as I noted in the article "Perspectivas para a Poesia Visual: Reinventar o Futuro."

The Portuguese Experimentalists practiced advanced theories from Linguistics, Structuralism, Semiotics, and Information Theory and inserted them in the international movement of concrete poetry. Those who defended Baroque poetry did so for three reasons:

1. because it was condemned by official criticism and, therefore, was subversive;
2. because the once abandoned procedural, rhetorical, and ludic values dynamically and beautifully reemerged in Baroque poetry's creative processes, visual or not; and
3. because the works contained idiosyncratic parallels that help us understand our contemporary mental structures and artistic sensibilities, a different view from the Postmodern idea of Neo-Baroque that emerged much later.

Without being followers of Eugenio d'Ors, we recognized quite a few aspects of the historic Baroque in a significant body of Portuguese poetry from the second half of the present century. Melo e Castro was committed to demonstrating this in the several timely studies he published on that subject.

The exotic and strange characteristic that the exhumed Baroque texts brought to our poetry—predominantly close to Neorealism or Surrealism—is similar to the effect brought by Picasso at the beginning of the century when he introduced African Art influences in "Les Demoiselles d'Avignon." I later glossed this overlap in a visual text.

In summation: innovation is always contingent, and one can innovate with the new just as one can innovate with the ancient because invention is a form of reinvention. Every reading is a rereading, and every rereading is a transformation. This is an eternal truth that nowadays has become perfectly clear.

THE NEW PRESENCE OF THE PAST IN THE PRESENT: CRITICAL REREADING OF TRADITION¹⁸

ANA HATHERLY

A quite interesting doctoral thesis was recently presented in Brazil, addressing the issue of the past in the present in Portuguese poetry produced mainly since the second half of the twentieth century.

It is common knowledge that poetry has always been the most representative kind of Portuguese literary production, and even those who know little about Portuguese literature have certainly heard of Fernando Pessoa, one of the greatest figures of twentieth century European literature.

Actually, Fernando Pessoa may be deemed the shining tip of the huge iceberg that is twentieth century Portuguese poetry—an iceberg for being a sort of partially submerged mountain of eminent poets who, with rare exception, remain ignored, and therefore are important to expose.

As a matter of fact, no poet (or artist) is born in a void: each great figure inevitably rises upon countless others, either contemporaries or predecessors, whether deliberately chosen as models or not. Thus, there is always a heritage, a support, whether consciously assumed or not.

This aspect is the first we would like to address, and is particularly well-studied in the above mentioned thesis. That thesis, by Maria dos Prazeres Gomes, bears the significant title of *Outrora Agora* or *Once Now*, and as a subtitle: *Movimentos Plagiotrópicos da Poesia Portuguesa de Invenção* or *Plagiotropic Movements of Portuguese Poetry of Invention*.¹⁹

As may easily be apprehended from the title, the thesis discusses the issue of the presence of the past in the present, which implies a certain type of intertextuality, but the expressions “plagiotropic movements”²⁰ and “poetry of invention” need explanation.

18 Ana Hatherly, “A nova presença do passado no presente - Uma releitura crítica da tradição,” from *A Casa das Musas*, 1995, pp. 175-186. Translation by Isabel Basto.

19 It was presented in 1991 to the Catholic University of São Paulo, Brazil, to obtain a Ph.D. in Communication and Semiotics (and in the interim was published by the press of the Catholic University of São Paulo [EDUC], Brazil, in 1993).

20 Original Portuguese: “movimentos plagiotrópicos.”

Firstly, what do we mean by plagiotropic movements?

Right at the beginning of the thesis, the author puts forth that her goal is to establish a “dialogue of the forms in trans-secular migration”²¹ and to rediscover “novelty in a centuries-old poetry.”²² What the author essentially intends is to demonstrate the connection between Portuguese Experimental Poetry (produced in the 1960’s) and Baroque poetry (from the seventeenth and eighteenth centuries), but in order to establish that connection she cannot elide the historic sequence, and therefore must also consider all Troubadouresque poetry from the thirteenth and fourteenth centuries, as well as the Renaissance and Mannerist poetry from the sixteenth century.

From this historical perspective, the evolution of languages and creative methods emerges as a process of constant self-eating and self-fecundation in which there are clearly discernible influences, revivals, imitations, and repudiations. From this point of view, culture arises as a living continuum in constant dialogue with itself: poetic forms are in a permanent intertextual relationship because they are permanently available forms within literature’s trans-temporal space—yet, available in “plagiotropic movements.”

But what does “plagiotropy” stand for?

The term, from which derives the expression “plagiotropic movement,” was coined by the poet and essayist Haroldo de Campos (undisputed leader of Brazilian Concretism):

Plagiotropy—term deriving from the Greek, in an oblique way, not as a straight line—may be summed up as translation of tradition, not necessarily in a straightforward sense. It includes an attempt to semiotically describe the literary process, as a product of the endless replacement of interpreters of a “limitless” or “never-ending semiosis” that takes place within the cultural sphere.²³ (75)

21 O.P.: “diálogo das formas em migração trans-secular.”

22 O.P.: “a novidade de uma poesia velha de vários séculos.”

23 O.P.: “A plagiotropia (palavra que deriva do grego, significando oblíquo, o que não é em linha recta) se resolve em tradução da tradição, num sentido não necessariamente rectilíneo. Encerra uma tentativa de descrição semiótica do processo literário, como produto de revezamento contínuo de interpretantes de uma “semiose ilimitada” ou “infinita” que se desenrola no espaço cultural.”

Therefore, this notion of plagiotropism implies that tradition is not propagated in a straight line but rather obliquely, indirectly, or even intermittently, based on the use of such tradition by the succeeding interpreters or remakers.

On the other hand, the notion of translation, associated with the notion of tradition, is a point to highlight because in this context it corresponds to a concept deriving from its exact etymology: “translating” derives from “traducere,” meaning to bring across, and from “translatio,” in the sense of transferring meaning.

Therefore, this concept of plagiotropism implies a connection to the concept of parody, not in the sense of burlesque imitation, as it once was, but rather in the modern sense of parallel work, which highlights the non-linear movement, the movement of textual transformation across history.

Thus, the plagiotropic movement is not related to unlawful imitation, generally associated with the notion of plagiarism, but instead to a notion of translation operation which not only approaches Kristeva’s notion of intertextuality but also Bakhtin’s notion of dialogism.

Therefore, such a translation operation simply corresponds to a critical rereading of tradition. Yet, such rereading raises a number of issues, namely the historicity of the literary text and the interrogation of the textualities that would project the poem beyond its space-time, etc.

The author brings into consideration quotations from authors who have already reflected upon these extremely complex issues and who concluded, for instance, that the poem’s time does not exist except as “a space of relationships”²⁴ because “between poet and language, the poem points to atemporality.”²⁵ Yet, such atemporality does not indicate the poet’s atemporality: it plainly means “the presence in the poem of an intertextual itinerary, constantly available and usable.”²⁶

Let us recall Julia Kristeva’s famous sentence: “Any text is constructed as a mosaic of quotations; any text is the absorption and transformation of another” (39).

Let us now consider the meaning of the expression “poetry of invention” as understood by the author of the thesis.

The term “invention,” she states, implies the following:

24 O.P.: “um espaço de relações”.

25 O.P.: “entre o poeta e a linguagem, o poema acena para a intemporalidade.”

26 O.P.: “a presença no poema de um roteiro intertextual, constantemente disponível, utilizável.”

The idea of more or less systematic modification around a theme, the notion of a problematic set resulting from the methodological combination of a series of elements with each other.²⁷

In other words, invention does not only suggest “new formal and thematic solutions” but also “the transformation or ‘counterfeiting’ of ancient forms and experimentations.”²⁸

Having defined the concepts of “plagiotropism” as critical rereading of tradition and “poetry of invention” as one that implies new formal and thematic solutions, resulting from transformations and experiments, the author analyzes the traces of tradition in Portuguese poetry through its translation into new forms, in different ages and by different authors.

In order to illustrate this aspect, the author produces a small anthology in which some of those truly impressive plagiotropic transformations across the centuries can be verified.

Particularly interesting from our point of view are the examples of the projection of Baroque and Manneristic practices in Experimental Poetry produced in Portugal in the 1960’s, which is paradigmatic for a type of poetry of invention, both in the aspect of critical rereading of the past and in the aspect of experimentation, in the practical and subversive sense of the term.

The theoretical texts of Portuguese Experimentalism have already been published, but for those not acquainted with them I will briefly state that in its origin, Portuguese Experimentalism was connected to two very clear tendencies: on the one hand, it gave rise to the reappearance of certain structural values from Baroque poetry; and on the other hand, it was a part of the concrete poetry movement, which developed in Brazil and Europe in the 1950’s, associated with Structuralism, Semiotics, and Information Theory.

Portuguese Experimentalists had to specify their antifascist position by practicing a poetics of denial of a decaying past defended by the system. On the other hand, they combined state-of-the-art conceptions of poetic writing with research practices and with a poetry of invention which included advocating

27 O.P.: “A ideia de modificação mais ou menos sistemática em torno de um tema, a ideia de uma problemática resultante da combinação metódica de séries de elementos uns com os outros.”

28 O.P.: “a transformação ou a ‘contrafacção’ de formas antigas e a experimentação.”

an “experimental tradition,” involving rereading poetry from the past, mainly Baroque and Manneristic, in their different structural aspects.

In fact, in the most genuine Manneristic and Baroque poetry, along with figurative poetry, one may find visual poetry: a game of concepts and images, a prodigious verbal game associated with the transformation and metamorphosis achieved by an ingenious treatment of language.

Besides visual poetry, this transformation effect is also predominant in poetry by the Experimentalists, because it is through verbal games (sound, semantic, or visual) that the new text is created. When the starting point is an ancient text, the innovative transformation becomes even clearer, for it is possible to verify how the ancient text is translated into the new one, which appears as a real parallel work to its ancestor.

The Experimentalists were not seeking revivalism: what they intended and achieved was to explore systems of operating that proved to be as effective in the past as they are now.

My research in Portuguese Baroque visual poetry demonstrated what may be considered as the plagiotropism of certain forms, illustrating a nonstop chain of invention “translated” from century to century.

One way or the other, the cultural past of a people and even of a continent is always present: what is lacking is the awareness of this past. When such awareness takes place, the result is that it steps into our life and transforms it. One thing is to know that tradition exists; another one is to live with it. What the Experimentalists did was bring tradition into the everyday of their poetic creation. By translating it into new forms, they created *the new*.

The incorporation of the past in the present is a subversive action because one of the most surprising effects of the passing of time for cultural objects is to transform the usual into oddity, the common into uncommon, the current into exotic. Thus, any incorporation of ancient elements into a modern context disrupts continuity, scatters the continuity upon which habit is based, therefore creating a conflict or rather a contrast that cannot cease to draw our attention, that is, to allow our consciousness to rise up.

All culture is dialogue, and there is no dialogue without some confrontation. The following examples may be considered, the first two being thematic glosses and the third a procedural gloss.²⁹

Example 1 - Camões and Herberto Helder³⁰

CAMÕES

Transformed is the lover into the beloved
by virtue of endless imagining;
I should then have no other longing,
for in me I hold the part desired.

If in her is my soul transformed,
What else desires the body to reach?
In itself the body may solely rest,
For to it such a soul is tied.

But this beautiful and pure half-idea
as an accident to its subject
so too conforms with my soul

Lies in thought like an idea:
the living and pure love I'm made of,
just as simple matter, seeks out form.

HELDER

Transformed is the lover into the beloved with his
ferocious smile, his teeth,

²⁹ These are the first English translations to appear in print. For more on how classic authors (Camões and Câmara) were re-written, appropriated and quoted by contemporary experimental authors (Helder, Hatherly, Melo e Castro), see Appendix A.

³⁰ See Example 1 in Appendix for original Portuguese text.

his hands gleaming in the dark. Bringing noise
 and silence. Bringing the noise from cold waves
 and flaming rocks within himself.
 And covers such rudimentary noise with the haunted
 silence of his last life.
 The lover is transformed instant by instant
 and feels the immortal spirit of love
 creating flesh in extreme atmospheres, above
 all dead things.

Transformed is the lover. Running inside forms.
 And the beloved is a watertight bay.
 It is the space of a candle holder,
 the backbone and the spirit
 of sitting women.
 He is transformed into extinguishing night.
 Because the lover is everything, and the beloved
 is a curtain
 where the lover's wind knocks at the top of the window,
 open. The lover enters
 through all open windows. He knocks, knocks, knocks.
 The lover is a hammer crushing.
 Transforming the beloved.

She enters through ears and then the woman
 who listens
 holds that scream forever in her mind
 burning with the first summer day. She listens
 and is transformed, while she sleeps, into that
 scream of the lover.
 Then she awakes, and goes, and gives herself to the lover,
 gives him his own scream.
 And the lover and the beloved are a single scream
 anterior to love.

And they scream and knock. He knocks her with his spirit
of the lover. And she is knocked, and knocks him
with her spirit of the beloved.
Then the world transforms into this harsh noise
of love. While above
the silence of the lover and the beloved still fuel
the unforeseen silence of the world
and of love.

Example 2 - Camões and Ana Hatherly³¹

CAMÕES

Motto

Barefoot to the fountain goes
Lianor through the meadows;
fair and unsure she follows.

Retort

Carries on her head the pot,
the lid in the hands of silver,
waistline in fine scarlet,
attired in waves;
wears the customary vest;
whiter than pure snow;
fair and unsure she follows.

Discovers the cap the neck,
braided golden hair
ribbon in color red ...
So lovely the world bewilders!

31 See Example 2 in Appendix for original Portuguese text.

such grace sprinkles her
 that beauty she favors;
 fair and unsure she follows.

HATHERLY

Variation 7

barefoot went leonor. went to fountain gay and cold.
 went hasten going, to fountain flowing, leonor just went.
 in cold breeze, at dawn went. smiled & went.
 leonor went. leonoranna leonor went. anna went fair & went.
 farewell. smile & went. leonor went leonoranna.
 by dawnanna. bloomy went bloomy fair. anna bloom anna blossom.
 anna bloomeryanna. leonoranna. anna & fair and anna & anna.
 leonoranna.
 oh who loves thee. leonoranna. flowery. flower's she.
 floweryanna. oh leonoranna. leonoranna. leonor feast.
 leonor's at. leonor a far. leonor head. leonor master.
 master & anna. leonoranna. oh leonoranna. oh leonor lavender
 leonor odor.
 with me I bring thee. oh leonoranna, entangling me.
 oh in islandanna. leonor haven. my anna kin.
 arboreanna. leonoranna. oh lucibelle. oh lucipain.
 anna leonor. odoranna. oh leonoranna. anna lianna.
 leo & anna. lion of anna. oh who loves thee. leonor ama.
 loves says anna. anna tis anna. leonor west. leonoranna.
 miridianna. river of anna. leonor anna lee. oh who loves thee.
 leonor ama. leonor aisle. leonor rolla. anna corolla.
 anna coretta. leonor etta. roselianna. leonoranna.
 leonor fair. leonoranna. a la ventana. leonoranna.
 oh anna lilia. palid & anna. viridianna. anna lianor.
 anna bella nna. a la fontana. oh who loves thee. leonoranna.
 leonor ama. leo & anna. oh leonoranna.

Variation 8

bare leonor the greenness of her delicacy
 and with no usury, the spring sure of so greenness dusky
 and pure and in greenness, leonor's firm dresses the delicacy at the
 waist leonor's fair braiding burning firmly
 from delicacy healing the greenness of her fair display
 of dulcitude spring of firm acidity and such delicacy
 she bears the fair source and then shifty
 greenness runs leonor fair dressing dusky
 the sound profoundness in her standing fair beauty
 and so endures the mind obscure of impure source certainty
 of time mighty deep biting weaving
 drapery stiff and strives in the greenness hazy
 and then barricading the time-consuming leonuring beauty
 sure commissure of pure torture of greenness meshing
 and then leonuring bruising longing and ensuing
 mind pure seize hard the green uncertainty
 leonor purely jumps harshy from her bed purely

Example 3 - Jorge da Câmara and E. M. de Melo e Castro³²

TO TIME (AO TEMPO)

originally by Jorge da Câmara (dec. 1640)

From time to time, all is continuing,
 time without setting time is running,
 out of time times will not be seen,
 through time is time prophesied.

From time, time can only be missing,
 in time, may the time be rising,

³² See Example 3 in Appendix for original Portuguese text. This essay is from *House of the Muses*.

over time, will time be extending,
for time several times, will be showing.

Time wasted is never more charged,
than if time takes away what is present,
hardly can time give what is wasted:

The time spends well all prudence,
for if time passing is well used,
every time past is present.

MELO E CASTRO

a flame doesn't name the same flame
there is a flame calling another name
in each flame that calls for the flame
the flame that names bursts into flame

a name no name the same name
another name name that names
in each name the medium by the name
the name in the name bursts into flames

one flame, one name, the same flame
there is another name to be named
in each name, naming its name
that into flames bursts the flame, naming

one name, one flame, the same name
there is another flame that names
in each flame the naming name
the naming that bursts into flame

THE CRITICAL EXPERIENCE OF POETRY³³

ANA HATHERLY

The Critical Experience of Poetry—1

To conclude his essay “Comunicação na Poesia de Vanguarda,” Haroldo de Campos wrote that “the whole present of creation suggests a synchronic reading of culture’s past.”³⁴ He was stating an often overlooked fact regarding really contemporary poetry that Julia Kristeva had defined as the text’s intertextuality.

As for Portuguese Experimental Poetry, and not only concrete poetry, of which Ernesto Melo e Castro is a major representative, the intertwining of our present/past is one aspect that will receive its due credit as a cornerstone, a national and cultural phenomenon. In fact, in his response to the survey “Vanguarda Ideológica e Vanguarda Literária,”³⁵ Melo e Castro drew attention to the fact that “the notion of avant-garde can neither be absolute nor static,”³⁶ while he researched the historical-social framework of Portuguese Experimental Poetry and the process followed for its invention.

But the other aspect that must also be kept in mind when analyzing an avant-garde text is one Abraham Moles defined as “the process of experimentation.”³⁷ This experimentation—which is parallel to scientific experimentation and highlights the procedure by depersonalizing the work—is the benchmark of all avant-garde art, especially that produced during the 1950’s and 1960’s. Pedro Barbosa paraphrases Moles:

The creator is no longer surrounded by his works, he is only in their origin: in their execution intervene factors and operations that are

33 Ana Hatherly, “A experiência crítica da poesia I, II e III,” from *O espaço crítico - do simbolismo à vanguarda*, 1979, (originally published in *Colóquio/Letras*, 1975), pp. 113-128. Translation by Isabel Basto.

34 O.P.: “Todo o presente da criação propõe uma leitura sincrónica do passado da cultura.”

35 *Colóquio/Letras*, nr.23, January 1975.

36 O.P.: “a noção de vanguarda não pode ser nem absoluta nem estática.”

37 O.P.: “o processo da experimentação.”

extrinsic to him. For this sort of poetic creation, the most significant factor is the experience itself, with all hesitations and errors, assumed as systematic.³⁸

To the Experimental poet, the creative work is no longer exclusively the poem. Most important is the set of rules that the poet imposes upon himself, or rather the creative possibility of such a set of rules: “experimentation on poetic language prepares experimentation on poetic creation.”³⁹ The rupture of traditional processes, embodied by this decision, must define the foundation of the avant-garde poetry of the postwar period.

After the later (but no less significant) outbreak of Surrealism, Portuguese poets assumed a dual persona that demanded freedom to be and create but also practiced anti-fascist resistance. This was the persona assumed by Experimental Poetry. The avant-garde trends in Portuguese poetry played a substantial role of renewal that their later recognition did not diminish. Periodically, there are small groups of poets that strive for renewal at all levels. A characteristic of the avant-garde is not only action at the textual level but also the willingness to interfere with life, with reality, for life and art are not regarded as separate.

This has happened since the beginning of the century. A magazine is published, and only a few issues are released. A group is formed around a core notion of how art should be understood and practiced, and then the group breaks up, leaving a few survivors who carry their works to completion, justifying themselves and their life principles. Their assimilation by the current society, that they always oppose, is troublesome (naturally and even necessarily so); in the end, integration is achieved and the Movement is surpassed. As a rule, this is the process.

Regarding Experimental Poetry, the process was exactly the same: a small group emerges; a magazine is published; the original group with no authentic cohesion breaks up; and then three or four personalities establish themselves through their works.

38 O.P.: “O criador já não está rodeado pelas suas obras, está apenas na origem delas, na sua realização intervêm factores, operações, que lhe são exteriores. Neste tipo de criação poética, o mais significativo factor é a experiência em si, com as suas hesitações e os seus erros, assumida como sistemática.”

39 O.P.: “a experimentação sobre a linguagem poética prepara uma experimentação sobre a criação poética.”

Melo e Castro is one of those personalities. When we examine *A Resistência das Palavras*,⁴⁰ the first page immediately reveals a sort of explanation of the method followed, a definition of the method, and the implications of the process he employs: submitting words to “semantic, syntactic, phonetic and morphological research,”⁴¹ experimenting with their resistance as materials for “systematic and violent experimentation.”⁴² In addition, that process must also be regarded as proof of “resistance to obscurantism and repression.”⁴³ The relationship between those two forms of “resistance” unleashes the multiple intertextual implications—synchronic and diachronic, experiential and historical—that such texts will embody.

As brilliantly stressed by Maurice Blanchot, one of the great achievements of present day criticism has been its liberation from the obligation of judging the value of literary works. This means that current criticism can no longer (or should no longer) be made from an objective point of view from which the critics consider themselves judges/readers. Critics can no longer project onto the work some sort of beam of light, emanating from an undisputed source which, falling upon an area privileged by the critic, would allow him/her to make a definitive decision on its merit. Present day criticism—a new criticism, let us be clear—no longer implies the aberrant notion of condemnation or praise. Instead, this type of new criticism becomes a creative text in itself, together with the text upon which it reflects. No longer judicative in the moralist sense of the term, it becomes interpretative in the deep sense of the term. To that extent, there will be considerable commonality between the producer of a critical text and the author of the analyzed text. Therefore, the critic, a privileged reader, interprets the work, but within the work’s own field: the work as text is understood through another text. In order to actually be able to assimilate a given text, the public will have to follow a similar process to that of the critic, who has partially provided a path to follow: the public must also become a privileged reader and be able to assimilate the work through interpretation. But in the end, wasn’t this what had always happened?

40 *Cadernos Sagitário* 2, Plátano Publishing, Lisbon, 1975.

41 O.P.: “pesquisa morfológica, fonética, sintáctica e semântica.”

42 O.P.: “experimentação violenta e sistemática.”

43 O.P.: “resistência ao obscurantismo e à repressão.”

To the extent that criticism, in spite of its tradition, would be a second-degree writing, it is an act motivated by the work as a dynamic enabler of the experience to which criticism belongs. We can say that avant-garde texts for the most part already contain such criticism: they are their own criticism. In avant-garde texts, for instance from the 1960's/1970's, the text and its possible criticism (and criticism is no more than an in-depth form of reading) converge at a core where they identify different forms of intellectual activity, mainly by identifying the forms in themselves. Hence, criticism assumes a specific value, performing a task defined by Blanchot as “one of the most difficult, but important, tasks of our time,” i.e.: “the task of preserving and of liberating thought from the notion of value, consequently also of opening history up to [...] what is taking shape as an entirely different—still unforeseeable—kind of affirmation” (6).

The texts gathered in *A Resistência das Palavras* are an expansion of the author's work, which already extends over a period of about two decades. They bring nothing new, nor was that the author's purpose. In this volume, Melo e Castro readdresses all his previous themes, themes that are common to his contemporaries, as stated by himself, but that are above all our contemporaries. The assimilation of the Portuguese cultural past⁴⁴ and its transformation into a really intertextual language are the main features of Melo e Castro's poetry, when not engaged in orthodox Concretism. The assumption of the creative act as a playful act, even in its fatal aspect—it places us at the mercy of chance, a chance that Mallarmé showed us—is a game we are involved in and that is above all the game of history. “In every game, / there is a missing piece. / that is the one playing us / and deciding”⁴⁵ also refers to the notion developed by Abraham Moles: “the dream we dream shall be it, / during sleep and awake, / for the being of sleep is to be”⁴⁶ and redirects to Goya: “the dream of reason.”⁴⁷ Its recurrent themes—love and death—are typical themes from the Renaissance and Baroque that Melo e Castro addresses within that same style in a sort of Iberian dressing of the text. Such a style is a form of transatlantic culture and a nationalist universalism. To sum this up, the multiple cultural references in these texts illustrate what I defined elsewhere as “the antho-

44 Mostly Baroque, but also other epochs—in Melo e Castro's poetry, for example, Camões' influence is a permanent echo.

45 O.P.: “em todo o jogo / há uma peça que falta. / é ela que nos joga / e que decide.”

46 O.P.: “o sonho que sonhamos será sê-lo / no sono e despertados / que o sono do sono é ser.”

47 Original Spanish: “el ensueño de la razón.”

logical character of contemporary culture.”⁴⁸ These authors emerge as great connectors, machines to synthesize and transform, soaked in information and style.

Contemporary writers are submersed in the surrounding world’s intertextuality. Their information is excessive, redundant to the extreme, rendered obsolete. They are aware of that and illustrate that knowledge in their works. In a world worn out by dissemination, communication is increasingly more difficult and no longer concerns expression. Contemporary authors have painfully begun to learn this fact. They no longer express themselves: they merely express the act of expressing, and the act of communicating. As the resistance of materials is tested by poetic art, the resistance of human processing—the resistance of all values concerning humans—is also tested, and there are no values except in that sense:

I ought to make you text / if not that much I
cannot... substance melts into nothing... here
the vague in the voice of not hearing ...
the refusal issued by the sound / of consumed
speech... the easy speaking meaning... We
know it’s not to be written... We counter walk
the encounter... We write to not to write.⁴⁹

The Critical Experience of Poetry—2

One of the distinguishing features of modern criticism is to consider that true reading is critical reading. This almost undisputed fact presupposes two fundamental aspects: on the one hand, some distance regarding the text and its context; on the other hand, some appropriation of the text and its context, for there is no knowledge except at the expense of recognition and identification. That is why

48 O.P.: “o carácter antológico da cultura contemporânea.”

49 O.P.: “devo fazer-te texto / se não tanto não posso... a substância desfaz-se em nada... aqui o vago na voz de não ouvir... a recusa emitida pelo som/ da fala consumida... o fácil faleante sentido... Sabemos que não se escreve... Caminhamos no contra o encontro... Escrevemos para não escrever.”
In *Colóquio/Letras*, nr. 34

critical reading implies, on one side, a temporary or partial objectivity and, on the other side, some amount of inevitable complicity between the critic and the work, or the work's subject. And this is so because if criticism is an experience emerging from another experience, as Georges Poulet puts it, to criticize is also to read and to read is to lend one's consciousness to another subject regarding other objects.

Even though criticism may perhaps not be devoted to an exclusive period or area—and its strength as a new reading method may reside therein—modern criticism and the modern works it addresses are often construed as mutual; that is, they implicate each other. The modern writer, who wrote his/her work for instance since the 1960's (obviously excluding the Modernist movement) has widely exemplified this thesis: that his/her works are to be read according to the new theories of interpretation and literary exegesis; and they are its product and foundation. In that interdependence, and in that intimate relationship—which mutually constrains but also determines them—may be found a new conception of reading texts. There may be found the disruption of the domain Althusser referred to, the change of concern that will allow reading to raise new problems hidden under the flaws of discourse, under the silences scattered through the fields of accepted knowledge.

In Portugal, the so-called avant-garde literature, mostly produced during the 1960's and obviously concerning Experimental Poetry, decisively contributed to the evolution of criticism. This is the case, even though criticism has not duly noted it. Official criticism, with rare exception, has not yet wanted to use the available interpretative elements that would allow correct readings of the works produced within the avant-garde literature of the 1960's and afterwards.

The truth is that Experimental poets had a critical apparatus and theoretical information, in most cases much superior to that of the critics on duty. These critics generally practiced an impressionist or pseudo-neo-realistic criticism that did not allow its practitioners to break from their methods of interpreting towards critical apprehension, identification, and reading of texts. Criticism has since then remained closely attached to a strict set of academic principles (if there ever was such a thing), linked to a historically accepted system of thought and reading that did not allow—without immense risks including its own annihilation—a change of direction.

Yet, the avant-garde poets from the second half of the twentieth century in Portugal and in other countries have shaken the certainties of that thinking appa-

ratus upon which criticism was generally based. Above all, perhaps they defined what came to be known as knowledge as production.

In the 1960's, when Marshall McLuhan, then a popular author, foretold that artists should leave the ivory tower and head towards the control tower, he was referring to something Mallarmé had previously noted when he stated that “reading” as “poetry” was an “operation.” A similar principle was proposed by Abraham Moles, for example, in his conception of poetry as a process in which the creative work results from the importance of the rules to which the creator is bound.⁵⁰ That process shifts the role of criticism. Criticism, besides simply studying works, must henceforth study their execution mechanism. Abraham Moles states, for instance, that one of the main points of interest in that shift is in the “demystification” it achieves in artistic creation because the work of art does not appear ready and equipped as Athena from Jupiter's head: “the creator is no longer ‘surrounded’ by his works, he is merely in their origin.”⁵¹

But there is another distinguishing aspect of our avant-garde literature. In Portugal, as also noted by Melo e Castro, it was a way of proving not only the “resistance of words” but also, implicitly, “resistance through words.” The delimitation and control of discourse referred to by Foucault was an interdiction that weighed upon discourse: upon speech, upon writing, upon the expression of the Portuguese people's existence, an interdiction the 1960's authors knew since birth. Such interdiction meets its other face in the insubordinate resistance of the text and its originating act. The person who “irrupts through worn-out words” and revitalizes them through criticism, through the destruction of their use, rejects in order to recreate. He/she “opened the rupture irrupts and / [...] / the whole mass of my final country. / [...] /Oh! versus varied in me confining/”⁵² And afterwards:

I ought to make you text

50 Assuming that creation is a playful act relying upon gratuitousness, which the creator consciously and deliberately accepts.

51 O.P.: “o criador já não está ‘rodeado’ pelas suas obras, está apenas na sua origem.”

52 O.P.: “/aberta a ruptura irrompe/ [...] / em peso o meu país final/ [...] /Oh! versus vário em mim se confinando.”

if not that much I cannot⁵³

The poet attacks through writing that “inaugural senile somnolence.”⁵⁴ He knows the “cost of perceiving the toughness of things”⁵⁵ that are life. He knows this of life here, at this point in which we must hold it and build it, in which a leap backward is converted into a leap forward, unveiling history as a “cyclic mistake” in the words of Umberto Eco.

This rupture is assumed by avant-garde poets when they refuse tradition as institutional power. By assimilating the cultural past as a reformulation of the concept of history, tradition is no longer a foundation for eternity, and it becomes that absent structure that voraciously revitalizes all forms, constantly awarding and depriving them of meaning.

A new Portuguese poet has to face the depletion of the meaning of forms and rediscover the codes to subsequently abandon them, forget them. Or the poet could use them to saturate the vast operation of style, sophisticated decoration, and violent criticism of our age of recovery and repudiation in which the inevitability of all processes overrules all communication forms.

From *Queda Livre* to *Resistência das Palavras*, the trajectory of Melo e Castro’s work emerges as the perilous leap a man accomplishes when he is launched into the space of the text, in which he resists and must resist.

The poet is alone, but he knows there “is a dark void in memory.”

The Critical Experience of Poetry—3

The issues concerning the method proposed to interpret the repression of artistic avant-garde don’t affect the possibility of a normative observation: if it is in fact true, as advocated herein, that inside each social framework, characterized by transforming the aesthetic object into commodity, the hidden truth of art lies exclusively in the avant-garde, it’s also true that given that transformation into commodity, any attempt to fight against not just a particular movement but the very artistic avant-garde, generally by cultural-political power, means, in fact, at the limit, not the mere denial of the avant-garde but purely

53 O.P.: “Devo fazer-te texto se não tanto não posso.”

54 O.P.: “senil somisolência inaugural.”

55 O.P.: “a custo se apercebe a dureza das coisas.”

and simply the denial of each and every authentic artistic operation in general. [...] What the avant-garde expresses is therefore in a privileged manner a general aesthetic truth. It's not even, let's say, a specific sociological interpretation linked to a given method and relative to a particular perspective; it's rather the fact that the avant-garde has been constituted, in its foundations, in the form of struggle and that such struggle, by its very generation in the aesthetic field, immediately challenges the whole structure of social relations.⁵⁶ (Sanguinetti)

To these not very recent considerations on the avant-garde by Edoardo Sanguinetti, I would like to add more recent ones, by Jacinto do Prado Coelho, retrieved from the recent publication *Originalidade da Literatura Portuguesa* from the chapter entitled “The Intellectuals—Are They Culpable or Are They Victims?”⁵⁷ He writes “Those outstanding persons who are set to reform Portuguese mentality and aesthetic feeling often feel the bitter taste of failure”⁵⁸; and continues, in the chapter “The Moderation of Good Sense”⁵⁹:

If our character is “temperate,” as argued by Oliveira Martins, maybe we could add to emotional discretion the moderation of good sense. It is said that the Portuguese are romantic, the Portuguese are defined by emotiveness, and by impulsivity. But are those the attributes that distinguish them from other southern peoples? Or, rather, do they remain halfway, correcting emotiveness with caution and enthusiasm for novelty with clinging to tradition? To repeat Gilberto Freyre’s formula, a mix of “adventure and routine?” At least in the cultural sphere, were we not so often slow and prudent in how we followed the major movements for renewal?⁶⁰

56 See 7 in appendix for Portuguese translation of the original Italian.

57 O.P.: “Os intelectuais—Culpados ou vítimas?”

58 O.P.: “Esse escol que se propõe reformar a mentalidade e o sentir estético dos Portugueses experimenta muitas vezes o travo do malogro.”

59 O.P.: “A moderação do bom senso.”

60 O.P.: “se é ‘temperado’ o nosso carácter, como pretendia Oliveira Martins, talvez pudéssemos associar à discrição afectiva a moderação do bom senso. Diz-se que o Português é um romântico, define-se o Português pela emotividade, pela impulsividade. Mas serão tais atributos que o distinguem de outros povos meridionais? Ou para ficar antes num meio-termo, corrigindo a emotividade pela cautela e o entusiasmo da novidade pelo apego à tradição? Um misto de ‘aventura e rotina’, para repetir a fórmula de Gilberto Freyre? Pelo menos na esfera da cultura, não fomos tantas vezes vagarosos e prudentes no modo como seguimos os grandes movimentos de renovação?”

These quotations may actually constitute an enlightening background, or rather correspond to the background-environment against which the action of the artistic avant-garde has developed among us. Historical, socioeconomic, and psychological conditions, all intimately interwoven, constitute the spindle sustaining the sticky web of the status quo, the social environment, the cultural situation in our country, the people's needs, and our national idiosyncrasy, etc. Each of these expressions or concepts are an essential part of the whole, for which we are all responsible as authors (often quite helplessly). Some of us feel the sting of a confused or clear awareness of this responsibility, which also explains the feeling of guilt and inferiority that belittles, embarrasses, depresses, and finally transforms us into its worthy representatives.

These grave statements have been made by all who at any time have dwelled on the issues regarding national culture, and they unfortunately constitute to this day a constant in our criticism, literary or any other. Whenever there is a necessity to analyze, this issue inevitably arises. For example, any significant work (a text) with an acutely presented context in which connections between literature and society are made addresses the issue of the artistic avant-garde, which is to say the issue of renewal through struggle.

In fact, the artistic avant-garde, of which the literary avant-garde is a branch, takes that responsibility as its main purpose. This is why its followers become more than simply islands—"essas ilhas que os autores portugueses são" as put by Prado Coelho—becoming isolated, real outsiders by force of their ideas and their work. Both avant-gardes attempt to assault (by refutation) the institutionalized forms (at least in some sectors), which are a means of communication and therefore carriers of history and transformation.

In Portugal, the subject of avant-garde movements since the beginning of the twentieth century is posed in similar ways to that in other countries in which those movements originated. But the difficulty of implantation it found among us is, above all, justified by the lack of information, not from the public but from cultural information disseminators. These people generally may not be called literary critics because they are not the least prepared, accredited, apt, and gifted, as may be verified from the observation of the literary press in the last decades.

There is an important difference between the desired, voluntary marginalization of the avant-garde author and the ostracism imposed upon him by a cultural milieu of ignorance, laziness, and rejection of the effort implied in any attempt at

renewal. It is one thing to refuse on well-grounded opposition; another is to refuse for ignorance, for the accommodating reason that what is known is safer—the routine, the certified past, and the establishment by (someone else's) previous effort.

If Portuguese temperament might be defined as temperate, maybe it should be added that, at least culturally, two other factors intervene to define (and confine) us: fear and laziness. Fear to dare: the avant-garde is daring, the courage to speak out and challenge; and fear of effort: the avant-garde is struggle, persevering through adversity. Through fear (including the renowned, paralyzing fear of ridicule attributed to the Portuguese), we reach situations of absolute impotence and absolute intolerance. Inquisitorial and plotting, our literary criticism in the press was too often (almost always) an arena for defamation, slander and mockery—typical weapons of the invective pasquinade style from which it has gradually been liberated at great difficulty.

This whole preamble intends to frame the new work recently published by Alberto Pimenta (*Ascensão de Dez Gostos à Boca*),⁶¹ an avant-garde poet, therefore an outsider in Portuguese culture. As an outsider, he wasn't even connected to the Experimental Poetry group who among us has faced (and defied) the public and critic alike. In fact, Alberto Pimenta, although included by merit in the selection of the most prominent avant-garde Portuguese poets, has remained an independent, if such is possible regarding Portuguese Experimentalism.

Yet, the marginalization affecting him (certainly illustrated by the fact that all his books to this date are author's editions) is not exclusively his, nor is it due to his independence regarding national or international groups. His marginalization is a fact deriving naturally from his aesthetic options, and on which grounds the quotations at the beginning of the present reading note referred, namely: that avant-garde literature is not easily commodified; that it opposes the stratified structures of power; that intellectuals, guilty or victims, are so mostly because they belong to that whole of moderation and good sense that tempers our character and causes only rare (very rare) lunatics to associate the dashing avant-garde work to the audacity of an Avant-Garde action.

There is no doubt that, despite all, it's easier to make an avant-garde work by following others' works already performed than to initiate or actively be part

61 Lisbon, author's edition, 1977.

of an Avant-Garde action. The latter has to excel and, at the same time, extend what is advocated and exercised in the works.

Ascensão de Dez Gostos à Boca, now published, is a fine piece one might call anthological of the tendencies of the Portuguese avant-garde from the 1960's and 1970's, above all by its rehabilitation of the Baroque and of its inclination towards writing, towards the writing game.

Alberto Pimenta is a significant poet for many reasons, as already noted in most of the introductory observations, but above all for the variety and violence of the themes he develops. A scornful and bitter criticism, a fantasy associated with a surprising lyricism (however hidden it may seem), a remarkable erudition, a secure technique, and a truculent and immense verve, are some of the aspects to consider in his works and in this one in particular.

Opening the book we can read on the back cover (in all capitals):

DON'T YOU WANT TO COME WITH ME IN ORDER TO PROBE,
ENTER, AND PROBE, PROBE SMELL, PROBE TO LEAN YOUR
EAR AND TONGUE, TO ALL THESE THINGS? HOW SHALL I
SAY, ENTRANCES OR EXITS? NO? ARE YOU NOT INTEREST-
ED? DO YOU FIND IT BETTER TO USE YOUR TONGUE DIF-
FERENTLY? YES, SO I FIGURED.⁶²

A first provocation may be found in the first taste arising to the poet's mouth. Afterwards, in each page the variety of tastes rising to our tongue (or through our tongue) is an anthology of satire and criticism, the vision of a man who knows the world and hence knows what it tastes like (that taste of failure and that taste of revolt?).

In works like *Os Entes e os Contraentes*, we may find examples of truly magnificent criticism, as in the case of "Simetria", "our principles are: prudence / and boldness, a bold prudence, / a prudent boldness, a prudence / that boldly is so, and also a / boldness with the prudence to / not to be so"⁶³; and in the case of "sugestão" in the

62 O.P.: "NÃO QUERES VIR COMIGO A FIM DE SONDAR ENTRAR E SONDAR SONDAR CHEIRAR SONDAR ENCOSTAR O OUVIDO E A LÍNGUA A TODAS ESTAS COISAS COMO DIREI ENTRADAS OU SAÍDAS? NÃO? NÃO TE INTERESSA? ACHAS MELHOR UTILIZAR A TUA LÍNGUA DOUTRA MANEIRA? SIM EU JÁ CALCULAVA."

63 O.P.: "os nossos princípios são: prudência / e ousadia, uma prudência ousada,/uma ousadia prudente, uma prudência / que ousa sê-lo, a par de uma/ousadia que tem a prudência de / não sê-lo."

present texts: “Have you ever tried doing the good/ by practicing the bad?”⁶⁴ and “kill them/ beat them to death.”⁶⁵ We may also find it in the three phases/versions depicting the degree of bitterness and revolt in this poet’s satiric and critical texts, which overlap in the almost general climate of deep revolt and subversion that dominates what might seem to the unadvised a merely funny or even decadent work.

Finally, the lyricism, that undeniable source, emerges—and it is an affirmation:

I always end up returning inside me
only place
where all that happened is preserved⁶⁶

Even the taste of love (a whole chapter from the book):

Reality is now absence.
[...]
My head in the place where the body no longer is
[...]
Text: this body: you: in this text: and forever in it.⁶⁷

These are the main coordinates of the work, after all, the constants of all poetry.

But expressions such as “that reality [which] now is the absence; my head in the place where the body no longer is: text: this body: you: in this text: and forever in it”⁶⁸ may also be interpreted as referring to another important aspect

64 O.P.: “já tentaste praticar o bem / fazendo mal?”

65 O.P.: “matá-los / matá-los à pancada.”

66 O.P.: “acabo por voltar sempre dentro de mim
único lugar
onde se conserva tudo o que aconteceu.”

67 O.P.: “a realidade agora é a ausência.
[...]
minha cabeça no lugar onde já não está o corpo
[...]
texto: este corpo: tu: neste texto: e para sempre nele.”

68 O.P.: “essa realidade [que] agora é a ausência; minha cabeça no lugar onde já não está o corpo: texto: este corpo: tu: neste texto: e para sempre nele.”

of Portuguese from Alberto Pimenta's generation, a generation of emigrants and exiled, to whom national language (or culture) may have been a sort of core of resistance, in the physical and political sense of the term.

Regarding this subject, for example, E. M. de Melo e Castro in his work *Dialéctica das Vanguardas* states that “the only way to resist is to recreate what is intrinsic to us.”⁶⁹ This also explains the reason why Portuguese resistance poetry from the 1960's and 1970's “is and remains Baroque and Experimental,”⁷⁰ because “Baroque and Experimentalism are the creative models of our specific poetic creation.”⁷¹ The “explosion of linguistic materialism and Experimentalism”⁷²—that Experimental-Baroque eruption from the 1960's—“should be understood considering what it represented for the Portuguese as dynamic creative manifestation of a world (in this case, a country) undergoing transformation.”⁷³

The discussion of the Baroque as a dominant tendency in Portuguese poetry is an issue constantly stressed by Experimental poets, who repeatedly (but not exclusively) pose the question, especially in response to a certain Crocean criticism that deems it done with labeling it with an anathema. This anathema was revived along with the outburst of Experimentalism, as may be verified in many of the studies on Portuguese poetry from the seventeenth and eighteenth centuries.

Portuguese Experimental Poetry (and Brazilian, mostly from Minas Gerais, and headed by Affonso Ávila) again poses the issue of the Baroque in an extremely acute manner, supported by the experience of outstanding international critics who attempted to correct a prejudice formed in some sectors regarding the validity, actual consistency, and, most importantly, markedly Iberian nature of the Baroque as expression of a cultural, idiosyncratic and even ecological reality. But current criticism is at a moment of rest—as may be verified in the work of the Baroque researchers such as Helmut Hatzfeld—after many years of debates concerning that issue.

69 O.P.: “a única maneira de resistir é recriar aquilo que nos é intrínseco.”

70 O.P.: “é, e continua a ser, barroca e experimental.”

71 O.P.: “o barroco e o experimental são os modelos criativos da nossa específica criação poética.”

72 O.P.: “explosão do materialismo linguístico e do experimentalismo.”

73 O.P.: “deve ser entendido pelo que representou para nós de manifestação criativa dinâmica de um mundo (neste caso país) em transformação.”

For the Portuguese, the rediscovery of the Baroque in our poetry and mostly the rediscovery of the Baroque in our idiosyncrasy is apparent, for example, in double contradictions: exuberance and restriction, luxury and indigence, lyricism and pornography, torrential verbosity and careful choice approaching preciousness, lots of satire and few ironies, etc. The rediscovery of the Baroque as our own essential characteristic was for Experimental poets a support. Not for a senile revivalism but rather for a path to extend discovery, because research—perhaps a devotion to poetic language, purified or even complicated by technical knowledge from our own time—has allowed Portuguese Experimental poets to not to fetch elements from the past to justify themselves in the present, as already pointed out, but to follow in the present a work begun in the past and that should be continued in the future.

Besides their specifically contemporary contribution, what Experimental poets did was plainly establish their place in the context of cultural continuity. Unlike what has often been said by poorly informed critics, Portuguese Experimental poets, despite being part of international currents—but which Portuguese literary currents are solely national?—are not in fact detached from Portuguese culture. On the contrary, they are perfectly incorporated in a sort of expression of Portuguese culture that is precisely, characteristically ours: the one that illustrates our dispersion throughout the world or, in other words, the desired universalizing of our vision of the world.

Portuguese Experimental poetry follows in this path that includes the exceptional radiance of Alberto Pimenta.

SHORT ESSAY⁷⁴

ANA HATHERLY

A Technology of Fascination

Ill-informed anyone who would announce himself his own contemporary, deserting, usurping with equal impudence, which the past ceased and when a future is slow to come, or when both are mingled perplexedly to cover up the gap. (Mallarmé 79)

We should bear in mind that alphabetic writing is quite recent and that communication through images had already been established long ago. Subsequently, when studying the origin of poetry as writing text, we should always associate it with its pictorial features. Through the history of images produced by people all over the world, we generally find writing and image side by side and often one poses as another.

Sylvester Houédard defines the area between poetry and painting, where visual poems are inscribed, as the point where they overlap, adding that this has always happened, since all writing originates from painting—writing is a painting of words—and since it's possible to think visually in words. Therefore, if writing and painting are means of mental communication, the mind is the point where poetry and painting first meet.

Yet, such elemental verification only became obvious since the widespread understanding of Information Theory, of Wittgenstein's research, Max Bense's lectures, and by artists' contributions, often influenced by Zen Buddhism and by Asian culture in general.

But in fact, it is from the moment that it becomes possible to establish an identity between *ikon* and *logos*, as put by Sylvester Houédard, that avant-garde poetry and the intimately linked visual poems are set in a timeline, beginning in the furthest Antiquity. Therefore, if it has been established by some historians that visual poems emerge at the beginning of the twentieth century with the Futurists—with their words in freedom and their typographical revolution—followed by the experiments of the Dadaists, Surrealists, and Letterists, all the way

74 Ana Hatherly, "Breve ensaio crítico," from *A Reinvenção da leitura*, 1975, pp. 3-26, translation by Isabel Basto.

up to concrete poems, such timelines must include prior centuries of experiments with image-texts, comprised of hieroglyphs, ideograms, cryptograms, diagrams, rebuses, mandalas, amulets, jewels, toys, gravestones, and even some monuments, besides all other poetic texts or objects identifiable as such.

The mystic character of writing—for Plato it was the Geometry of the spirit—is assumed with great strictness in the East, particularly in China and Japan, where the poet-painter-calligrapher is a paradigmatic cultural unit. In India, Tibet, and in other Far Eastern countries, writing is, or rather was, a mystical and esoteric exercise. Moving onto the Middle East and Northern Africa, we will still find through the ages a vast complex of figurative texts and object-poems with similar cultural implications.

There are more ancient examples as well: the magical papyruses from the fifth century BCE are famed in Europe as well as the “Egg” by Simias of Rhodes from 300 BCE, for which a reading technique is known. It’s a bucolic poem graphically composed in the shape of an egg, the form being used as a metaphor for the poetic process. Its reading demands meticulous rules: one may read it by starting on the first line at the top, then stepping to the last line at the bottom, continuing to the second line at the top, then going down to the second line at the bottom and so on, until reaching the center.

Despite this example, Greek calligraphers seem to have used the most frequent form, the altar, which appears in anthologies from the fourth century BCE until the eighteenth century.

In the Latin *carmina figurata*, the name of Porfyrius Optatianus⁷⁵ stands out, as do the names of the poets Alcuin and Boniface in the Carolingian epoch. The special virtuosity of these compositions resides in their acrostic disposition, for they were meant to be read horizontally and also vertically.

During the Middle Ages and until the seventeenth and eighteenth centuries, time periods that were particularly interesting for Portuguese and Brazilian Experimental Poetry, image-texts continued to emerge. These texts’ page composition or layout of words, letters, and other signs participate in creating a plurality of meanings, and consequently a plurality of readings. Referring to Portuguese Baroque poetry, Hernâni Cidade highlights its “archetype of a moral crisis,”⁷⁶

75 T.N.: also Publilius Optatianus Porfyrius.

76 O.P.: “arquétipo de moral em crise.”

emphasizing the production of compositions in which “the length of the text is preset according to the print area it must assume,”⁷⁷ for example, the existence of “silent poetries, labyrinths, cubic poems.”⁷⁸ He also quotes Verney when he refers to “figurative” or “painted poems,” representing “an egg, an altar, and a small ax.”

From 1704, let us recall the “Anagrama Esférico” by Pedro Paulo Pinto, dedicated to Charles III of Austria, accompanied by “Exposição Intelectual e Metafórica” and two acrostic poems, presently kept in the records of the Portuguese archive of Torre do Tombo in Lisbon. From the second half of the eighteenth century, let us recall the two hundred volumes printed in avant-garde typography by Réstif de la Bretonne.

Moving to the nineteenth century, we will continue to find the reformulation of the relationship between text and image through experiments such as Bombaugh’s “concrete illustrations” ending with *Un Coup de Dés Jamais n’Abolira le Hasard* by Mallarmé. The first edition of this work dates from 1897 and decisively influenced Gomringer and the Noigandres Group, who established it as their precursor. In “Pilot Plan for Concrete Poetry,” the Noigandres Group assumes as their first “qualitative jump” the “prismatic subdivisions of the Idea” Mallarmé had suggested by using blank space and typographic resources as substantive elements in the composition.

We also know Mallarmé had another project, revealed by Jacques Scherer in 1959 and quoted by Haroldo de Campos, for which the “Coup de Dés” was merely an early sketch, and was concerned with a new conception of book as an object, thus anticipating the “object-books” by Russian Futurists. That book, designated by Mallarmé as “Bloc,”

totally avoids the usual notion of book and incorporates permutation and movement as structural agents: - The book, total expansion of the letter, should directly exploit its mobility [...] The pages of this book would be interchangeable and could be shifted and read according to certain combinatory rules predetermined by the author-operator, who incidentally is not considered more than a reader placed in a

77 O.P.: “a extensão do texto é determinada pela mancha tipográfica que deve tomar.”

78 O.P.: “poesias mudas, labirintos, poemas cúbicos.”

privileged position regarding the objectivity of this book, making him anonymous.⁷⁹

And Haroldo de Campos adds that:

It's no longer a circular work, always proposing a "da capo" (as in the Coup de Dés and later in Joyce's "Finnegans Wake") but a multi-book where from a relatively small number of basic possibilities thousands of combinations could be achieved.⁸⁰

An important issue worth mentioning is that J. Scherer, quoted by Campos, interprets the thematic indications of such work as a commitment to establish modern myths.

But the most decisive aspect of this diachronical view is that it allows us to consider a long chain of objects and texts produced by different cultures in different ages as ancestors of the visual text, to employ the terminology adopted by Max Bense. Considering such a great amplitude may imply eventual changes in perspective, but the most striking aspect to highlight is that this new way of interpreting poetic art objects or products is one of the most specific contributions of twentieth century avant-garde art.

From this new perspective, it becomes even clearer to what extent to be able to read is to be able to create, to what extent this dominant aspect of verbal or nonverbal communication was kept intact even when other values were lost.

The verification of the permanence of certain ways of expression, which may now be considered the historical evolution of the visual-text or image-text, works as a foundational and cohesive element for this sort of ancestral need that we find again in Gomringer's statements regarding the concrete poem.

79 O.P.: "refoge completamente à ideia usual de livro e incorpora a permutação e o movimento como agentes estruturais: - O livro expansão total da letra, deve tirar dela directamente, uma mobilidade [...] As folhas desse livro seriam cambiáveis, podendo mudar de lugar e ser lidas de acordo com certas ordens de combinação determinadas pelo autor-operador, que de resto não se considera mais do que um leitor situado numa posição privilegiada, face à objectividade do livro que se anonimiza."

80 O.P.: "já não se trata mais de obra circular, sempre a propor um 'da capo' (como no caso do 'Coup de Dés' e depois no do 'Finnegans Wake' de Joyce) mas dum 'multilivro', onde, a partir dum número relativamente pequeno de possibilidades de base, se chegaria a milhares de combinações."

Among several other goals, concrete poetry set as one of its main goals the abolition of subjectivism in art. Gomringer defines the concrete poem as functional object, above all. But the subjectivism, that all avant-garde poetry refuses and that seems a constant in the artistic process, ends up infiltrating beyond the lyric manifestations, creating a sort of new mythic thinking that definitely brought together the functional object and the magical object.

The unitary character of the magic object, its functionality, resides mainly in the desire for its recipient's interpretation. In other words, the magic-object-text demands from its user a suitable interpretative reading, the absence of which would jeopardize its efficiency. Such efficiency, as outlined by Lévi-Strauss, depends upon a common belief that included the object's maker, its user, and the community in which it appears. Therefore, the magic-object-text demands a certain degree of universalization of use, a generalization of value, and yet a virtually secretive quality, given specialized interpretation defined by its power of action. Such demand brings together functionality and the modern technique for text interpretation: meta-reading and creative reading.

As a matter of fact, the relation between mythic thinking and scientific thinking is a logical one, according to Lévi-Strauss, one with similar demands for positivity and rigor. On the other hand, the creation of "new myths" seems to relentlessly follow new artistic currents—"speed" for Futurists, "the subconscious" for Surrealists, "the structure" for Concretists—for as Roland Barthes noted, "What is the characteristic of myth? To transform meaning into form" (131). The abolition of a myth or its surpassing generally results in the creation of a new one. We therefore witness how the by-products produced by the process of substitution shape the magical quality of the creative act: fascination. The myth would then be a (magical) process through which the real is made abstract by voluntarily and specifically transcending its use, ending in the universality of its meaning.

Construing magic as fascination technology, as a technique of intended effects that concerns and even defines the creative act both in its strict functionality and as a marginalizing factor, leads to an accurate and creative form of reading for universality.

Referring to concrete poetry, Max Bense wrote that “fascination is a form of concentration, namely of the material level and the apprehension of its meaning”⁸¹, whereas for Roland Barthes “meaning is the myth.”

For instance, theorists of concrete poetry have always proclaimed their wish for universality and the possibility for the concrete poem to achieve it, once “meta-communication, coincidence and simultaneity of verbal and nonverbal communication occurs ... language’s common multiplicity is apparent.”⁸² It is therefore a demand for a creative use implying an anagrammatic reading, in other words, one needs to know how to read the text underneath the text.

Those same theorists underlined the intentional functionality of their objects when they declared they wanted to establish a relation of absolute identity between text and society. Furthermore, they wished to establish a form of art in a essentially rationalist, technological, and technocratic age, one which would reflect those forms of action that correspond to an ideology, a lifestyle, and a view of the world.

2. Image Reading Plurality

With the definition of visual texts, the general theory of text becomes a general theory of image.⁸³ (Max Bense)

Because the concrete poem was intended to be immediately readable and demanding of the reader’s participation in an intellectual game and thinking exercise, theorists highlighted both its reductive character and its affiliation, and even its dependence on the strongest currents in modern art. But by refusing the emotional aspects related to lyric-discursive expression, concrete poetry was above all intended to be objective and scientific.

With Mallarmé’s “Coup de Dés,” Fenollosa’s theories, and Pound’s theories regarding the Chinese ideogram assumed as predecessors, Information Theory, mass communication techniques, mathematical-scientific theories, etc.,

81 O.P.: “o fascínio é uma forma de concentração, nomeadamente do nível material e a apreensão do seu significado.”

82 O.P.: “ocorre o fenómeno da meta-comunicação, coincidência e simultaneidade da comunicação verbal e não verbal...visando a comum multiplicidade da linguagem.”

83 Portuguese translation of the original German: “Com a definição dos textos visuais, a teoria geral do texto passa para uma teoria geral da imagem.”

as well as Gomringer in Europe and the Noigandres Group in Brazil, appeared simultaneously and marked two different poles. Although they agreed on the main issues, these two poles ultimately lead to the different paths followed by other concrete poetry practitioners and theorists.

The Brazilian group was particularly influential on E. M. de Melo e Castro's work in Portugal, denoting the infiltration of the ideogram lyricism and the loyalty to Mallarmé's principles, with its particular emphasis on the aspects of text spatialization and its relation to music (turning the poem into a score). In Europe, mostly through Bauhaus, the influence from the plastic arts is stronger. We must bear in mind that Gomringer was Max Bill's secretary and that the influence from the post-cubist avant-garde art in the several fields of artistic creation was a decisive one. Thus, when the Brazilian group, perhaps with less graphic calling, evolved from scientific-lyricism to social criticism and satire (along with the language, a tendency somewhat inherited from the Portuguese vein of scorn and slander), and finally assimilated some Pop Art features, for European Concretists, mostly German and Anglo-Saxon, the importance of the formally visual aspect ended up imposing and even blanketing the literary aspect. Important ramifications emerged for the exploration of phonic zones of language, thus reconnecting with the avant-garde tradition (even though these terms may seem incompatible), in which language, sound, and image are combined, clearly challenging frontiers among arts.

My works are clearly inscribed in this European line, culminating in *Mapas da Imaginação e da Memória* (*Maps of Imagination and Memory*) and *O Escritor* (*The Writer*), but Portuguese Concretism and Concretism-like work was already extensively addressed in my essay entitled "Elementos para uma Investigação da Poesia Experimental nos anos 60/70."

When intending for the concrete poem to be immediately readable, once again with no intervention from deciphering reading, its theorists condemn it to immediate exhaustion, unexpectedly placing it at a level of sacrificial immolation: on the one hand, by the total valuing of the instant—Zen—and on the other hand, by the metaphorical assumption of the consumerist society in which men and objects, indifferently consumed, disappear in a desperate manufacture of the obsolete that from the start renounces all of its proposed values.

That reading—not impertinent—of concrete poetry mechanisms in its initial phase, although not the only thing I accomplished, was important to me.

It drove me to practice the experiment that was deliberately exhausted in its own performance. In 1959, I pointed out this aspect of implicit condemnation in its narrowing process when I published in the supplement *Artes e Letras* of the Lisbon newspaper *Diário de Notícias*, the first critical article on concrete poetry and also the first concrete poem by a Portuguese poet published in Portugal. I then stated that concrete poetry condemned itself by means of excessive nounification, to immobility and muteness.

Concrete poetry, as originally defined by Gomringer and the Noigandres Group, was considered to be truly incomprehensible, opposing the reiterated desire of immediate communication, maybe not because of its undeniable originality but because of the extreme attitudes the first practitioners were forced to adopt—phenomena already noted as inevitably subsequent to the marginal situation assumed by avant-garde authors. Through the efforts developed mainly by the Brazilian group and afterwards by the Portuguese—both of whom fought against a tradition of sentimental lyricism, confessionalism, laziness, lack of culture, backwardness, established views, and everything else that defined the state of decrepitude and stupification of the society—it wanted to establish concrete poetry emerges as a real threat to bourgeois cultural values.

And so it was. Questioning those values, challenging their meaning, their use and all they implied, affected the society sustaining those values. It raised issues and posed big questions, that in Portugal would have to remain unanswered for a long time. Persecuted by mockery and discredit—traditional weapons—the best practitioners of concrete and Experimental Poetry hardened their struggle. In literary criticism and translation theory, for example, the Brazilian group reached heights that had never been reached before, decisively contributing towards a reformulation of criticism and subsequently towards reading reformulation.

In Portugal, acceptance was very difficult, and it is not yet complete. Official criticism still denies avant-garde poetry, even though it may be considered an old worldwide tendency, instead advocating almost exclusively the lyricist-discursive poetry. However, and after more than a decade of publications and cultural dissemination by the few Portuguese avant-garde authors, a tendency is emerging towards acceptance of the image-text in some sectors. Anthologies start emerging, but except for those cases in which the critic is also an avant-garde poet, criticism did not develop at the same rate.

Meanwhile, the revolution brought about by concrete poetry theory both in Europe, the Americas, and all over the world actually took shape, and its advent was decisive for all those who had in depth knowledge of it.

Gomringer, quoted by Schmitthenner, defined the objects of concrete poetry, as follows:

Concrete Poetry is based on a rationalist—synthetic future experience of the world. If concrete poetry is still perceived as foreign—as aetically thin and simplifying—that’s probably due to a lack of intuition of an evolutionary trend in our society, in the way of thinking and acting which contains in its core a new totalitarian vision⁸⁴.

Another definition was given in 1964 in the avant-garde English magazine LINK, in a text entitled “Como Ler Poesia Concreta”:

If it is the first time you see it, do not try to read it as poetry. Do not even try to read it at all. Just look at it. Examine the spaces between letters, the typographical variations, and the spaces around words. Think of it as an image. Then see what ideas come up from that image associated with the letters and words in it.⁸⁵

These initial positions could never be abandoned, even though they were made easier through use. They clearly illustrate the need for an initiation, for a rigorous interpretative reading, both specific and characterizing: in sum, creative and productive.

The poet-theorists started by assuming total responsibility before the traditional language of literature, the national language. In *Teoria da Poesia Concreta*, the Noigandres Group declares:

Concrete poetry is fully accountable for language, accepting the assumption of the historical language as an indispensable communication core. It refuses to absorb words as mere indifferent vehicles, with

84 O.P.: “A poesia concreta assenta na mundivivência futura de natureza sintético-racionalista. Se a poesia concreta ainda é sentida como estranha (asceticamente magra e simplificadora) isso acontece provavelmente por uma falta de intuição numa tendência evolutiva da nossa sociedade, da sua forma de pensar e agir, que contém no seu âmago uma nova visão totalitária.”

85 O.P.: “Se é pela primeira vez que a vê, não tente lê-la como poesia, melhor, nem sequer tente lê-la de todo: olhe simplesmente para ela. Examine os espaços entre as letras, as variações tipográficas, os espaços à volta das palavras. Considere-a como uma imagem. Depois veja que ideias surgem dessa imagem associadas com as letras e as palavras que há nela.”

no life, no personality, no history—taboo toms with which conventions insist on burying the idea.⁸⁶

Through intensive “nounification,” including the compositional space, through its optical, phonic and linguistic structures, through the coincidence of those operating structures, the concrete poem is “verbivocovisual” (a term coined by Joyce) in its interaction. Refusing the old syllogistic-discursive formal foundation,⁸⁷ the concrete poem becomes a relational field of functions:⁸⁸ “TENSION OF THING-WORDS IN SPACE-TIME.”

The concrete poet sees the word “in itself—a magnetic field of possibilities,” he/she is against “a perspectivist syntactic organization where words sit like ‘corpses in a banquet,’” opposing it a sense of structure (Campos, A). According to Gomringer, for the concrete poem, the structure is also the visual form. When he conceives and defines the poem as a constellation, adopting the notion of prismatic division of the idea by Mallarmé, more than the execution of an image, he is actually proposing a new plurality in image reading. Its degree of intelligibility, its informative content also reflecting its immediate accessibility, is ultimately what defines its communication degree and the demand for an adequate reading.

In its initial phase in the 1950’s, the concrete poem is still exclusively made with words, even though they are object-words. Nonetheless, or because of that, it is still literary. Only in subsequent stages does concrete poetry detach itself from that subjection. In order to reach and assimilate vaster and more ambiguous areas of communication through the same elements, it works with the graphic image and the phonic value of language. Concrete poetry as both visual and aural opens it up to a wide range of cultural traditions.

Therefore, concrete poetry in its original forms was enclosed in an anticipated cycle—of its rapid and necessary depletion. Through that same annihilation process, it originated new and different research areas from the same step—and that is what is truly fundamental—widening the scope of reading beyond traditional literary boundaries.

86 O.P.: “A Poesia Concreta assume uma responsabilidade total perante a linguagem, aceitando o pressuposto do idioma histórico como núcleo indispensável de comunicação, recusa-se a absorver as palavras como meros veículos indiferentes, sem vida, sem personalidade, sem história—túmulos tabus com que a convenção insiste em sepultar a ideia.”

87 O.P.: “o velho alicerce formal silogístico-discursivo.”

88 O.P.: “um campo relacional de funções.”

According to Pierre Garnier, the original linguistic concrete poem was joined by 1) the visual poem, object and core of energy; 2) objective poetry, implicating performing tridimensional objects and the collaboration of musicians; 3) mechanist or permutational poetry; 4) various types of phonic poetry from direct composition in magnetic tape, related to electronic music; 5) phonetic, based on phonemes, demanding the participation of human vocal organs, through tape recorder or not; 6) kinetic poetry, tactile, etc., until reaching the extreme border of performance-poetry, which connected to the happening. There are outstanding examples in Portugal such as the “Concerto e Audição Pictórica” (Pictoric Audition and Concert) in 1965, at the bookstore “Divulgação” and the “Conferência-Objecto” (Conference-Object) in 1967 at the bookstore “Quadrante” in Lisbon. The specific terminology is remarkable—“Concert” in one case and “Object” in the other (in the latter, the very space of the Bookstore-Gallery was “nounified”). The terminology highlights its theoretical orthodoxy, with the participation on both of poets from the so-called Experimental Poetry group with the collaboration of avant-garde musicians such as Jorge Peixinho.

3. Readability/Non-Readability

The linguistic sign . . . loses its independence and self-sufficiency, its individual concretion, as soon as it functions as a sign for a “thing,” for something objectively intended and objectively formed (Ernst Cassirer 154).

The concrete poetry movement is fundamental for the evolution of reading to the extent that it contributes toward preventing the text from being a mere literary-lyrical expression to become at last a pure combination of signals, thus establishing a new trajectory from word to sign.

If the word becomes sign, if it becomes sign again, other signs may also be or become readable again, and finally even literary, legitimating the encounter between ikon and logos. Supported by Peirce’s sign theory, Max Bense was able to conclude, for example, that “the aesthetic information of material nature, autonomous, of Concrete Poetry texts is primarily of indicial nature.”⁸⁹

89 O.P.: “a informação estética de cunho material, autónoma, dos textos da poesia concreta é, primordialmente, de natureza indicial”

An important experience in non-readability was for me the study of archaic writings that I made during the 1960's, as I experimentally attempted to discover writing mechanisms. I mentioned that experience in the preface to *Mapas da Imaginação e da Memória* (*Maps of Imagination and Memory*), a collection of visual texts made during that research, extended along about ten years. At that time, when the study of modern linguistics and oriental philosophy dominated my work, I was able to reflect thoroughly on the problems of the text's communicability, its readability and non-readability. I was constantly working with texts literally non-readable to me—in archaic Chinese, for instance—but that I nonetheless did read. That experience emphasized the frailty of communication regarding text contents and the possible variety of readings of the forms. Then, I could develop the practice of the image-text that simultaneously transcends and includes the problem of the content at the level of meaning, enlarging it towards what might be considered a field of integral meaning which creates specific non-deliberation of its content, with graphic form being its only limitation.

With that attempt I tried, on the one hand, to extend the field of reading beyond literality; on the other, to widen the field of formal research and also to enlarge the creative field for writing itself, metaphorically and factually. By drawing attention towards writing as sign drawing or painting (making it non-readable to evict the habit of content reading), I was attempting to restore the original force of writing: semiotic, iconic, autonomously semantic. I was trying to do the following:

- To think on the problem of readability or non-readability of text as proper to the writer, who constantly faces the issue of writing that ciphers and decipherers.
- To ponder on the degree of readability (or intelligibility) of a text, or even on the influence of time over a text's readability, or the wearing-out of language that does not just match the wearing-out of the successive ideologies that use it but also recreate it.

Specifically, to ponder on readability is to attempt to evaluate to what extent results from the limitations imposed by a code in which the relationship between sender and receiver regulates its own readability. The possible degree of message communicability and deciphering is the real problem of reading.

E. H. Gombrich states for instance that in art, all communication consists of “making concessions” to the knowledge of the receiver (196). And in fact, even within a particular language like art, it would be necessary to be able to decide what is literally readable and what is literally non-readable. And most of all, readable to whom? When? How? Why?

We know that whatever the language—word, gesture, and object—all is not always readable, as all is not always sayable, as all is not always decipherable. And precisely in that zone of obscurity, determined by the limitations of expression and interpretation, lies the essential non-readability of the art object—what remains unsaid, in silence, unspoken—that precisely allows for countless and perhaps infinite creative readings.

Yet, the word unsayable (“indizível”) does not refer in the present case to a mystical notion as for instance unnamable (“inominável) but rather to a practical verification of the impossibility to say all, referred to by Wittgenstein in his famous Proposition 7.

The silence of writing—writing is a mute, symbolic speech—drives the author to reflect upon the implicit silence of words. But the same problem of silence poses other forms of artistic expression, and ultimately all forms of expression. Wittgenstein, in Proposition 4.1212 further declares that “what can be shown cannot be said” (79). And this assertion clearly exposes an eloquent illustration of all forms of visual communication.

The visual poem—visual-text, image-text—is literally and literarily silent. Through non-literal readability, it can reach its worldwide circulation: in the confusion and incommunicability of languages and concurrently of civilizations and cultures (Joyce stated the Tower of Babel is the Tower of Sleep). Communication through image (non-verbal communication) becomes a sort of “lingua franca”, a universal language.

And in their withdrawal from literary tradition, visual poems strip off the clothes of the society that originated them. Even by assimilation they criticize its ideologies and techniques; they ignite preconceived ideas on how writing, writer, and text should be.

A new technique, when widely adopted, defines its own viability and need. If it becomes universal in a given age, that is because it corresponds to a truth simultaneously contemporary and original. Likewise, since new techniques are imposed on a society due to their use, a mutation of sensibility takes place. This

mutation is perfectly illustrated by concrete poetry texts, demanding a real evolution in the way of reading, interpreting, and conceiving poetic expression.

The depuration that avant-garde movements, including concrete poetry, have tried to achieve in the field of literature and arts is the reflection of change underway in the society that bears them. To deny and reject the means of expression of the present society is to refuse its significance. The avant-garde literature emerging in the bourgeois society is anti-bourgeois. It stands “against literature” to the extent that it reflects and depicts the decadence of the dominant class who appropriated it, making it inoperative through routine use, institutionalized by official culture.

The extreme character of combat positions (borrowing terminology from martial techniques, stressing struggle and battle) turns attitudes and works from avant-garde followers into exceptions, always to be considered esoteric; that is, unreadable, not immediately assimilable not only for psychological reasons, but also because in fact the code they are based upon is no longer the common code in the society against which they stand.

Avant-garde groups are therefore identifiable with all those performing a task that questions the safety of the Dominant Power in a society, be it political, religious, or artistic. As militants of any emerging ideology, they begin as small groups with subversive action, bringing upon themselves the challenging responsibility of disorder.

But such disorder, to the extent that it implies establishing a new order, carries the seed of its own eventual dismissal. That is how avant-garde movements, as revolutions in general, necessarily succeed each other.

Immersed in traditional logics, words become an ambiguous reality, along with their context. The ambiguity of writing, its contradictions within the plurality of meanings, the natural non-readability of writing, now make reading a form of reinvention that becomes a civic obligation.

And if the art of narrative that once was poetry’s leads to the exploration of space and visual effects, then the disintegration of language defines a struggle for renewal, witnessed by texts, and that reading recreates through interpretation.

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Appendix

Exemplo 1 - Camões e Herberto Helder

CAMÕES

Transforma-se o amador na cousa amada
por virtude do muito imaginar;
não tenho, logo, mais que desejar,
pois em mim tenho a parte desejada.

Se nela está minh'alma transformada,
que mais deseja o corpo de alcançar?
Em si somente pode descansar,
pois consigo tal alma está liada.

Mas esta linda e pura semideia
que, como um acidente em seu sujeito,
assi com a alma minha se conforma,

Está no pensamento como ideia:
o vivo e puro amor de que sou feito,
como a matéria simples, busca a forma.

Luís de Camões, “Transforma-se o amador na cousa amada”, 1595, LCII, p. 265

HELDER

“Transforma-se o amador na coisa amada” com seu
feroz sorriso, os dentes,
as mãos que relampejam no escuro. Traz ruído
e silêncio. Traz o barulho das ondas frias
e das ardentes pedras que tem dentro de si.
E cobre esse ruído rudimentar com o assombrado

silêncio da sua última vida.
O amador transforma-se de instante para instante.
e sente-se o espírito imortal do amor
criando a carne em extremas atmosferas, acima
de todas as coisas mortas.

Transforma-se o amador. Corre pelas formas dentro.
E a coisa amada é uma baía estanque.
É o espaço de um castiçal,
a coluna vertebral e o espírito
das mulheres sentadas.
Transforma-se em noite extintora.

Porque o amador é tudo, e a coisa amada
é uma cortina
onde o vento do amador bate no alto da janela

aberta. O amador entra
por todas as janelas abertas. Ele bate, bate, bate.

O amador é um martelo que esmaga.
Que transforma a coisa amada.

Ela entra pelos ouvidos, e depois a mulher
que escuta
fica com aquele grito para sempre na cabeça
a arder com o primeiro dia do verão. Ela ouve
e vai-se transformando, enquanto dorme, naquele grito
do amador.

Depois acorda, e vai, e dá-se ao amador,

dá-lhe o grito dele.
E o amador e a coisa amada são um único grito

anterior de amor.

E gritam e batem. Ele bate-lhe com o seu espírito
de amador. E ela é batida, e bate-lhe

com o seu espírito de amada.
Então o mundo transforma-se neste ruído áspero
do amor. Enquanto em cima
o silêncio do amador e da amada ainda alimentam
o imprevisto silêncio do mundo

e do amor.

Herberto Helder, “Transforma-se o amador na coisa amada’ com seu”, 1961, *Poesia Toda*,
p. 17

Exemplo 2 - Camões e Ana Hatherly

CAMÕES

Mote

Descalça vai pera a fonte
Lianor pela verdura;
vai formosa e não segura.

volta

Leva na cabeça o pote
o testo nas mãos de prata,
cinta de fina escarlata,

saínho de chamalote;
 traz a vasquinha de cote,
 mais branca que a neve pura;
 vai fermosa e não segura.

Descobre a touca a garganta,
 cabelos d'ouro o trançado,
 fita de cor d'encarnado...
 Tão linda que o mundo espanta!
 Chove nela graça tanta
 que dá graça à fermosura;
 vai fermosa, e não segura.

Luís de Camões, “Descalça vai pera a fonte”

HATHERLY

“VARIÇÃO VII”

descalça ia leonor. ia à fonte leda efria.
 ia leste ia. a fonte corria. leonorapenasia.
 pela aragem fria. pela manhãia. sorria&ia.
 loenoria. leonorana leonoriana. anaía bela &ia.
 despedia. sorria &ia. leonoriana leonorama.
 pela manhãia. florelia floribela. anafior anafiora.
 anafloreana. leonorama. ana&bela e ana&ana. leonorana.
 oh quem te ama. leonorama. floriãia. floriãia.
 floriãia. oh leonorana. leonorãia. leonorãia.
 mestrãia&ana. leonorana. oh leonorana. oh leonorãia. leonorãia.
 comigo te trago. oh leonorana, que me insana.
 oh insulãia. leonorãia. minha anafiorãia.
 arvoreana. leonorana. oh lucibela. oh lucidor.
 analeonor. oloreana. oh leonorana. analiana.
 leo&ana. leão de ana. oh quem te ama. leonorama.
 amadisana. anatisana. eleonoriana. eleonorana.
 miridiana. rio de ana. leonorana. oh quem te ama.
 leonorama. leonorãia. leonorãia. anacorola.
 anacoreta. leonorãia. rosaliãia. liãiorana.
 leonorãia. leonorãia. a la ventãia. leonorãia.
 oh analivia. livida&ana. viridiana. analianor.
 anabellãia. a la fontãia. leonorãia. oh quem te ama.
 leonorãia. leonorãia. oh leonorãia.

Ana Hatherly, *Leonorana*, 1965-70

“VARIÇÃO VIII”

descalça leonor a verdura da sua formosura
 e sem usura a fonte segura da verdura mui escura

e pura e na verdura leonor dura enverga a formosura
na cintura leonor pura cordura queimadura dura
da formosura cura a verdura de sua dura figura
de doçura fonte de amargura dura e tanta formosura
tem que a fonte dura e então descura
a verdura e corre leonorpura envergando escura
a profundura dura em sua altura a formosura pura
e então dura a mente obscura da impura fonte segura
da hora dura mordidura funda urdidura
da tessitura dura e dura da verdura insegura
e então mura a demorada pura leonura sua formosura
dura comissura pura da tortura da verdura que situra
e então leonorua pisadura longadura e ansiedura
mentepura captadura a verdura insegura
leonorpura saltadura de seu leito pura

Ana Hatherly, *Leonorana*, 1965-70

Exemplo 3 - Jorge da Câmara e E. M. de Melo e Castro

JORGE DA CÂMARA

De tempo em tempo tudo vai andando,
o tempo sem pôr tempo vai correndo,
sem tempo não se vão os tempos vendo,
por tempo o tempo vai profetizando.

Do tempo, o tempo só pode ir faltando,
a tempo se pode ir o tempo erguendo,
com o tempo se vão os tempos estendendo,
que o tempo vários tempos vai mostrando.

Nunca o tempo perdido é mais cobrado,
que se o tempo nos tira o que é presente,
mal pode dar o tempo o que é gastado:

O tempo gasta bem todo o prudente,
que se o tempo que passa é bem passado,
todo o tempo passado tem presente.

British Museum Library, Add. 25 353, fl. 6

MELO E CASTRO

uma chama não chama a mesma chama
há uma outra chama que chama
em cada chama que chama pela chama
que a chama no chamar se incendeia

um nome não nome o mesmo nome
um outro nome nome que nomeia
em cada nome o meio pelo nome
que o nome no nome se incendeia

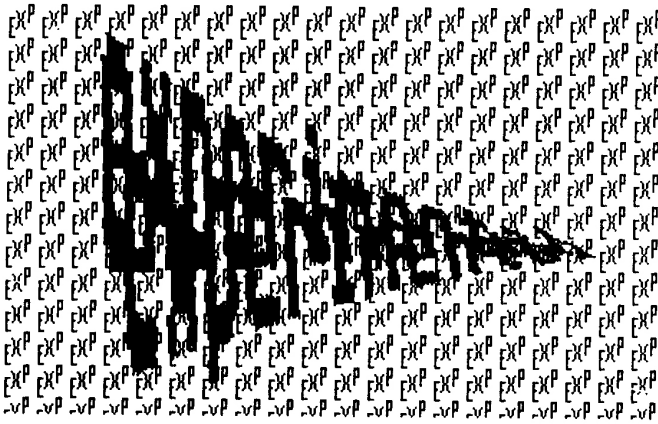
uma chama um nome a mesma chama
há um outro nome que se chama
em cada nome o chama pelo nome
que a chama no nome se incendeia

um nome uma chama o mesmo nome
há uma outra chama que nomeia
em cada chama o nome que se chama
o nome que na chama se incendeia

E. M. de Melo e Castro, in *Versus-in-Versus*, 1968

EXPERIMENTAL POETRY⁹⁰

E. M. DE MELO E CASTRO



In the second half of the twentieth century, the conviction that the exhaustion and the end of artistic forms is approaching still attracts followers. They search for reasons for the end of art in the evidence for the breakdown of traditional, inherited systems of social and human culture, which no longer corresponds to what is experienced in our present time.

In our opinion, the concern about such signs of breakdown is a symptom of the concern regarding the source of human creative activity. To subsequently conclude that it represents the end of art is to condemn creativity to disappearance. It corresponds to mutilating man's "partes vitais," or vital parts.

However, this same man believes that we are now merely reaching a new age for expansion and deepening, that in the technological and scientific fields as in the worldwide economic spheres, everything is at the beginning. The economic progress verified in some areas of the world makes us speak about several well-known miracles of development. They may let us foresee the more or less close possibility of widening the influence areas of this economic progress and even the expected universalization of its benefits. Human problems increasingly depend on economic progress, whatever the native ideologies of this or that

90 E. M. de Melo e Castro, "Excurso A - proposição 2.01" (From *O fim visual do século XX*, 1993, [Originally published in *Proposição 2.01*, 1965], pp. 31-37). Translation by Isabel Basto.

area may be. Economic progress increasingly depends on technological development. In turn, the latter is based on an open-minded mentality of research and experimentation. We experiment in order to recognize acquired knowledge and to make it objective through practical results. Yet, scientists say and we indeed feel that everything is just beginning. The collapse of an epoch may drag along with it methods, vices, and prejudices experienced by people living at that time. However, it does not erase human qualities or biological and intellectual functions. The end of creative activity would hence correspond to the end of man. The problem could be posed much like the prospect of solving the problem of hunger was scientifically posed for the first time in history at the beginning of the space adventure. Is it possible that whoever believes artistic activity has reached the end—eagerly defending obsolete forms of expression—has full conscience that doing so condemns mankind to extinction?

The absurdity of this position forces us to pose other questions: How could mankind have lost all creative virtuosity precisely at the beginning of a new phase of development?

When designing the future, how can mankind be construed as devoid of aesthetic activity, when one of the clearly visible features of that same forthcoming future is a wide and tense contact with the plastic and spatial values of the world and even of the universe?

The problems of mankind's creative activity and aesthetic manifestations must be faced headlong, the same way scientific and economic issues are questioned and reformulated, and new responses and solutions are proposed on a daily basis.

If for other fields of knowledge and philosophy we are able to discern dominant currents, it is hardly inconceivable that the same is possible for creative activity. This is why the experimental attitude regarding poetry is not a particular aesthetic trend but rather a mental attitude of search and research. It is a vital synchronism of the artist, not with time, but with the means, methods, and issues that society and science display as characteristically theirs. Yet, this experimental attitude faces the inevitable invasion of the future.

The emerging homo-economicus is not “castrado esteticamente,” or aesthetically castrated. If this were the case, the radical homo, or man, would have to be discarded. Instead, he is a high-level psychologically complex being, whose aesthetic activity can only manifest in a highly evolved manner, corresponding

to the levels of such complexity. And, if that is true regarding the structures and mechanisms of the creative process and regarding the specific nature of the artist, then avant-garde and experimental art propose artistic objects that as such belong more properly to the sociological level than to the psychological one.

Hence, the work of art enters a collective perspective of information dissemination. No more communication among individuals, neither the expression of feelings or of being. No more metaphysics and psychology mixed with aesthetics.

Expression and communication through the artwork are possible in specific cases, but they may never constitute the sole basis for an accurately structured and developed activity.

Avant-garde art inverts relations between ethics and aesthetics. The most ethical aesthetics will not be the one that serves any given moral. For the avant-garde artist, on the contrary, free experimental practice is the fundamental ethical rule of conduct if he/she wants to attain a fully functional and clear view of aesthetics, as a step towards the creation of valid and well accomplished artworks, i.e. an artwork that has clearly been made objective.

Once the artwork has clearly been placed in the field of aesthetic technology and in the field of collective information, the artist is required to develop his/her working skills through the perceptual experience he/she acquires and, also, to deepen his/her knowledge of the qualities and properties of the matter he/she works with.

The psychology behind artistic creation is more a knowledge of the structuring ability of the human spirit by means of its specific biological, mental, or emotional functions, than a simple study or representation of its social, moral, or sentimental behaviors.

The experimental work of art detaches itself from its author and is placed in a standpoint of collective dissemination of information—the information of its own existence as a beautiful object, corresponding to the aesthetic needs of the collectivity—which each and every individual in the collectivity will try to satisfy through his/her own perception of the artwork. As Stockhausen and others have argued, users and viewers of artworks can adapt and make use of them as they please.

The experimental attitude in poetry is based on the in-depth study of the im/possibility of communication among human beings through the various signaling systems specifically aiming at the doors of perception. The work of art,

therefore, demands objective existence structures through those signaling systems. The connection, therefore, occurs between the one who perceives it and the work as an object. The author, a psychological entity, necessarily remains outside this circuit. The experimental work of art consequently requires from its user an attitude change from passive to active. Hence, an energy exchange between work and user is established, the sort of energy depending on the structural principle stemming from the work and the user's door of perception it succeeds in impressing.

Thus, considering poetry a formal synthesis of several human activities, dynamisms, or tensions related to biological and intellectual functions, we can consider the following types of experimental poetry:

- Visual poetry: for example, Apollinaire's *Calligrammes*; graphic experiences from Futurism; Concretism (Brazilian and international). Visopoems (Lisbon).
- Auditive poetry: experiments with human voice worked or not through "magnétophone"; rhythmic poetry or melodic poetry with words, syllables, or pure sounds; direct composition on soundtrack; some experiments from Dadaism to Letterism.
- Tactile poetry: the poem is an object; all forms of collaboration with plastic artists; readymades; object poem and poem object; all construction processes that confer a material body to the poem.
- Respiratory poetry: for example, Pierre Garnier's experiments with human exhalation.
- Linguistic poetry: for example, E. E. Cummings, James Joyce, Ezra Pound, and many others; attempts to create new words and languages; polyglot poetry.
- Conceptual and mathematical poetry: cybernetic; combinatorial and permutational methods; numeric structure of the work of art; for example, Raymond Queneau's experiments.
- Synesthetic poetry: development of synesthesia; hybrid products of the aforementioned types of poetry.
- Spatial poetry: for example, Mallarmé: *Un Coup de Dés*; generally, spatial feeling manifests itself as a common denominator of all contemporary forms of poetic experimentation.

The spatial feeling was particularly developed after the Second World War and is currently the most vivid, distinctive element of humankind. In fact, the fundamental distinction between the conventional poet and the experimental poet can be established according to spatial feeling. The latter occupies space with his/her poetry, and sometimes the poem is what defines the occupied space (as in the sculptures by Nicolas Schöffer).

The conventional poet merely perceives the surrounding space and his/her psychological space, providing only perceptible references or descriptions using some of the linguistic and auditive possibilities of the formative process of images, metaphors, and symbols. From the point of view of released energy, it seems clear that a distinction must be established between the potential energy of the artwork and the energy objectively released by poetic machines and poetic objects that may be built. The objectively released energy is precisely what the experimental poem seeks to achieve.

From the simple proposition of experimental poetry, the existence of some kind of bonding between artistic activity and scientific activity may immediately be inferred. Obviously, aesthetic experimentation is not similar to scientific experimentation, but the difference is more technological than one of mental attitude. Experimentation as poetic phenomenon does not imply working outside the sphere of the poetic. It is rather the obligation to work within—with an open attitude and without prejudice or restrictions—to go deeper into its own nature, in order to limit its methods. This would require redefining its laws and roots, from the earliest originating sources until their present development and adaptation to contemporary human and technological conditions.

What is at stake is not identifying art with science but instead recognizing a certain sort of parallel between the experimental artist and the research scientist. The parallel is not between experimental art and lab science, but rather among a wide range of activities involved therein, each with its own specific scope.

For a new technique or a new resource to be integrated and used in a creative way, it is first necessary to submit the whole poetic process to a reduction of accumulated accessory elements, scrupulously minimizing them to the most basic, so that this new technique or resource may find a way of being used by the human spirit with the purpose of creating poems. The experimental poet may only start his/her adventure after completing that task. All tendencies that for some time now have been noted in modern poetry—such as the quest for rigor in language, the ideal of returning to the

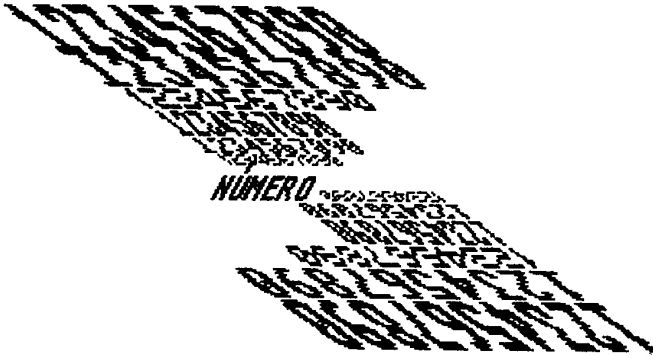
origins, the techniques of syntactic and linguistic reduction, the potential overload of images—are phases of that same study. In other words, they are stages of the evolution in the poetic process, towards today's experimental methods.

Consequently, primitive poetry and popular poetry will always be of more interest to the experimental poet than some refined tradition, even if that tradition is currently practiced. In the same way a poem will be of more interest than a poetry concept, a technique developed in a practical manner—even if it derives from other techniques until recently considered obsolete—will always be more important than an outburst of imprecise inspiration, even if it comes from a great contemporary poet.

A perilous incursion in the slippery field of metaphorical construction—undertaken with full conscience of the risks involved and with total freedom to create—will be of more interest than a poem that is linearly clear but programmatic and, therefore, created under conditions that restrict its poetic needs.

NUMEROLOGY AND PROGRAMMATIC POETRY⁹¹

E. M. DE MELO E CASTRO



Numbers measure—everything else mediates. This concept may sum up the value of the number as the first perfect abstract reality achieved by humankind. This is probably how the number was firstly understood by the Ancient Egyptians and afterwards in Classical Greece. The constancy and independence of numeric relations, regarding the psychological (i.e. subjective) nature of the human operator using numbers, cannot cease to astonish whatever the aim (be that pragmatic or speculative). Numbers are therefore divine, inhuman, and perfect.

The Pythagoreans believed the number *one* held exceptional qualities. *One* is the whole, the unity, the identity, equality, and concordance. This is due to the fact that once conceived as unit, *one* may repeat itself, resulting in the numerical series $1+1=2$; $1+1+1=3$; $1+1+1+1=4$ and so on, endlessly. The infinite, therefore, holds similar characteristics to *one*, since it results from a principle of identical repetition, or a repetition of equal units.

But, *two* is different from *one*. *Two*, resulting from an identical repetition, establishes, simultaneously and in contradictory manners, the principle of duality and the rule of difference ($2-1=1$).

91 E. M. de Melo e Castro, “Numerologia e poesia programática,” from *O fim visual do século XX*, 1993, pp. 103-112, translation by Isabel Basto.

Analogy and dialectics are the basic principles governing scientific thought, which, although stripped from all human passions, is nevertheless a creation of man for his own use and benefit.

However, a more detailed consideration immediately reveals several degrees of analogy and laws of proportionality that are not univocal (see Burrell). A certain degree of ambiguity is present in every numeric calculation. Such ambiguity can only be disregarded for pragmatic reasons.

On the other hand, the dialectical principle also implies several degrees of disparity, opposition, and contradiction, by following different paths to obtain the required final synthesis. This can be achieved by overcoming opposing conditions or by obtaining a new concept of unity resulting from mental operations.

But if unity is static and divine, difference and change are human and dynamic. The empirical observation of life and nature leads to this conclusion. Everything changes. Everything mediates between one thing and another. But everything may also be enumerated (numbered), and mediation can be calculated. The structure of the universe is numerological. Geometry measures the Earth, where everything is in constant flux with a seemingly binary relation: day/night; present/absent; alive/dead; big/small; hot/cold; movement/stillness; noise/silence; me/you; etc.

These brief considerations of an inevitably vast and complex subject—such as numerology—explain the significance of this subject for Western thought from Ancient Greece and its resonance across the deep strata of medieval culture until now. In fact, numerology constitutes a sort of secret basis upon which outstanding moments of human creativity are set. It is secret because it is not obvious and also because it is seldom openly exposed by believers and sympathizers. Pythagoreans identified the number with wisdom. Plato inscribed the following words above the doors of the Academy: “Mathematical knowledge required.” The Medieval conception of cosmology is totally mathematical, and the rhetoric of numbers pervades all medieval knowledge. Numbers explain both theological considerations and aesthetic phenomena. Saint Augustine, among others, suggests that the mind can only fully understand something if it has a numerical form.

The Jewish Kabbalah and the Christian Kabbalah are interpretation and qualification systems through numbers. They constitute different (but related) semiotic systems of communication and reference for the initiated or the wise,

as well as a form of keeping secrets occult from others. They propose as initiatory knowledge a principle of binary differentiation between “yes” and “no” and between the self and the other.

Such numerical basis, in which numbers hold quality beyond their quantitative identity, is the stepping stone for numerological interpretation systems that can be applied to literature and indeed to all fields of knowledge, production, and creations of human spirit.

Dante structured *The Divine Comedy* through numerology. Camões structured *The Lusíads* through numerology. Notice also the studies “The Poet’s Number at the Centre” by Charles S. Singleton, in *Essays in the Numerical Criticism of Medieval Literature*, and *A Estrutura dos Lusíadas* by Jorge de Sena, revealing surprisingly accurate and arithmetic features.⁹²

Portuguese Baroque poetry reveals a combinatory and numerical conceptual backbone. Ana Hatherly’s work *The Experience of the Prodigy*⁹³ reveals such underlying structures in labyrinths, acrostics, anagrams, epigrams, emblems, rhopalic verse, echoes, and lipograms, constituting a whole numerical wisdom applied to literary production in a systematic and even programmatic way. Such practice must today be considered modern and, at the same time, an accurate connecting bridge between Medieval literature and the most advanced twentieth century experimentalism, in the sense proposed by Ezra Pound, but here applied to the Portuguese and peninsular experiences. In the twentieth century, the poet Almada Negreiros should be referred to as the one who dedicated the greatest attention to numerology, not making it the basis of his written poetic creation but of his visual poetic creation.⁹⁴ Moreover, he made it his philosophy, becoming the “great invisible priest” Abellio refers to and whose essential activity, as Almada said of himself, “is to be at home winding the crank of the world” (Freitas). Almada’s lonely and ardent meditation contained the very reality of the universe and of things to which all others owe the miracle of escaping from the nothingness they are made of. To Almada, the “crank of the world” is number, through the relation

92 For other references on numerology: Ernest Robert Curtius, “Excursus XVI, Numerical Composition,” *European Literature and Latin Middle Ages*.

93 See also by the same author and on the same subject: *Anagramas Portugueses do Século XVII (Portuguese Anagrams from the Seventeenth Century)*, Colóquio Artes, 40, 1979, and *Labirintos Portugueses dos Séculos XVII e XVIII (Portuguese Labyrinths from the seventeenth and eighteenth Centuries)*, Colóquio Artes, 40, 1980.

94 For example, the painting *Começar (To Start)*.

9/10: the final expression of the principles of analogy and dialectic, which govern the binary system and interpret the universe and the paths of man (Freitas).

Even more recently, numerology experienced two revivals: one connected to the so-called non-rationalist Portuguese philosophy, which does not prevent such works as *Gramática Secreta da Língua Portuguesa* by António Telmo from being most interesting in terms of information and revealing poetic semiotics, whose creative potential can never be overstated. Another resurgence of numerology in Portuguese poetry had a rationalist and constructivist nature, constituting a key aspect in experimental poetry produced among us since the early 1960's. In experimental poetry, formulations are based on two principles: combinatory analysis as new syntax and the strict poetic development of a previously established program dealing with the rational structures of written language. This program is already a structural part of the poem, as the initial core developing textual assets.

Combinatory poems may be divided in macro-combinatory and micro-combinatory types, because, even though their governing mathematical laws are the same, their combinatory analysis (combinations and permutations) and linguistic and poetic outcomes are different.

Therefore, in the macro-combinatory types—whose typical example is the text *Máquina de Emaranhar Paisagens* by Herberto Helder⁹⁵—we depart from large heterogeneous units to produce a series of combinations and permutations before the very eyes of the reader. Through these means, we reach a superior (or second degree) metaphorical climate regarding the present metaphors in the early texts.

Examples of the micro-combinatory types appear in the texts by E. M. de Melo e Castro, such as the books *Versus-in-Versus* and *Álea e Vazio*.⁹⁶ These works perform a strict arithmetic combinatorial phrase by phrase, sometimes even word by word, obtaining a juxtaposition syntax that fully subverts a logical (and poetic) conventional discourse. As a result, they achieve a high level of informational content (novelty) and a detachment both from metaphors and from the semantic strata at stake.

95 Poem first published in *Poesia Experimental (Experimental Poetry)* 1, Lisbon, 1964, included in the volume *Poesia Toda (The Whole Poetry)*, Lisbon, Assírio & Alvim editors.

96 Books published in 1968 and 1971, respectively, and collected in the volume *Círculos Afins (Related Circles)*, Lisbon, Assírio & Alvim editors.

Also, Salette Tavares in her “Composição Alienatória”⁹⁷ visually performs a rigorous micro-combinatory operation with the phonemes from the word “parlapaticé” (claptrap), obtaining a new, non-alienating phonetic discourse with a high level of irony.

Ana Hatherly explicitly assumed the programmatic component stemming from combinatory experiences (mathematical laws working as a non-explicit program). Firstly, her book *Estruturas Poéticas (Poetic Structures)*⁹⁸ proposes a programmatic method right from the start. Later, this program in “Leonorana”⁹⁹ consists of the opening verses of the villanelle by Camões, “descalça vai para a fonte...” The program is now random and consists of a full repertoire of experimental techniques and resources: from syntactic to visual, from conceptual to calligraphic-emotional, and from numerical to chaotic.

During the 1960’s and early 1970’s, computer-generated poetry would be a utopia very close to reality. Little development has occurred since the first of Balustrini’s experiments, despite the huge evolution in computing and the invasion of microprocessors. However, a qualitative leap is expected at any time. The poet will then become the program maker and the one to decide the variable parameters and changes to include in such programs. The computer will elaborate that data beyond human ability. Numerology will have achieved one more instrument to disseminate its knowledge. The *one* will—through tens of centuries of vicissitudes—increasingly approach the infinite.¹⁰⁰

Specific textual practices flow from a poetics of the number: parallelism, serialization, combinatorics, and, in general, the program and the project. There, the semiotic potential of letters, phonemes, words, or phrases becomes text and plunges into the risk of meaning.

In this context, Affonso Ávila’s poetry intertextually crosses Portuguese experiments with the use of structural series and permutational research. For instance, in the poems *Código de Minas*, intertextuality is remarkably present in parallel methods and dates (the 1960’s), unequivocally exhibiting coincidences

97 Poem published in *Poesia Experimental-2 (Experimental Poetry-2)*, Lisbon, 1966.

98 Published in *Operação-2*, Lisbon, 1967.

99 Published in the book *Anagramático (Anagrammatic)*, Círculo de Poesia, Lisbon, Moraes editors, 1970. Poem included in the book *Poesia (Poetry)*,

100 See the experiments in producing visual poems using computers by Silvestre Pestana in Oporto.

in its experimental potential for syntactic renewal of the Portuguese language in both Brazil and Portugal.

But such textual concomitance is not to be considered merely at the level of synchronic performance. Both texts connect to Galician-Portuguese songs from the twelfth and thirteenth centuries. These songs are the famous “cantigas de amigo” from Medieval Galician-Portuguese poetry and employ a dominant parallel structure, even at a subliminal level, as highlighted by Roman Jakobson in his letter to Haroldo de Campos regarding a song by Martim Codax.

If in fact, parallelism (a term coined by G. M. Hopkins) is the essential technique of all poetry structured in verse, our intentional use of parallelism from macro-textual to micro-textual levels is an extreme phenomenon. It unveils an inventive radicalism that becomes a characteristic trait of a linguistic attitude: the search for a non-descriptive enhancement, representative, and objective, between sound and sense, or what could be called textual isomorphism. In his study, “A Variação Subliminar na Poética de Cantiga,” Stephen Reckert stresses this aspect regarding the song, “Levantou-se a Velida” by D. Dinis.

Despite being exaggerated, this song partially reflects a perfectly normal use of repetition as an intensifying device. If the poem ends up leaving us a bit dizzy, there is no doubt that such was the poet’s intention: certainly the beautiful laundress was also stunned with the perverse whirlpool of her white laundry. And there is also no doubt that such an effect derives not only from the refrain but also from the fourteen interactions, along thirty verses (and short ones), of a single word: “alva” (white). That term, arising fourteen times, is and is not always the same . . . The difference of meanings is not progressive but simultaneous: each time the word “alva” appears, it denotes at the same time “a menina branca” (the white girl: “a alva”) and “ao amanhecer” (at dawn: “à alva”). As a result of the differentiation by means of a double entendre, the intensifying power of simple repetitions is greatly enhanced, accomplished through accumulation or overlapping of three different mutually reinforced “alvuras” (whitenesses): the snowy skin of the beautiful girl, her white laundry, and the morning light blanketing and illuminating both of them.¹⁰¹

We thus witness parallelism working as an intensifier of meaning and not diluting or fragmenting the logical discourse, as happens for instance in surrealist

101 See Appendix 1 for original Portuguese.

poetry. Parallelism, serialization, and combinatory writing by experimental poets are part of a constructivist project to enhance the poetic function of language and its concomitant social sense, with the purpose of highlighting “the common ground to language and society, the principles governing these two structures, first defining the units that in one and in the other can be susceptible to comparison and subsequently to enhance its interdependence,” as stated by Émile Benveniste in *Problems in General Linguistics*, declaring an intertextual postulate between linguistic production and social fabric.

Regarding parallelism, serialization, and combinatorial operations, the principles are susceptible to comparison within the poetic text or social fabric because in both contexts governing laws mathematically correspond.

It is, therefore, conceivable that the poetical/social relationship must occur both ways, i.e. with no prior subordinating of one context to the other. This project may seem utopian because it is based on an interdisciplinary and utopian relationship: the conception of textual production as a place for social transformation and the possibility for such transformation to be recognized by its contemporaries.

Mallarmé witnesses this transforming role of textual invention when he declares himself a “poet on strike”¹⁰² for whom everything that may be offered is inferior to his conception and to his secret work.¹⁰³ As an attitude of refusal of the immediate and obvious that society may have to offer the poet—with its inevitable submissions—the strike is, therefore, a path of denial. It makes possible affirmation through dialectics, which in fact is the core of the secret work of poetic invention, resisting and testing its own materials, including the poet’s own existence. In this sense, Ana Hatherly states:¹⁰⁴

The contemporary writer is submersed in the surrounding world’s intertextuality. His/her information is excessive, redundant to the extreme, rendering his/her text obsolete. He/she knows that and illustrates that knowledge through his/her work. He/she denounces that knowledge in his/her work. Communication, in a world exhausted by an excess of dissemination, no longer has to do with expression: it is a fact that contemporary authors are painfully starting to learn. They no longer express themselves: they merely express the fact that they are trying to do it, they express the attempt to communicate, and in that re-

102 See for instance the article “Mallarmé—O Poeta em Greve.”

103 O.P.: “tudo o que se lhe pode propor é inferior à sua concepção e ao seu trabalho secreto.”

104 See Appendix 2 for original Portuguese.

sistance test the materials that constitute poetic art, the resistance of the human who processes himself/herself is also tested, the test of the resistance of all values pertaining to humanity.

Thus, the writer is placed in the center of the social struggle with his/her own peculiarities: the resistance performed through transgression, through refusal, through strike, and through negativity. The word No emerges as the most effective, dynamic affirmation of inventiveness.

Note

Subsequent to the debate originated by this communication—presented during the 3rd Module of the Cycle of Comparative Studies in Portuguese and Brazilian Literature, on September 29, 1982, in the UFMG Faculty of Humanities—Prof. Maria dos Prazeres Gomes (PUC, São Paulo, Brazil) raised the following issues that demand clarification:

1. the existence of other areas of intertextuality in experimental production research; and
2. the issue of ascertaining whether the use of numerology in experimental poetic production is a matter of intratextuality rather than intertextuality.

Yet, it seems that these two issues involve a more rigorous definition of concepts such as interdisciplinarity, intertextuality, and intratextuality, which are actually explicit in my communication.

Therefore, interdisciplinarity occurs regarding entropy, a notion borrowed from thermodynamics and, when using numerological laws, borrowed from mathematics.

One may also find in Portuguese Experimental poetry close interdisciplinary relationships with music, mainly avant-garde music. We should mention that *Poesia Experimental-2* included the study by Jorge Peixinho, “Música e Notação,” in which this relationship is established and extended from musical notation to visuality. Also, the first happening was called *Concerto e Audição Pictórica* (1965), which chaotically integrated poetry, music, visual arts, and theater.

However, the appropriation of musical structures as performed in written poetry goes further in rigor, as for instance in my poem “Canon,” published in

1971, in *Álea e Vazio*, in which a Baroque clone is executed through three verbs: to see, to have, and to be. On that subject, see the essays by José Blanc de Portugal, “Quatro Novíssimos da Música Atual,” in the annex to the magazine *Rumo*.

The appropriation and use in poetry of the notion of silence that is eminently musical is an example of a remarkable interdisciplinary relationship. The blank page by Mallarmé simultaneously materializes and interiorizes exactly that. It is important to state that the process of achieving abstraction is what enables the writing of a concrete work of visual poetry today, where significant are lying on the blank page.¹⁰⁵ In plastic arts, the relationship is also intense and structural, mainly through visual poetry, which incorporates in the text the spatial dimension in a physical and significant way, thus destroying the univocal character of the time dimension in the conventional poetic text.

Intertextuality is today the substance of inventive literary production, because one can no longer bear the illusion of being the first to produce texts and to understand them as literature.¹⁰⁶

Nevertheless, different intertextual relationships may be established apart from those of mere negativity or inversion of textual meaning. Intertextual appropriation always alters the appropriated text and, therefore, constitutes violation. But this may be achieved in different ways or degrees, such as: amplifying or reducing, contradicting, randomizing per analogy and per comparison. The translation will be considered an analogical intertextual production.

Intertextuality is preferably considered at the syntactic level, and in that case, the use of numerology (once the interdisciplinary appropriation has been completed) is to be intra-textually considered as a way of establishing new meaningful relations among signs at stake in the morphologic and phonetic game. That is the poetic combinatory principle.

Still, there is the issue of the intertextual relationship between the new experimental poetic texts produced that way, all medieval numerological poetry, and also more recently with Baroque poetry.

Such relationships are surprising and fascinating for they reveal trans-textuality: unexpected points of connection and openness at the distance of centuries. Through certainly diverse and not even similar paths, echoes and resonances

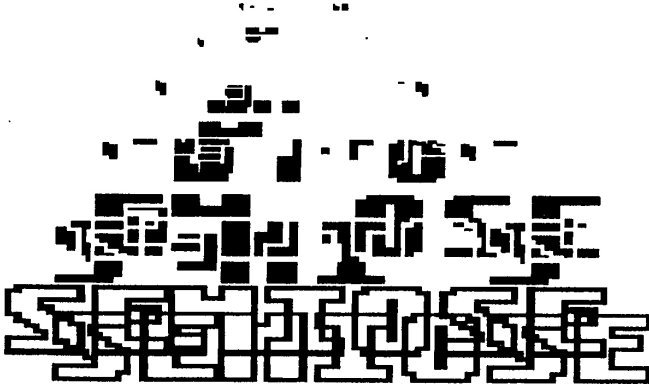
105 Regarding silence see also *O Próprio Poético*, São Paulo, Quífron Editors.

106 See Julia Kristeva's work, *Desire in Language: A Semiotic Approach to Literature and Art*, New York: Columbia University Press, 1980.

that are very disturbing and difficult to integrate in the prevailing schemata are used for understanding general and/or literary historicity.

AN INTERSEMIOTIC NETWORK¹⁰⁷

E. M. DE MELO E CASTRO



Between Oral and Visual

One may imagine for the poetic word a diachronic path from oral speech to the written form and from there to visual poetry. One might, in a classification-historic haste, identify and argue that visual poetry appears consistently four times in the history of Western art: during the Alexandrine period, during the Carolingian Renaissance, in the Baroque period, and in the twentieth century.

It may be noted that each of these outbursts of visual poetry relate to the end of a historic period and the beginning of a new era. Geoffrey Cook provides an idea for thinking about visual poetry as a sign of transformation:

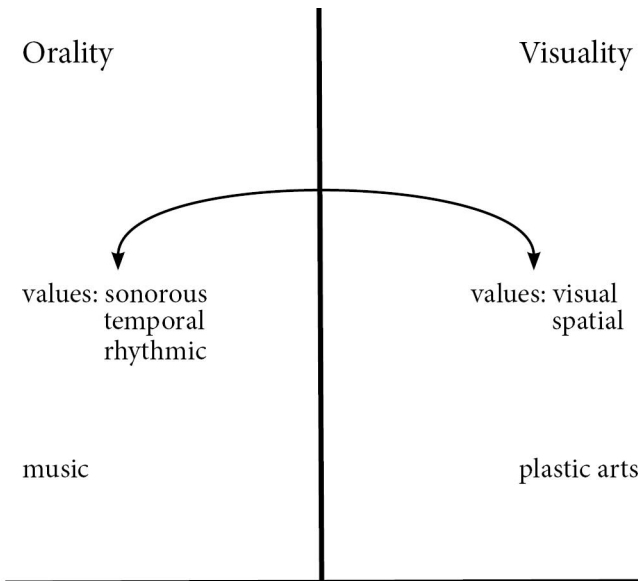
Visual poetry is a cry by the poet that the content of the past is cancerous and a new skin must be sewn to contain the dreams of the future—a visual statement that nothing more meaningful can be said till we can restructure the basic vision that is an historical culture. (141)

107 E. M. de Melo e Castro, “Uma rede intersemiótica” (From *O fim visual do século XX*, 1993, Originally published in *Poética dos meios e arte high-tech*, 1988, pp. 215-243. Translation by Isabel Basto.

Yet, such historical insight seems too easy in a world undergoing change—besides the attraction such insight undisputedly holds as enhancer of visual poetry’s role, a role mainly related to the condensing potential of visual communication. Potential simultaneously connects two sorts of structures: the archetypal formations that will be the working base for human mental activity (according to Jung) and the movements of synthesis. After the rationalist-analytical moments from the first and second Industrial Revolutions, the movements of synthesis will allow the qualitative leap in the future development of the dialectic spiral projecting onto the twenty-first century.

However, this type of thought cannot give us more than an abstract framing for something that is very concrete: visual poetry practice, in its interdisciplinary and intertextual relationship with other forms of articulation of word and image production. This is how one is driven to consider, synchronically, a wide range of verbal and non-verbal productions that intertwine between oral and visual production, as if in an intricate network of translations and correlations. Oral and visual productions are then conceived as irradiant qualities of the signs by which we perceive their existence, through the senses of hearing and sight.

Two structures can be identified to represent those signs in more or less articulate combinatorial series: the oral communication area and visual com-



munication area, which can be graphically exhibited as two quadrants, right and left.

The left quadrant—orality—contains sound, time, and rhythmic values, tending towards music, whereas the right quadrant—visuality—contains the visual and spatial values, tending towards plastic arts (as per the fine arts classification system from the 1900 and still in order). Visual poetry will correspond then to an investment of signs that form poems (letters, words, images) from the right quadrant, holding space and visual value, to the detriment of sound and time values, predominant in non-visual poetry.

This formulation, albeit its pedagogic value, is downgrading if we consider that visual poetry does not waive time and sound values. As well, conventional written poetry, being played in the orality quadrant, does not waive visual and spatial values either, often resorting to them in its imagistic role.

This is truly the subject of the present text: to establish a system of meaningful connections among each of the poetic modes that are mainly played in one quadrant or the other: firstly, through suitable theoretical formulation and secondly, through sound and visual examples from text-poems.

Before proceeding, I would like to state very clearly that this does not concern the idea of poems' illustration through drawings, paintings, or photographs. Not even, inversely, does it concern the stimulation of verbal production through the contemplation of pictorial images, revivalism that is presently quite common in our midst.

What is being proposed here is the construction of structural correspondences between two semiotic systems—the oral and the visual—so that verbo-visual formulations may be performed, as was proposed by the Noigandres Group from São Paulo regarding James Joyce. Such correspondences will be played in each of the quadrants stated through the respective features from the oral and the visual, conveying a simultaneous grid of stimulus and synesthetic perceptions to the reader-user of the poem.

Charles S. Peirce's notion of interpretant may be useful to us, as theoretical equipment towards the understanding of that same network of correspondences:

A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, its object. (135)

As a result it is easy to apprehend that the role of reading is performed at the level of the interpretant *sign—poem*.

Therefore, we intend to characterize the interpretant signs at stake in the visual and oral quadrants. In the visual quadrant, the interpretant sign is specifically synchronic, compact, synthetic, spatial, and tangible. In the oral quadrant, the interpretant sign is specifically diachronic, extensive, analytical, temporal, and abstract.

Now the antithetical pairs may be established with their specific features. Through these we recognize valid or interdisciplinary relations, constituting a challenge to the artist's creativity and to the reader's reading skills.

The poet obviously works with what Peirce calls "representamen," which is constituted by the materials being used: sounds, in the case of orality (even if written); graphic signs and letters, in the case of visibility. The production of texts, in each of those areas, cannot waver the characteristic specificity of signs (representamen) employed.

Consequently, it is not at the level of the sign (representamen), visual or oral, that correspondences may be found but rather in the written articulations that seek corresponding interpretative signs in the reader.

Before presenting some of the examples of the creative possibility to establish such correspondences, I would like to shortly clarify some notions to support a correct reading of the proposed examples. Thus, I will consider there are interdisciplinary relations whenever principles of terminology transfer may be established by means of identical formulations in two different fields of knowledge. Setting antithetical pairs between specific concepts from two different fields also allows this sort of transfer. Intertextual relations feature text recovery and change, through plagiotropic and parodic moments. The intra-textual relations concern the structural elements of a given text. Last but not the least, inter-semiotic relations may be construed as those being established between two different codes as possible correspondence between interpreting signs but depending on the structural organization of the representamen. These somewhat abridged notions are presented because they are at the core of the reading of poetry, from the extreme pole of orality to the extreme pole of visibility, going through several degrees of inter-correspondence.

Text Number 1: poem “Rondel do Alentejo” by Almada Negreiros

We emphasize that this text bears musicality as the dominant stylistic feature. Sound and rhythm values are diachronically chained. Noteworthy are the abundant visual images weaving the text, and images of rhythmic and synesthetic visuality.

In minaret¹⁰⁸
mate

hits
light
snow green
minuet
of moonlight.

midnight
of the secret
of the boulder
of a night
of moonlight.

Dear eyes
of heiress
garnished
with supplies
of moonlight.

Fire breaking
tambourines
dark skin
dancing tits
and pretty,

108 This poem plays with specific sounds of the Portuguese language, rendering it almost untranslatable, as the author acknowledges.

dancing vests
and jackets,
the ribbons
bringing relief
to moonlight.

Flies the shawl
swallow
in the ball,
and the life
sickly
and the hermitage
in the moonlight.

Bow tie
scarlet
of courtesan
gaiety
of Mary
la-da-dee
in revelry
of moonlight.

Turning feet
turning steps
sunflowers
and the hoods,
and the arms
of these two
turning bonds
in the moonlight.

The vest
of this virgin
maddens

as the S
of the rocket
in the vertigo
from moonlight.

In minaret
mate
hits
light
snow green
minuet
of moonlight.
(1913)

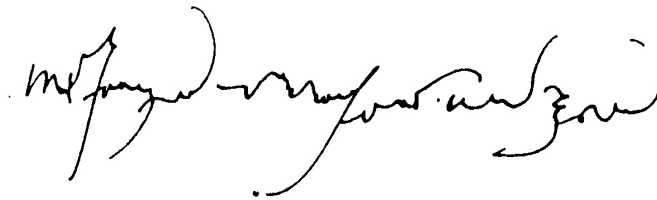
Text Number 2: Calligraphies by Roland Barthes or the signifier without signified (“o significante sem significado”).

Nevertheless, one may question whether a signifier without signified indeed exists. In fact, all signs refer to an object, even if a purely aesthetic one, non-translatable into other code, for instance ideological.

On the other hand, a purely aesthetic sign could not exist, since there must be an ideological interpreter for any sign, whatever it might be.



Spelling nothing...

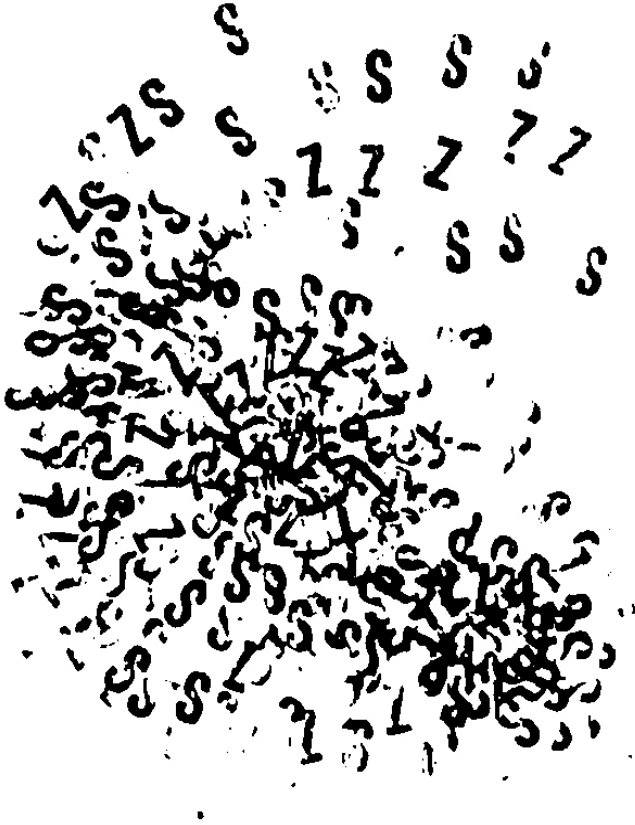


...or signifier without signified

Text Number 3—Calligraphy by E. M. de Melo e Castro



Text Number 4—Visual poem by E. M. de Melo e Castro. The arrangement of visual signs suggest sibilant sounds.



Text Number 5—Example of intertextual parody relation between a verse by Camões and a visual poem soulofmine (“almaminha”)

almaminha
almaminha
almaminha

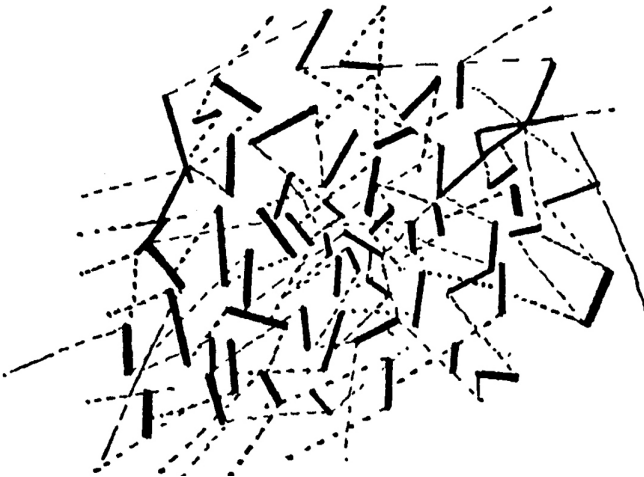
Text Number 6—Example of intertextual relation structuring the visual poem’s disposition (building), with the terms concrete (“cemento”) and iron (“ferro”).

```

      o
      o
      i
f     n           c i m e n t o
e     e           f           r
r     m           r           e
f     i           r           e
cknento t a e m i c i m e n t o           e
r     i           o           r
r     m           o           r
e     e           r           o
f     n           r           o
f     t           a           o
f o r r o r r e f e r r o f e r r o o o
      t
      a           f           t
      e           e           n
      m           r           e
      i           r           m
      c i m e n t o f           i
      r           l           c
      r           l           c
o t a e m i c i m e n o r r e f           c

```

Text Number 7—Intertextual relation between two types of codes, written and visual, in the same poem.



Text Number 8—Interdisciplinary relation between numerology and conventional lyricism: Sonnet sums 14X (“Soneto soma 14X”), by E. M. de Melo e Castro.

1 4 3 4 2

2 3 3 0 6

4 1 6 1 2

3 2 2 1 6

5 0 0 1 8

2 1 2 5 4

1 4 0 1 8

3 2 4 1 4

3 1 2 3 5

5 4 1 2 2

3 0 4 2 5

4 3 3 1 3

5 1 2 1 5

8 9 3 5 3

Infopoetry

Since the beginning of the 1960's, the long-standing idea of producing texts with poetic quality through special machines became possible. Computer development allowed text-processing through certain morphological and syntactical functions. The road towards an informatic poetry or infopoetry was open. It was necessary to develop new categories of critical understanding in order to deal with the emerging issues.

The widely-employed notion of artificial text seems to be neither theoretically useful nor adequate for the critical assessment of the texts produced with computer assistance. Actually, “artificial” merely refers to an artifice that does not exist in nature. Isn't all writing, every production of text by the hands of humans, or by typography, an artifice to record and register oral communication?

And human voice—isn't it also an artifice to enable communication among beings said to be human, through an arbitrary code of sounds they are able to produce and form into language?

Are there really natural languages and artificial languages?

Aren't all languages human-made, along the successive stages of a person's development, with the purpose of improving the efficiency of our relationships or with the purpose of adapting to new living circumstances that depend on them? In any case, the notion of artificial text appears today as a false notion, to the extent that there are no texts we can call natural. All texts are produced by humans with instruments and suitable materials: mechanical or electronic recording, long-distance transmission, and various writing techniques and different media used for visual recording of speech, such as Paleolithic inscriptions on stone, papyrus, bamboo, bird-feathers, paper, brushes, press, pen, pencil, ballpoint, typewriter, and, finally, the computer. All these instruments we may call hard, but another set of instruments is soft, or immaterial, constituted by words and grammatical rules to organize speech. In the new era, computers, as machines that write text, can use words and apply grammatical rules. So, we use that equipment to assist us in the production of texts, performing functions that are not merely to record, reproduce, or disseminate previously existing texts.

In 1964, in a note from his book *Electronicolítica*, Herberto Helder explains how the process of textual production he designed was similar to the pioneer

experiments by the Italian poet, Balestrini, who used a computer for poetic production. This is Helder's note:

In 1961, Nanni Balestrini performed a very curious experiment in Milan. He chose a few fragments from ancient and modern texts and supplied them to an electronic calculator which organized them. It organized them according to certain combinatorial rules previously established, and 3,002 combinations were generated.

The author of these poems [Herberto Helder] kept the implicit general combinatorial principle from that experience. Thus, he distributed a limited number of expressions and words among each poem without following any specific rules. Whenever he felt like, he rejected the initial core vocabulary and introduced new words, which combined with the existing words or simply with each other.

Due to the use of a restricted number of words, the compositions resembled some primitive magical texts, some popular poetry, and some medieval lyricism. The obsessive application of the same words generated an incantatory language, a sort of magic ritual formula in which there are traces of popular refrains, as well as traces of medieval lyrics, such as the songs ("cantigas") from the song-books ("cancioneiros").

The combinatorial principle is truly the linguistic foundation for all poetic creation.¹⁰⁹

This text is clear and requires no comment or glosses, but I would like to underline another principle, besides the combinatorial, that is also important in Herberto Helder's text: the randomness principle. It is present in the poet's will, when he introduces new words and does not use any rule for vocabulary in each poem.

Also, similarly clear is the evolution of the computer's use in producing creative experiments from the 1960's until our day by using a combinatorial algorithm, or a random algorithm, or even producing instructions to feed the computer, which led to the execution of grammatical or visual programs, according to previously established conceptual (mathematical) models.

So, it may be said that today there are countless possibilities for poetic production that benefit from the computer's speed of execution in the combina-

109 See Appendix 3 for original Portuguese.

torial or random production of texts and also from their accurate application of mathematical conceptual models.

The first experiments should today be considered pre-historical and paradigmatic. Such experiments include Balestrini's or Margaret Masterman's computerized production of "haikus," Marc Adrian's production of concrete poems, and many others performed during the 1960's and 1970's in many universities.

These experiments were paradigmatic because they demonstrated the possibility of an informatic poetry and, also, the difficulties involved in carrying out such projects. They were pre-historical to the extent that the dissemination of microcomputers and PC's allowed informatic poetry to expand into a research field addressing the diverse creative possibilities of the computer. That research is the real meaning of poetics, and there is no need to demonstrate that again.

As illustrations of infopoetry in Portuguese, besides Silvestre Pestana's work, we should mention the works of Pedro Barbosa in the 1970's gathered in the two volumes of *A Literatura Cibernética (Cybernetic Literature)* and in the 1988 volume *Máquinas Pensantes: Aforismos Gerados por Computador (Thinking Machines: Computer Generated Aphorisms)*, in which the combinatory and random methods are demonstrated. In 1984, the same author produced several aphorisms from a conceptual textual model that I proposed in 1971 in *Álea e Vazio (Randomness and Void)*, 33 with clear literary quality, according to conventional standards. Barbosa published an article concerning that experiment in *Jornal de Notícias* (June 5th, 1984). I later published a paper in the magazine *Colóquio Letras* (#89, January 1986), on the production of the same aphorisms and implications to the change in the notion of author and in the role of criticism.

1. The following model is proposed:
2. A and B are a pair of opposites;
3. A and B are nouns or pronouns;
4. C is random;

$\text{If A is B } \left\{ \begin{array}{l} \text{In the presence of} \\ \text{In the absence of} \end{array} \right\} \text{ A (or B or C, etc.)}$

5. choose your words and develop the model according to a combinatory rule;
6. carefully study the resulting propositions;
7. do not suspend your research: everything can be said in a poem.

Barbosa specifies:

In order to provide aphoristic semantic results, the vocabulary repertoire built in the program consists of fifty words that are predominantly abstract. The aphorisms hereby represented are a limited selection among the several hundred that were executed, or rather, among the several thousand possible. The BASIC generating algorithm establishes a dialectic between programming and casuality while operating within a textual model. This follows Umberto Eco's statements, although they pertain to an aesthetic context and not a computing one: "To program fields of events in which casual procedures may occur: we will then have a unique dialectics between chance and program, between mathematics and randomness, between planned design and free acceptance of what may occur, since that, in the end, will happen according to second normative lines, pre-arranged, not denying spontaneity, but imposing it barriers and possible directions" [Cf. *A Definição da Arte (The Definition of Art)*, Edições 70, Lisbon, 1981, p.219]. In the field of artistic creation all this approximates a Neo-Pythagorean ideal reintroducing a mathematical harmony: programming rigid textual configurations that still contain the fertility of randomness and disorder. Such artistic creation is in symmetry with the re-evaluation in the scientific world, regarding statistical and random procedures. This is a borderline area joining the "concluded form mystiques" and the "dissolved form anarchists."

Series of 33 aphorisms:

- 1) Will man be God in the presence of fire
- 2) Will God be everything in the presence of nothing
- 3) May God be nothing in the absence of everything?
- 4) Will light be light in the absence of light
- 5) Will night be night in the presence of night
- 6) May light be light in the presence of fire?
- 7) Will God be silence in the presence of evil
- 8) Will night be great in the presence of you
- 9) May evil be good in the absence of evil?
- 10) Will infinite be small in the presence of infinite
- 11) Will great be great in the absence of great

- 12) May God be great in the presence of Man?
- 13) Will nothing be nothing in the presence of nothing
- 14) Will ugly be beautiful in the absence of beautiful
- 15) May light be light in the absence of night?
- 16) Will everything be a weapon in the presence of the weapon
- 17) Will good be silence in the presence of the weapon
- 18) Will the weapon be weapon in the absence of the weapon
- 19) Will the wind be great in the presence of the night
- 20) Will everything be night in the absence of you
- 21) May silence be music in the presence of silence?
- 22) Will nothing be evil in the absence of Man?
- 23) Will evil be everything in the absence of good
- 24) Will Man be Man in the absence of Man?
- 25) Will wind be nothing in the absence of wind
- 26) Will the night be silent in the absence of fire
- 27) Will white be black in the presence of God?
- 28) Will everything be wind in the absence of Man
- 29) Will the night be silent in the absence of you.
- 30) Will fire be fire in presence of wind?
- 31) Will God be night in the presence of nothing
- 32) Will nothing be nothing in the absence of everything
- 33) May everything be everything in the presence of everything?

Barbosa continues:

One may ask: how to justify insinuating a random procedure in the sphere of thought and reason?

Consider the symmetrical validity of these two opposing aphoristic statements:

“Will the night be great in the presence of you.”

“Will the night be great in the absence of you.”

Certainly “the night is great” in the first and second case will receive different meanings depending on the imaginary picture one deems to adjust: probably a euphoric interpretation in the first production and

a dysphoric interpretation in the second. Also, consider the 54 variations in the following series:

“Will God be everything in the presence of everything?”

“Will God be everything in the presence of nothing?”

“Will God be nothing in the presence of everything?”

“Will God be God in the presence of everything?”

“Will God be nothing in the presence of God?”

Etc, etc, etc.....

From the logical-semantic standpoint, how does one understand that all these labyrinthine productions are equally acceptable for us, since there is truth in refusing, opposing, or contradicting all of them? Does this demonstrate the arbitrary game in our thought or the flexibility of our interpretive procedures before a given text, which forces us to adjust semantic mechanisms before A as before anti-A, so they become equally plausible?

Are there mere semantic interpretation phenomena from a metaphorical adjustment effort similar to the one involved in projective tests? But if such an effort can be made before the statement A as before the statement non-A, where lies the reassuring logic of language, that last raft that was rescuing us from an epistemological shipwreck in our relationship with the world, with reality, with the truth? (331–333)¹¹⁰

The questions posed by Pedro Barbosa regarding the results in the development of my poetic model may be faced as a reinforcement of the critical role of the reader, that is, driving the addressee to a selection process on received messages and forcing him or her to assume active and participating standpoints in the process of reading. If both the statement A as well as the non-A statement may be and are concrete and real, the reader will be in charge of taking a stand regarding their veracity. The poem is an open text, formally and semantically. The critical role is, therefore, a part in the process of creating texts that must be executed by the reader. The author is merely the proponent of models to generate texts.

Technology is being developed to produce art objects—visual, auditory, or literary—that the author would not, by himself, be capable of executing. It

110 Originally published in *Jornal de Noticias* and later republished in *A Ciberliteratura*. See Appendix 4 for original Portuguese.

originates a shift on the concept of authorship, questioning the metaphysics of creativity based on the mediating role of the individual artist. Once released from the operations of materialization of the work (that the computers and robots perform quickly and more accurately), artists may concentrate in the conceptual and critical aspects of creation, for which they are more gifted than those machines.

Videopoetry

In 1969, I produced for the Portuguese television a videopoem with the duration of 2'43" under the title *Roda Lume (Fire Wheel)*. After being broadcast in a literary information program by Eduíno de Jesus, it was destroyed by the broadcasting company.

That small videopoem is a pioneer of the work I have been developing since 1985 in Universidade Aberta in Lisbon.

Videopoetry: a proposal for multiple research.

On the one hand, videopoetry explores the grammatical and expressive possibilities of video media while simultaneously researching new techniques for creativity that manifest through writing and reading. It also explores the iconized verb acting in space and time, with the possibility for new narratives in which the notion of visual-time acquires a particular meaning. Such a notion refers to the time an image requires to transform into another one, giving us unstable and mutating information about itself.

As a consequence, the “blank” page by Mallarmé acquires substantive dynamism (self-performed) and a psychological meaning translated into the dynamics of each user’s subjective perception, which manifests through the fascination provoked by video images.

We may mention—as grammatical elements specific to video—the vibrant instability of colors, requiring no referent beyond themselves. This regards images that unlike cinematographic images, are total and autotelic. These are the materials, the “words” for creation, to which we accurately call videopoetry: the virtual materializing of textual images’ fascination.

Mainly concerning the written text, videopoetry makes obvious references to visual poetry from the 1960’s and cartoons. But what is being

searched and longed for is the investigation regarding the technical and aesthetic specific potential that video places upon a poet's reach. The coordinates of movement and time, as well as of chromatic dynamism, now assume the quality of a new grammar of visual transformation, corresponding inevitably to a different reading attitude.

The use of advanced technological media is, therefore, a challenge to any poet for whom poetry is the independent and unalienated quest for communication.

The poetic role of language, as defined by Roman Jakobson, is characterized by the importance awarded to the message itself, i.e. to the media upon which the message is built and that constitute its matter and structure. Hence the importance awarded to the phonic values in oral poetry; to the writing values in written poetry; to visual values in visual poetry; and to technological values when new media are in order, such as the video, and for artistic creation, not for simple repeating or controlling purposes.

That is how videopoetry becomes possible and even necessary towards the research of specific characteristics in such an audiovisual medium and also towards its independence from a use merely alternative to cinema, or from information massification through television broadcasting companies.

But what may those characteristics be, and those values, specific to video, that make it suitable for poetic creation? These questions will be answered through comparative experimentation regarding other widely acquainted audiovisual media, seeking to characterize the grammatical structures and techniques allowed by video.

Although one cannot state that the video is a new medium, the critical and theoretical conceptualization generally available are not the most appropriate to appreciate specific performances as videopoetry. With that medium, it can be verified as—in fact, what has always been verified when a new support appears—a new technique or a new form of expression that is invariably read and accessed in regards to the creative manifestations that apparently preceded it: photography accessed in regards to painting, cinema in regards to theater, television in regards to cinema, and video in regards to cinema and television.

According to McLuhan, video is a cold medium, and it may be considered that the cold and constructive aesthetics is the most adequate to creating videopoetry, but it may be experimentally concluded that video also allows for collage and time change, enabling two sorts of narrative articulation: slow times

corresponding to the proposal of a new form of reading, intimate or in small communication circles (narrowcast); and the accelerated times proposing a new impressionism and a synthetic reading, appropriate for broadcast or mass dissemination through television.

However, both descriptive articulations are supported by a combinatorial syntax in which the rhythmic and musical components become essential. Videopoetry is naturally inscribed in what could be designated as Kinesthetic Art, in which the fascination through sight finds its correspondence in other senses, mostly regarding somatic aspects.

Cinema lives from capturing natural images (except in the case of animation), and its rhetorical figure of speech is the synecdoche, giving us the part for the whole. Video also allows for non-natural images that are electronically generated or transformed in order to be themselves their own whole. Rhetoric is thus established through the articulation and sequence of those total images, generating a metonymic reality.

SV

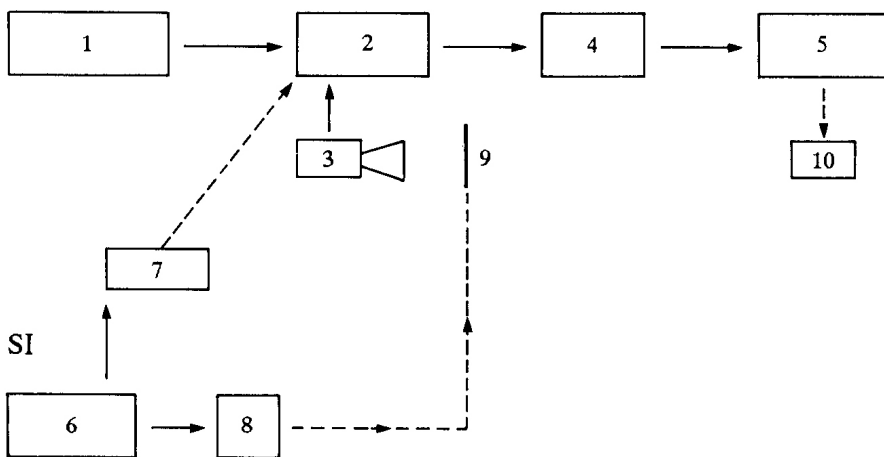


Figure 9—Scheme of equipment (hardware) to perform videopoetry

SV—Video system to generate images

1. Characters generator

2. Special effects
3. Video camera
4. Image processing and transformation
5. Editing or assembling

SI—Informatics System to generate images

6. Computer
7. Video recorder for computer generated images
8. Direct photograph of computer screen
9. Computer-generated imagery slides
10. End Product = Videotape

Images are the referent for video in the same way that words are the referent for poetry.

The chromatic variability allowed by video keeps us away from the chemical color of cinema and photography, thus giving us the unstable and flickering color that has nothing to do with the realistic color in painting or the real color from nature.

Regarding assembling techniques, video is simple thanks to the opportunity to preview before the final recording. The suitable ratio between exposure time for each image and time for its correct perception and meaningful articulation with the previous and the next image is, therefore, planned. That relation between real times and subjective times of perception may be named “visual time,” which is a concept pertaining to video and particularly pertaining to videopoetry.

Speech fragmentation, its speed or slowness, is subsequent to that visual time duly iconized since it is adjusted to image sequence. The notions of discursive assembly, realism, and impressionism that are implemented in cinema must make way to concepts that are no longer aesthetic but psycho-iconic, adapted to a notion of transformation made possible by video.

Regarding television, it should be noted that such a medium as the video is posterior to television broadcasting, and it equipped the broadcasting companies with a versatile resource they seldom use. Programmatic linearity in television is being questioned by the expansion of the video. The age of the unique and totalitarian televisions is long over and done, and the video through television, by cable or by satellite, has become vital towards the global enrichment of informa-

tion. Being a metaphorical language, video consists in a meta-language but is also a multiple eye, creating images we can enjoy. It is a media of cutting-edge technology particularly suitable for poetic creation.

And Now, Afterwards . . .

A central idea is that the use of cutting-edge technologies in artistic creation is a pragmatic consequence of the aesthetics that developed throughout the twentieth century and whose moments of radicalism and rupture were named avant-garde. Ruptures which today constitute a continuum, that is, a strategic tradition in re-reading the past, assumed through the shape of radical cuts and re-evaluations.

At the same time, those strategies cannot be detached from social, political, and economic changes, wherein the scientific and technological investigation is manufactured. All those facts or spheres intertwine increasingly quickly. Now it is quite difficult to determine who acts and who is acted upon or what action is performed and what is the meaning of that action.

The signs of a new reflection upon these issues begin to surface, either in the field of economics or in the ideological field, with the urgency towards the awareness that creativity cannot be absent from those reflections. The role of poetics is, exactly, to provide the impulses (even if underground ones) in order to think again of the now and the afterwards. Now and afterwards are contained in the necessary criticism regarding economic and ideological systems, which despite the crisis syndrome still establish the rules of the game we are all playing. Such criticism may be found for instance in Alvin Toffler's *The Third Wave*, and may be seen in some ideologists, capitalist or socialist, such as the latest works by Friedrich A. Hayek or Mikhail Gorbachev's *Perestroika*, respectively.

Yet, I am sure that to artists, as to art and communication theorists, belongs the larger role of clearly defining the new deontology with regards to relationships and communication among human beings in the age, already begun, of high technology for everyone.

This is so because otherwise a new barbarianism would dominate those media, destroying all "critical" and "cultural" referential systems in the name of the right to subjectivism, thus instating anything less than a primary anarchism.

Such a state of affairs is financially rewarding and easily fits into a wild economic liberalism environment under the mask of art market or culture indus-

try, when it is known that the non-criticism leads to vulgarity, the absence of culture just harvests foolishness, and both lead to violence. In the case of cutting-edge technologies, total destruction is the horizon for such barbarianism.

But, if technology has been the trigger for the economic and ideological change we are being subjected to, this is so precisely because it changes the perception of the phenomena as well as the phenomena. And, therefore, one can no longer state that in the age of electricity, art has become impersonal or cold, precisely because the perception of the individuals producing it is undergoing change, and such art, performed through other media—now electronic, cybernetic, and dematerialized—will forcibly be just a different one.

Individuals and societies are also being different ones, but not necessarily less human. The notion of connotation—applicable to untranslatable meanings from poetry and art—will play an increasingly structural role in the definition of that humanity.

The reflection about means and media, that is, on their poetics, is now one of the doors onto afterwards—through the proposals and challenges contained by those media, such as the Greek sphinx.

Now, the signifiers are light and energy, because it is with light that the works of art are made in the technological age. It should then be questioned if the categories from semiotics are not becoming misfits, since light is the final meaning in the universe. Einstein would surely agree. Besides a new geometry, for instance fractal, there is also a new social geometry emerging: not the rigid class stratifications but the “fractal” fragmentation of society in scalar modules, relatively defined according to their creativity or their own ability to produce energy and to communicate it in suitable codes: “art.”

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COMBINATION AND GENERATIVITY IN CYBERLITERATURE

PERSPECTIVES AND VIRTUALITIES OF THE VIRTUAL TEXT¹¹¹

PEDRO BARBOSA

0—AN ELECTRONIC BOOK?

The recent widespread of Computer Generated Literature seems to indicate a new literary trend: not the end of the book but surely a new way of reading, a new way of writing, and an alternative attitude concerning words. Are we on the threshold of a new age in the History of Literature?

We are entering the domains of virtual text, where works exist in many forms and states, as Alain Vuillemin among others points out. The virtual text is a latent text, which contains the genetic program that generates works; therefore, concrete works only exist in it in a latent state, as seed. And, in the same way the seed is not yet the fully grown plant or the egg is not yet the animal, also the textual program is not yet the work(s) the reader will enjoy. According to this perspective, the virtual text is immaterial: what exists in the physical hardware of the computer is not a text, it's not a perception, and it has no meaning; it is merely the engine of a new plurality of textual performances to be materialized through signs.

This is not an electronic book for being divulged in a magnetic medium (disk), but because it involves a different notion of text that has not and cannot have any part in the traditional book: the virtual text implies the unfinished and the infinite multiplicity of texts generated by the program. The texts do not exist in the magnetic medium as texts, and, therefore, hold no aprioristic meaning. Texts merely exist in the computer in a potential state or in a latent state, as a project or program. The virtual text is a literary structure associated with a computerized engine that puts it to work.

The computer merely intervenes as a complexity telescope: reading on screen performs an essential role here, for any printed hard copy will always be secondary and necessarily incomplete regarding the user (reader). A synthesizer of texts implies the notion of an automatic generator: a creative program that interposes the machine upon the traditional relationship between author and reader.

111 Pedro Barbosa, "Ângulos e virtualidades do texto virtual" from *Teoria do Homem sentado*, 1996, pp. 7-41. Translation by Isabel Basto.

Literature's communication circuit is, therefore, altered, both from the side of creation and from the side of reception. The act of reading, at last, may become interactive, involving the participation of the reader in the co-creation of the final text according to a simultaneous process of writing-reading, or wreading (*escrileitura*).

Starting as an instrument for literary creation, the computer also achieves a role as a reading instrument: the interposing of the machine as a manipulator of signs and complexity extension is, therefore, necessarily translated into a new attitude of the author and the reader regarding computational work.

The computer's role is to develop to infinity the idea of an author as a process and to present this idea to the reader as a "ghost of eternity" (Balpe 36).¹¹² The reader, however, may intervene in this process interactively: reading, selecting, correcting, adding, suppressing, changing, and finally recording the immense material supplied by the textual generator in a fraction of a second. It may even conceive its own texts.

This process will only require the association of this automatic generator (Sintext) to any text processor.

Then the reader participates in the creative process with a real act of co-creation. From there the wreader (*escrileitor*) is born, the one who reads through writing and writes through reading in a new interactive symbiosis.

Obviously, all of this implies changing the concept of text: the text emerges here as a structure to generate meanings or as text in process but not as means of inter-subjective communication between author and user.

Philippe Bootz questions: "Where is the text, then, when its form does not cease to metamorphose?" The first innovation is the introduction of time in the core of the text: time invoking infinity, both in the field of creation and in the field of its reception.

Computer synthesized text always tends to imply a more or less radical disruption in the inter-subjective communication between author and receiver.

112 Original French: "un fantasma d'éternité."

1. Virtual Text?

The texts constituting this book do not really exist. More accurately, they do not exist as texts. They are in a way imponderable: they are only generated when the reader executes the Sintext program in their computer.

In this sense, the texts from this electronic book are virtual texts: they don't exist as formatted texts, not even in the disk being held by the reader. The disk with the present publication merely contains the project of the texts that will be engendered by the machine. The texts that the reader will be able to see parading through the screen don't exist previously fixed and, therefore, don't convey any previous meaning besides the one that will, in fact, detach once the text has germinated.

Is it a different notion of text? There's no doubt about that, above all, because only a computer can give these texts concrete existence; it's also in this sense that the program Sintext is a textual generator. The user will then deal with potential texts: texts that will only update on the screen right before his/her eyes. Only then may they be fixed in their semantic concreteness, whether by saving them in computer drive or printing a hard copy.

How should the notion of virtual text be tackled?

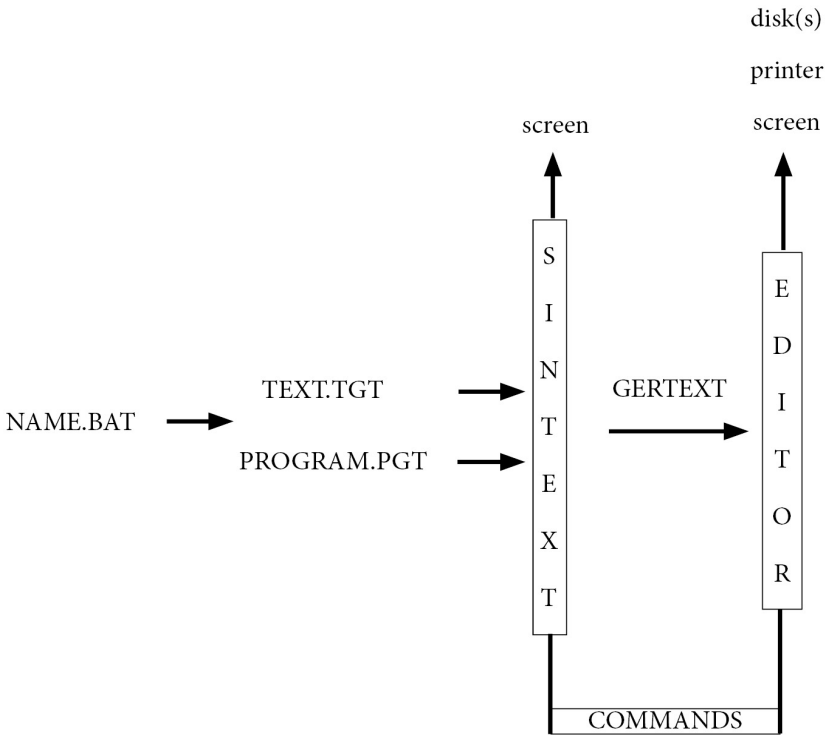
Virtual text implies the idea of potential text but transcends it. Potential literature, as work to be done, already existed since long before the computer age, as shown by the recent multitude of experiments from the *Ouvroir de Littérature Potentielle* (OuLiPo). However, the computer came to enhance, update, and reconfigure the idea of potential text.

Let us then enumerate some of the multiple aspects of the virtual text.

The virtual text consists of a structure or model that only updates according to a certain larger or smaller number of concrete variational texts (although tending towards infinite). All variational art consists in performing variations around a matrix-idea; that is why the variational text is multiple: multiform and multi-meaning.

The virtual text develops along time. It is only satisfactorily performed through the continuous flow of newly displayed configurations or successive partial states in a volatile way on a computer screen. It would be absurd to fully materialize these states through the endless output of continuously printed paper.

In this sense, paper is repugnant to the virtual text because paper is a fixed medium, stable and consolidated, which is contrary to the fluid, mobile, unstable



nature, and undefined profile assumed by the virtual text. The virtual text merely requires the paper to set down some concrete metamorphoses when they are chosen to be actualized from the enormous (immeasurable) field of variations.

The virtual text, therefore, calls for a multiple, variational, and repetitive reading that is semantically renewed each time.

Virtual text, abiding by its potential nature, can only truly develop its tendency towards infinity through an algorithm or generative program, updating the text in the continuous spiral of new forms and metamorphic meanings.

When this algorithm is configured in a computer program and developed by an informatics system, we will then refer to it as an automatic text generator.

Accordingly, the authorship of the variational text can only include the project, the model, and the structure (pattern) for the set of texts to perform. The actual meaning and the definitive shape assumed by each of its multiple variations escape, to a greater or lesser degree, their author. When the potential field

of variations of the model is wide enough—in order to preserve the potential value that justifies and supports it—the author cannot predict accurately the concrete meaning resulting from the successive metamorphoses performed by the machine. This means that the author is not responsible (or not entirely responsible) for what each text actually performed will say, in its singularity.

We stand before a structural openness that is immanent to any potential work. The structural openness of the model transcends the semantic openness that is inherent to any singular text.

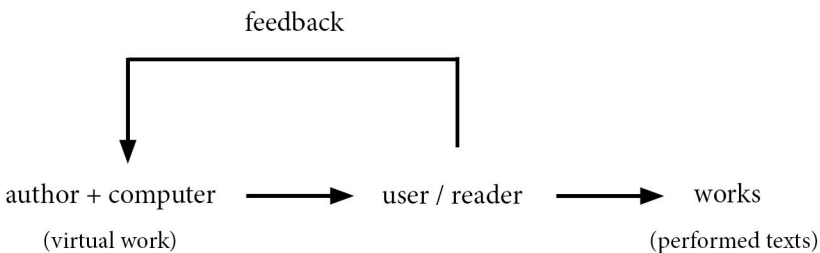
In this sense, it might be said that the virtual text is immaterial: what exists in the physical file space of a computer is not a text and is not a meaning. The program executed by the machine is in fact the motor of a plurality of textual performances to be materialized as signs. A text generator is software configured as genetic code for the infinity of texts to come to life.

The virtual text is, therefore, a seed, or a chromosome, containing in potential the form and the meaning of the new textual beings to which it is supposed to give birth.

We then reach the notion of egg-text or seed-text. And, as the egg is not yet the animal that will be born and the seed is not yet the generated tree—so too, the virtual text must not be mistaken for the work that the reader will experience. The virtual text is the substrate of a genetic program of multiple works performed by the machine within a given field of possibilities.

It is clearer now why we call this work an electronic book. It involves a new relationship with words, which from birth to death occur inserted in a different context of literary communication. The traditional literary circuit is hereby transformed in its multiple components: the relationship author/text, the relationship text/reader, the relationship author/reader, and in the very notion of Text.

We thus enter the realm of the Text conceived as a pure verbal machine, or text as a structure to generate meanings.



2. The Text-Synthesizer Called SINTEXT

Sintext (Syntext - SYNthesizer of TEXTs) may be conceived as a multi-use generator of literary texts.

Sintext was designed based on the assumption that any text—or text structure—is the result of a never-ending project. This means the author, in his/her path through the labyrinth of endless choices along the creative process, knows very well that the choices being made are not the only ones and, perhaps, not even the best ones. But, he/she works with a computer: the machine helps to explore the immense field of different possibilities and to discover possibly unexpected solutions or, at least, leaves him/her with the (always relative) certainty of having chosen the best path within the labyrinth of articulations and meanings.

At this point, there are two possibilities: the author may decide to present her/his own choice to the reader (their choice among the endless different possibilities from one and the same textual structure), or the author may decide to present the reader with a structure of texts in a potential state, offering the reader the possibility to explore on their own—with the computer's help—the multiple effects of meaning available for updating.

The first attitude may be comprised within the trend of *variational literature* (the author proposes to the reader a multiplicity of texts, different in meaning but equivalent in structure); the second attitude may be identified with the trend of *potential literature*, which is more or less interactive, where the reader may assume the role of joint-creator (reading through writing).

In any case, the computer works as an amplifier of complexity, or as an update for textual abilities, which means that it acts as a mental prosthesis, symbolically prolonging the author. The only task required from the program user is to conceive a text model—whose algorithm may simply consist of a first written text fragmented by square brackets to delimit the elements for recombination—and eventually to feed that textual structure into a more or less extended lexical repertoire. The computer is, then, presented as an informatics instrument directed towards the mirage of perfectibility.

From a technical point of view, the Sintext program was conceived of in C++ language, as an interpreter operating on a previously labeled text. Sintext language was developed in order to facilitate the writing of the textual program, allowing the user to dedicate his/her attention onto structural and semantic aspects of

the text, with no concerns regarding the usual problems involved in programming. It also allowed us to emulate several texts that made history in the scope of what is now called Computer Programed Literature (or Cyberliterature). Some of them were originally written in different programming languages (Fortran, APL, RPG, Basic) which are approximately rebuilt here.

Merely to exemplify and for documentary purposes, it is possible to evoke the Italian prototype *Tape Mark* by Nanni Balestrini, considered to be the first computer generated text; some of my personal texts extracted from *Literatura Cibernética*, such as “Aveiro,” “Porto,” or “História de um Homem das Cidades.” We can also evoke the retextualization of the *Poemas V2* by Angel Carmona or the emulation of the French Aphorismes computerized by the OuLiPo Group and based on Marcel Benabou’s ideas.

Nevertheless, the main goal of Sintext was to allow for a computerized instrument to create new texts, according to algorithms based on a combinatorial or random generator. This means that the software allows both the combinatorial rotation of the text elements, and also their randomized disarticulation. For that purpose, it is simply required to depart from a given textual model (matrix-text) and to adequately fragment it into interchangeable blocks (elements), following the simple inclusion of square brackets in the text, which can be made in a linear form or hierarchical (brackets inside brackets).

The Gertext archive, where it is possible to store all texts automatically generated by Sintext, thus constitutes a core module in which the program’s user, using a common editor or text processor (Edit, Works, Word, etc.), may perform her/his own selection, modification, re-composition, or enhancement of the textual material proposed by the machine.

Imagination developer and language disarticulator, this software requires human intervention at the end. Through this method, it addresses the insurmountable issues of fully automating natural language programming (a project that is currently controversial).

The Sintext program may be guided according to three different and complementary vectors, as follows:

A) A vector of Computer Assisted Creation:

Algorithmic literature: when developing an idea of composition beyond the strictly human limits, the machine operates as a complexity amplifier that

will allow the writer to explore a whole wide field of possible variations tending towards limitless (e.g. “Cosmic,” “Ofício”).

The computer is here a creativity enhancer: it converts the finite into infinite (Moles).

Random Literature: when using the machine’s genial stupidity to disarticulate language and to release the writer from the mental routines he/she is always more or less bound to, the program allows them to explore new linguistic effects, associative and metaphorical, that at first were unpredictable (e.g. “Aforismos,” “Homem”).

Here, the machine is a verbal research tool.

B) A vector of Didactic Application.

The program inter-textually renews the inextinguishable potential for meaning by re-writing classical texts or any other previously existing texts (e.g. “Machine to entangle landscapes” or “Five lacunar songs,” according to Herberto Helder).¹¹³

C) A vector of Theoretical Experimentation.

This is based on the modeling method (analysis through synthesis and synthesis through analysis): either testing a certain model of textual structure, or heuristically exploring the explanatory potential of a certain literary theory, or even through the simulation method, dynamically evaluating the performance of a certain literary model (e.g. “Haikai,” “Alea”).

In order to use the Sintext interpreter, the following tasks must be executed:

1. Create a text (TGT) whose division (fragmenting) is to be performed through labeling; this is the heaviest chore, since at this stage the text division requires study, demanding the creation of the list of words for permutation, of the structure to apply, etc. Afterwards, Sintext verifies if the labeling is correct.

113 Original Portuguese titles for these two sets of poems: *Máquina de emaranhar paisagens* and *Cinco canções lacunares*.

2. Create a small program (PGT) that uses the labeled text to produce new texts. Sintext verifies if the program is correctly written.
3. The fragmented text (TGT) and the mentioned program (PGT) will automatically run during Sintext startup when the fragmented text and the program are given a specific name (name.BAT) and share the same work directory as Sintext. These automatisms allow using Sintext in DOS .bat programs.
4. There is an instruction that allows the generated text to be saved in a file named GERTEXT. Subsequently, this file may be used for selection and alteration through text editing/processing.
5. Sintext successfully uses recursiveness: one text element may contain text elements which contain other text elements...
6. The main goal presiding over Sintext's creation was to release the user from programming tasks in an algorithmic language, such as Basic, Fortran, Pascal, Algol, C++, etc., releasing them to divide the text into elements, as the main task in this line of work.
7. Sintext language instructions are in Portuguese for the time being, but the software was designed to be easy to convert to any other language (see "Sintext Manual").

3. Between the Source-Text and the Target-Text

The Virtual text implies two stages: the matrix text and its variational multiples.

Between the source and the target, what remains? What is the actual creative labor of the program? Is the computer accurately placed in the literary circuit between the author and the user/reader?

Nothing surpasses the appeal of a practical case and its actual results. We will consider the case of Herberto Helder who once wrote (only once) in "Canção Despovoadá" ("Unpeopled Song"):

This paradise is one of blue vipers

Regarding this same source of verbal material (matrix-text), Sintext has generated (n times) along its multiple executions:

This poet is one of blue caves
This silence is one of blue leaves
This penis is one of blue hands
This sonnet is one of blue mane
This poet is one of blue nights
...etc...

When in the same poem the poet writes:

I offer you a lily —says the sitting song

The computer immediately transforms this image into a sort of refrain or leitmotif indefinitely renewed:

I offer you a space—says the sitting blindness
I offer you a flat tire—says the sitting laundry
I offer you a space—says the sitting rain
I offer you a movement—says the sitting fern
I offer you a sleep—says the sitting flower
I offer you a face—says the sitting talent
...etc...

The “Canção em quarto sonetos” (“Song in four sonnets”) ends in the original with the following verse:

The clothes evaporating, but I do not feel.

And the machine multiplies this same poetic structure indefinitely:

The night evaporating, but I do not feel
The curve evaporating, but I do not feel
The landscape evaporating, but I do not feel
The apple evaporating, but I do not feel
The life evaporating, but I do not feel
The blindness evaporating, but I do not feel

The voice evaporating, but I do not feel
 ...etc...¹¹⁴

This does not merely concern an operation that multiplies meaning. When the purpose is language deconstruction, precisely at the expense of the machine's neutral indifference, we can identify that the computer is the ideal instrument to search for the unpredicted and the unprecedented image. "I offer you a flat tire - says the sitting laundry," "the painful net of a lighting penis," or "the cycling nights of energy and sadness" are obvious examples of what the machine created and the poet would probably not say.

The machine, because of its indifference, is able to help us in some domains to overcome our limitations. The advantage it has when compared to humans is, precisely, the fact that it is not limited by linguistic traditions, mental routines, associative habits, or aesthetic prejudice, nor is it limited by inhibition, repressions, or taboos of psychoanalytical or even social nature.

Free from these deterrents in its neutrality, the computer becomes a precious tool to explore areas that are forbidden for us, regardless of the effort we put into overcoming such barriers. Duly programmed for this purpose, the machine is able to cross new thresholds in linguistic experimentation, to remove restrictions, and to display a whole new literary universe to be revealed, which unravels in that space beyond the frontiers of our aesthetic habits and mental routines.

We will now display a complete fragment generated by Sintext:

The poet tightens the sleep, and slips.
 The Face
 is white, the space
 plain, the death
 certain. There is no curve
 of cardinal points.
 Bitch the night, underdeveloped.
 Between rhymes and the instant appears and dis
 appears a rose. On a summer day,
 confused,

114 See Appendix 1 for original Portuguese.

arrive black grapes and balconies
 of apples hitting
 their light houses tremendously clear.
 And the places
 everyone expecting sweet gardens that loom
 the score of the foam
 The head
 raises cruel caves during the combustion
 of the lines
 of paradise. Painted in the distance
 with leaves breathing brutally - that
 melancholy
 fight, shining,
 under the Wisteria
 of ruthless beaches?
 Honey madness
 boiling, a painful net of a lighting penis,
 one death
 incandescent portion
 stronger of magic - Where the painted portraits
 at the end of time
 of innocence?
 their black grapes
 throbbing glow
 in a horrible voice.

Because there are serious ways for the dead
 to travel: cyclist nights of energy and sadness.¹¹⁵

We must bear in mind that, in this case, the program was supplied with verbal material precisely consisting of all the poems in *Cinco Canções Lacunares* by Herberto Helder: “Canção Despovoada,” “Canção em quatro sonetos,” “Um deus lisérgico,” “Bicicleta,” and “Os mortos perigosos, fim.” On the demonstra-

115 See Appendix 2 for original Portuguese.

tion directory, Demo, the reader may visit the endless resulting variations and experience the text's virtuosities. To do so, it is merely necessary to call upon the corresponding .bat file (on the demonstration directory type: 5CANLAC). With this same poetic material, you will be able to generate an endless repertoire of new texts and to obtain through printing, a reproduction of hundreds of pages (or more!) per day; examples like the following:

In a time sitting on foam a submerged childhood
 sang the space.
 It was after death.
 In a time: death,
 ferns
 sleeping. Lightness flowering. Then the rain
 pronounced scarves, doves
 printed. Cooled lands in the body
 posterior
 to that riddle.

Honey
 has its
 dangerous
 incli
 nation: when touched,
 combustion burns. The smile has a life
 on bottom: trembles. This
 penis is one of blue hands.

Appears with the girl of a deadly night. Who
 feeds on death, who
 undresses among flowers leaning, I ask,
 who loves until losing the month?

I offer you a flat tire
 - says the sitting laundry.

Look: I wanted to know in which animal
we die, to have a flame and with it
cross light landscapes and burning and crimes
with no rose. There is in the resolute machines
a lily to
shake the dust, and your air
to turn slowly full
of fever to the country of a child
terrible and cold.¹¹⁶

In “Os mortos perigosos, fim”, for example, Herberto Helder wrote:

A net of boiling honey, a painful net of a lighting honey

And the machine suggested:

A madness of boiling honey, a painful net of a lighting penis

Also from the same source text:

An incandescent fern in the head’s strongest part

And Sintext suggested:

An incandescent death in the magic’s strongest sigh

Again the source text:

From the night arrive water landscapes
striking in their caves tremendously clear.

And the computer suggested:

116 See Appendix 3 for original Portuguese.

From the night arrive children's hands,
striking in their leaves tremendously clear.

Again the source text:

To know what scarf belongs to them,
which bundle of bloomy lines has woven his face dropped in the air.

And again the program:

To know what name belongs to them,
which heart of bloomy islands has woven his frightening curve
dropped in the air.

Once again the source text:

Do not make that month search you:
carry the dead as if they were a green scarf

And again the computer suggested:

Do not make that painful tissue search you:
carry the plans as if they were a green name¹¹⁷

In "Canção despovoada" ("Unpeopled song"), Herberto Helder wrote:

In a time lying on silk, an immerse woman sang the paradise

And the computer with its own poetic material multiplied the meanings and proposed (n times):

In a time lying on foam, an immerse childhood sang the space
In a time lying on sweetness, an immerse child sang the painful fabric

117 See Appendix 4 for original Portuguese.

In a time lying on fruit, an immerse sweetness sang the sun
 In a time draining on water, an immerse head sang the absolute month
 In a time lying on death, an immerse lightness sang the time
 In a time sitting on girl an immerse net sang the sleep¹¹⁸

In “Canção em quatro sonetos” (“Song in four sonnets”), to quote another example, Herberto Helder had written:

The precipitating apple, the fires in the night, the strong snow: and the harsh beauty of the head-.

And the machine, among many other variations, generated:

The precipitating speed, the symbols in the night, the strong snow:
 and the harsh beauty of the music-.

The precipitating flower, the maps in the night, the strong snow: and
 the harsh beauty of the water-.

The precipitating voice, the fingers in the night, the strong snow: and
 the harsh beauty of the dead-.¹¹⁹

Is there no reason to be surprised that such a wide range of results were put forward by the machine? Can it be said that these results surpass—quantitatively, but also often qualitatively—the source text? Or that the machine surpasses man? And that the program enhances the poet?

There is no doubt that such a literary production does not provide for a 100% return. But the Gertexto file is available to select and arrange a final montage of the multiple texts proposed by the computer, and here, the Sintext user can store the whole sum of results forwarded by the machine at an overwhelming speed. The final product must, afterwards, be processed through an ordinary text processor. Each day, the user may manufacture a new book of poems by releasing the entire semantic load potentially contained in a pre-existing book and, in the process, exhaustively enhancing their own ideas.

118 See Appendix 5 for original Portuguese.

119 See Appendix 6 for original Portuguese.

In “Os mortos perigosos, fim” Herberto Helder (once only) wrote:

Gardens fidgeting between the summer and the darkness. / Progresses
the air

In “5caniac,” Sintext produced (n times):

Holes fidgeting between the face and the darkness. / Progresses the
name

Dead fidgeting between the honey and the clouds. / Progresses the
ether

Cyclists fidgeting between the vice and the darkness. / Progresses the
penis

Fingers fidgeting between the name and the darkness. / Progresses
the heart

Flocks fidgeting between the distance and the darkness. / Progresses
the flat tire

Hallways fidgeting between the silks and the sea. / Progresses the
silence

...etc...¹²⁰

Whatever the literary criteria may be, can we conclude that, here, the fruit overrides the seed?

Certainly, the machine exists to overcome human limitations. Only to that extent is it justified. But, should we be relieved, at least based on practice, that the computer works here as a complexity telescope: able to expand widely the amplitude of a literary idea?

Here is one last fragment, generated in continuous motion (from the material stored in the Gertexto file):

Caves cooling in paradise posterior
to that riddle:
immobile live

120 See Appendix 7 for original Portuguese.

the gardens of the voices. Would be born wind lines if someone,
smiling, would breathe.

The body
has its
dangerous
inclination: lily of oranges over candidness.
When it is touched,
dancing, burns. The lightning has a city on bottom:
shivers. Some people stay in paradise to watch the air.
Terrible is the air from the window.

Walking through the song
boiling the leaves, it is said: the fish the name and the
guitars. There is a sacred crime where
love
appears I say: clearing.

Speed of honey Oh,
intelligence. Appears with the song
of a deadly night.
I offer you a sleep - says the flower,
sitting.

Look: I wanted to know in what darkness
we die, to have a painting and with it
cross light beaches and burning and crimes
with no childhood. There is on the Hills
a cold to
shiver the dust, and your honey
to turn slowly full
of fever for the fish of a rose
terrible and cold.

Death

had water.

Cooling nights on the posterior side
of that riddle. Why does sleep have parsley?
Would be born voices of poet if someone,
smiling, would breathe.

Evaporates the night
but I do not feel.

In this nocturnal mirror I write what I scream, or else that I sleep,
or that sometimes I go mad.
Beating the landscapes of the flower
slightly below silence. I want to know
the sleep of the dying: the dress of cold burning, the feet in motion at
the center
of my picture.
The precipitating speed, the symbols of the night, heavy snow:

and the harsh beauty of music - A girl with a raw blow
lives in me without taking a step, loving
to breathe in their death, the space
of motherly blood.
My wind, stopped before
The mortal gold that waited.

Evaporating the landscape but I do not feel.

In that nocturnal anus I write what I scream, or else that I sleep,
or that I sometimes go mad.
The poet gives to beauty as the other animals?
Cooling landscapes in the adolescent
posterior
to that riddle:
immobile live
the gardens of the voices.

When it is rang,
silk, burns. The month
shivers. Some people stay in a smile to watch the air.
Terrible is the air of innocence
and of caves stopped in attention. This
silence is one of blue leaves.

I say: speed of the name.
Who feeds on children
who
undresses among leaning leaves, I ask,
who loves until losing the cotton?

I offer you a space
- says the rain
sitting.

Ah, a Face
is what I seek
in the dreadful islands. That is why that flower sings to the voice
of a time -

Look: I wanted to know in what heart we die, to have a death
and with it
cross black grapes
light and burning and crimes
without head. There is in Wisteria,
a paradise to
shiver the dust, and for your name to turn slowly full
of fever for a whirlwind of a madness
terrible and cold.

Among the rhymes and the savage oxygen,
advances the penis
running with the paws

on the white night.

Cooled lines of the day posterior
to that riddle:
from the night
come lines of water striking
in their voices tremendously clear.

In the score of madness
speed
raises cruel lines during combustion
of the voices
of the poet -
painted in the dance,
on the islands of hands
ruthless,
a voice of honey
boiling sings.

Do not make that granite search you.
Carry the holes as if they were a green heart
coming
from a child
transparent. The silence - is full
of icy alcohol - Do not sit behind
a stopped scarf.
Why does paradise have parsley?
When it is rang,
the night
burns.
Some people stay in a sleep
to watch the air.

This
poet is one of blue nights:

then dressing.

Who feeds on painting who
undresses between light leaning houses, I ask,
who loves until losing the air?¹²¹

By definition, a computer is a mental prosthesis: an amplifier of our mental abilities, from memory to logical-combinatorial operations. This is true for the field of science as well as for the field of art. Let us then say that Sintext is presented as a literary prosthesis: the reader-user has the ability to use it with more or less creativity!

4. Theoretical Synopsis: The Context of Sintext

This program results from the relative continuity of Cybernetic Literature, still following the mirage of textual automatism but incorporating the most recent attitude of progressive interaction with the reader-user.

A few very synthetic definitions will be presented in order to enlighten the theoretical framework of the present project.

1) COMPUTER: signs manipulator.

In other words, the computer is considered here as the manipulator of a set of linguistic signs (repertoire), according to a given set of instructions defined by the program (algorithm). According to this view, the computer presents itself as a non-deterministic machine where the information delivered (output) is different from the information introduced (input). This stands in opposition to the machines said to be deterministic—such as the magnetophone—where the message being stored remains identical at all times.

2) LANGUAGE: from Lucretius to Kristeva, passing by writers as J. L. Borges, the long atomistic tradition construes language as an endless combinatorial of linguistic atoms: letters, phonemes, vocabulary, phrases, etc.

121 See Appendix 8 for original Portuguese.

This formulation leads to the next one.

3) WORK OF ART: structure of signs recombined in an innovative manner.

4) COMPUTER ASSISTED CREATION: Similar to Gianni Rodari's *Grammar of Phantasy*, which uses Nake's formula, a three element model could be proposed:

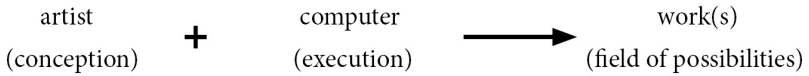
$$C = I (S + R)$$

To create on the computer (C) is equivalent to supplying a finite repertoire of Signs (S), a finite number of Rules (R) to recombine those signs among themselves, and an Intuition (I), simulated by the algorithm, to determine which signs and which rules will be selected each time. The trinomial set defines the Aesthetic Program. It should be noted that I can actually represent the intervention of randomness as simulator of imagination. It is, therefore, a fantastic binomial in which S and R are the norm on one side while I is creative choice or freedom.

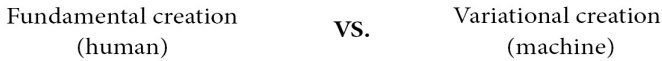
5) AESTHETIC PROGRAM OF COMPUTER GENERATED LITERATURE: the previous formula, in fact, synthesizes computerized artistic creativity in its most abstract form. At the dynamic core of the I or imagination, is the generator, usually consisting in a random, combinatory, or algorithmic procedure. The personal computer age also adds interactivity.

6) CREATIVE FIELD: the creation of the work model remains a field for human design (ontological or essential creation, to employ the expression coined by Abraham Moles); exploring the field of possibilities opened by this potential model is the machine's task, one it may perform infinitely faster and more rigorously than us (variational creation around a model, also according to Moles).

Regarding this issue, an adaptation of Max Bense's scheme¹²² is applicable:

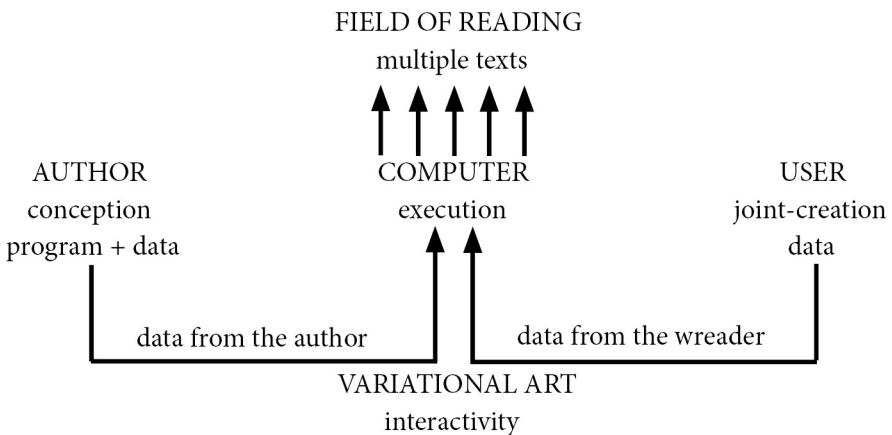


This scheme implies the distinction established by Abraham Moles:



7) FIELD OF READING: Where one would expect copies, which are identical to the model, this aesthetic program produces an infinity of multiples, all of which differ. This opens the possibility of real variational art. If the interactivity is strong, the usual passive act of reading becomes a participatory activity of real reading-writing and the reader assumes the status of wreader.

8) DIAGRAM: the set of ideas that supported our reasoning can be resumed in the following diagram that displays, in its context, the communication established by Sintext in the scope of Computer Generated Literature:



122 This scheme is an adaptation of Bense's work by Pedro Barbosa.

In the scope of interactive literary creation, the working mode of Sintext promotes the symbiosis between the program user and the software. Therefore, the user is no longer just a reader (albeit participating), but rather takes his/her part in the role of joint-writer.

In this case, literature seems to actually establish a new stage regarding the creation, support, and circulation of messages. The disk contains an interactive program with options for the reader-user, who within certain restrictions (rules) will be allowed to elaborate not only his/her reading but also the construction of the text to visualize on screen or to set in writing via printer.

Does Sintext set rules and restrictions? Undoubtedly. The built-in language commands define the syntax and the repertoire of instructions that may be entered in a program (PGT) for application on a matrix-text (TGT). But art was always that: inventive freedom used in a context of restrictive rules. What is a sonnet? A poetic creation accomplished inside a formal framework of 14 verses brought together through a determinate metrical and rhyme rapport. Sintext also implies the establishment of a formal restrictive framework, even if animated by a random generator. It is within this formal framework (including the PGT program and the TGT archive) that the user-reader is to perform their creativity. The work version by Sintext will provide user-readers exactly that challenge so that the reader may project and create new texts upon it. It consists of an appeal to their attitude as joint-creator: as wreader.

Within the computing age, three aspects are to be considered in this new communicative context of Cyberliterature:

1st) Fixing the message: a new writing medium emerges. Although not requiring paper mediation, the written word potentially stored in magnetic devices is displayed electronically upon the monitor of any computer (even though it may also be set on paper through output to a printer).

2nd) Message dissemination: the text is mediated by magnetic devices (such as the disk) or directly between computers by more or less vast network connections (the Internet is merely a current example).

3rd) Message production and reception: the literary message is structurally presented as open work, both in its potential mode and in its interactive mode. This implies the participation of the user to give it verbal existence. Once the message is constituted—by choices of the reader-user in the context of a labyrinth of reading paths—the resulting text is, also, the personal emanation of the program user. Such an emanation is enhanced when the program offers the possibility to intervene, modify, or rewrite the potentially proposed text.

In this way, the program user may assume a merely passive reading role (as in electronic reading in demo mode), and he/she may also be given the opportunity to joint-write the proposed text in work mode: literary reception then takes on the status of actual co-creation. The work is presented in this case as a really active process of reading-writing (or reading-through-writing). A new terminology is required to name such a process: wreader and wreading might be appropriate terms if not for the pompous mockery they might cause. Informatics reveals itself today not as a simple new medium available in the scope of literary production. It is changing the very notion of writing and reading and integrating these two communication poles in a new unifying unit—wreading.

This being said, all we can do is wish you a nice work, dear reader!

TOWARDS A THEORY OF COMPUTER GENERATED TEXT¹²³

EXECUTIVE COMPUTER AND CREATIVE COMPUTER

PEDRO BARBOSA

1. Technique and Discursivity

One of the great contemporary mutations is no doubt the installed symbiosis between two realms once considered irreconcilable: technique and logos, technique and discourse, or technique and language. Since the beginning of the technological revolution, such symbiosis has increased: just consider the new means of recording and communication that stem from new technologies (from photography to the cinema, from radio to television, from video to holography). In a fully electronic age, such interdependence between technique and discourse is already so intimate that sometimes it is hard to distinguish where the language domain ends and where its supporting means of record or transmission begins.

Finally, with the most recent trends of the so-called computing revolution, a new symbiosis is dawning—not only between technique and discourse but also between technology and creativity. This symbiosis follows scientific experimentation and modeling towards the development of Artificial Intelligence through computer generated art, the recently coined Infoart, as well as other recent developments.

It is with this scenario of new theoretical and practical problems raised by the recent alliance between technology and creativity that we propose to unveil some of the curtains that hide them. Yet, in such a vast field of relations, we will circumscribe our analysis to the specific scope of the symbiosis between computer and Art, addressing in the first place its more restrict application to Literature.

Adriano Duarte Rodrigues wrote the following about what he called the “logotechnical dimension” of present communication:

The recent access of technicity onto the sphere considered until a few decades non-technical, to the sphere of language, with the establish-

123 Pedro Barbosa, “Esboço de uma teoria do texto computacional,” from *A Ciberliteratura: Criação Literária e Computador*, 1996, pp. 25-36. Translation by Isabel Basto.

ment of the so-called logo-techniques radically alters this notion: from limit, technique is about to become the very way of achieving the communicational process (91–95).¹²⁴

Currently, we have overcome the radical dichotomy between techno-phobia and techno-philia that had sometimes split the waters of the old humanist conception of culture, and, therefore, the traditional cleavage between the world of logos and the world of *tékne* gave way to their respective interpenetration.

In fact, writing was already, by itself, the first technology to register thought and oral speech. Also, in a remote past, writing was targeted by objections similar to the ones common sense now raises regarding computers. Actually, in the *Phaedrus*, Socrates despised writing. He saw in it a spurious materialization of living thought that seemed to mummify and depersonalize; however, Plato expressed this viewpoint in a written book. As a matter of fact, in the transition from oral cultures to written cultures, this rudimentary technology was sometimes regarded with suspicion, as it seemed to solidify the living thought of the oral word, dehumanizing and exteriorizing it into fixed immobility.

Hence, the notion of *logotechnia* insinuates a new synthesis verified today between the order of speech and the order of technology. This way, language—that somewhat outdated tradition the radically technophobic reserves as hunting grounds private to man—finds itself henceforth irreversibly penetrated by technical instrumentality. The computer and the informatics age—which presently appears to us as the summit of the electronic revolution—sharpened this situation. Where radio and television once appeared as simple transmitters and passive diffusers of speech, now the computer appears as a manipulator and active transformer of language, even a semantically creative instrument that promotes new meanings and new semiotic re-combinations.

2. From Creative Computer to Executive Computer

We will limit our reflection to the scope of computer generated literary creation, excluding the domain of simple text processing widely used today, in which the

124 O.P.: “O recente acesso da tecnicidade à esfera até há poucas décadas considerada como não técnica, à esfera da linguagem, com a constituição das chamadas logotécnicas, altera radicalmente esta concepção: de limite, a técnica está em vias de passar a ser o próprio modo de realização do processo comunicacional.”

computer does not play a creative role, but merely an executive one. A text processing code does not simulate the writer's work, but merely the dactylographer's or the typographer's work. Let us say, in this case, that the machine works above all as a mechanical extension of the creator. Still, text processors do have an increasing impact on our methods of writing and, therefore, lead to a predictable aesthetic evolution of literature.

Text processing is for the writer what graphic computing or CAD (Computer Aided Drawing) is for the plastic artist: a means of execution, rather than a means of creation. It is nothing more than what might have been named computer aided handwriting.

This does not intend to undermine the reciprocal influence that means of recording and transmission has upon creative work. It is commonly accepted that the literary style at the time of the quill pen and inkwell, with its mandatory interruptions, is widely different from the more cursive literary style from the age of the roller ball or permanent ink pen. We can also distinguish the impact of the typing machine in literary evolution, working as a filter over-emphasizing the two-dimensionality of the plane surface of the piece of paper, in detriment of the more fluid unidirectionality of the hand written line (much of the visual poetry is there to prove it). Recalling McLuhan, the medium is also the message.

As a matter of fact, any new writing technology ends up influencing the stylistic evolution of literature to some extent.

Many writers have already adopted the computerized processing of their texts. Therefore, the interactive dialogue with the screen makes the so-called electronic writing a radically different experience than before with the mechanical exercise of the traditional typewriter. Instead of having to mentally design the setting of his text in order to subsequently reproduce it on paper, computerized processing allows the writer the freedom to write in any order, to introduce new ideas whenever they occur, to assess the effect of the sentences on the screen, and to make and remake the already written text until the intended final result.

Through this interactive writing, most of the times without paper, the text seems to happen firstly on screen and to reflect itself afterwards in our mind. The dialogue—the self-dialogue between our mind and the screen (as is happening to us this precise moment)—transforms the writing task in an enfolding process of reading/writing.

Electronic writing hence places the writer *viz-à-viz* with the screen in a dialoguing and interactive position towards his/her own text. Furthermore, with the ability to memorize and self-correct, this will make the simple introduction of the executive computer in the realm of writing to, sooner or later, cause an inevitable stylistic effect.

A thorough analysis of the impact of the recent text editors on techniques of writing is beyond the scope of the current work. And, we know well how this paper-free writing may directly be transferred via modem or disk to the editor or newspaper office. This fact alone alters the writer's and reporter's relationship with words, which acquire a new texture—quasi-immaterial—once they can transcend their secular paper mediation.

However, the position of the writer regarding the text processor does not differ greatly from that of the plastic artist, who chooses the electronic palette instead of paint and brushes and, with a simple gesture of the hand, electronically materializes on screen or any other physical medium (paper, photography, video) the image previously elaborated by his/her brain.

It is interesting to note the two major stages in the path of computer use in visual arts. In the first stage, at the time of large computers of second and third generation, computational art was essentially mathematical and programmed from pure abstract formulas. It was, for the most part, combinatory, geometrical, non-figurative, and abstractionist. The computer was then regarded as a conceptual machine, a truly creative instrument, with the starting point being algebraic formulas and the outcome being pure image synthesis.

The second phase corresponds to the so-called fourth generation age of microprocessors—whose widespread use during the 1980s dragged along a parallel market of software directed to the common user, the non-specialist. Computer art curiously approached the most spontaneous human gesture. By using the mouse or the digital pen as a brush and the screen as a paint palette, the direct interaction artist/machine henceforth easily allowed the digital painter to register, correct, or erase the gesture of his hand, providing the production of images both in an abstract direction and in a figurative direction. The computer is then used by the plastic artist as a simple tool for manual execution, lending her/him a menu with prefabricated visual effects (colors, traces, curves, symmetries, shadows, reflections, transparencies, perspective, animation, etc.), and inclusively

allowing the combination of the digital treatment of pure images internally generated by the computer with real images from an outside source.

A similar qualitative leap could also be noted in computer generated music, which seems to have evaded the sphere of musical composition to aim preferably at the execution phase. In fact, while over thirty years ago primitive electronic music strove to synthesize entirely new worlds of sound in the initiating space of large specialized studios, today we witness synthesizers' mass marketing, as well as music composition and notation software already filled with endless standard effects for direct and immediate simple execution.

In the realm of the word (even if at a much smaller scale), computer use would also go through those two same stages, corresponding to two entirely distinct operative concepts: the concept of creative-computer and of tool-computer.

The idea of creative computer corresponds to a longing that was nursed during the 1960's and 1970's when the mythical dinosaur computers, then used in large labs only, were more distant and more inaccessible to the regular user. But, perhaps precisely because of that, the artist surrounded himself (when the circumstances allowed) with computing specialists to elaborate their programs, adjusting them to their particular purposes.

Paradoxically, the big bang of microcomputers in the 1980's made them affordable to the general public and gave rise to a parallel software market with a finished product: an authentic prêt-à-porter that transforms the computer into a simple prefabricated tool whose use is depersonalized, massified, and standardized. We then witness this curious effect: in terms of hardware, the computer finds its way into everyone's home, but, in terms of software, the artist will be further distanced from the direct programming of the machine, only using standardized software from the market. The age of the so-called personal computer is now just a mirage: the more massified individual computing gets, the more depersonalized it becomes, regarding the particular purposes of the common user.

It is to this precise context of passing from a creative-computer onto a tool-computer that we enter the wave of text processing software, usually embedded in each and every PC or laptop at the very act of purchase. The repercussions of the computerized processor will nevertheless happen chiefly at the level of the structure of text surface, its support, and its mediation. Based on this, we will, in the following section, exclusively focus on the computer constructed as a creative tool.

3. The Creative Computer and its Scope

But, is it legitimate to mention a creative computer?

In order to avoid equivocal expressions, we will refer to the creative use of the computer. But what does this mean? We will focus only on what has already been called Artificial Imagination—an expression no less ambiguous, although that seems suggestive when used in the metaphorical sense—to establish a connection between the arts and the already consecrated expression of Artificial Intelligence.

We shall then define computer as a machine that manipulates signs at great speed, according to certain rules contained in the software. Its main advantages are: the possibility to keep a huge amount of data in storage and the processing precision and speed. In this sense, it may be construed as an extension of human intellectual work (a machine, actually, is always the extension of any sector of human activity); and hence it allows the scientist, as well as the artist, to perform more complex operations than he/she would be able to perform without this new technological prosthesis.

We may consensually define the computer as a machine able to perform operations on symbols (placing us at the abstract level of programming). We are also implying—with no useless debate over its intelligence—that this machine per se seems focused on performing good service to the artist. Like the artist, the computer works with symbols and rules of order.

We may otherwise abstractly define artistic language as a set of operations performed with certain symbols. Of course, if we intended to be more precise regarding the concept of work of art, we might define it temporarily as each and every artifact able to produce an aesthetic effect. Despite the tautology, we will not yet approach the concept of aesthetic effect. We will just focus on what the general intuition understands of this expression. Yet, we would like to exclude from this notion the usual etymological concept, mostly after the Romantics, that identifies aesthetic effect with feeling or any exclusive form of sensitivity (aesthesis). There may be, as is the case for much of modern art, aesthetic products not directly aiming at the sensitive or emotional component of the receiver, but rather his/her rational and conceptual component, remaining nevertheless art.

With these two previous definitions (of computer and art) synthetically established, we may now restate the issue of computer generated art with less ambiguity: is such art possible?

It has often been stated that this question is based on an intrinsic incompatibility and constitutes a contradiction in terms. It is said that computer generated art is not possible because the machine has not and can never have aesthetic sensitivity. Obviously, this is equivalent to shooting an arrow away from the targeted issue and only indicates, regarding who poses that question, ignorance on how a computer operates.

Firstly, such a statement derives from an abusive identification, or at least a very restrictive one, between art and a certain form of the so-called aesthetic sensibility (already revealed by structuralism to lack purpose). Secondly, it is not the machine (the material, hardware) that will produce whatever per se might be, but rather the software (programs, applications) running on it.

The issue is really quite different and requires a different formulation. Let us then ask: is it possible to use the computer to execute programs with artistic potential? More specifically: When a computer develops and updates the combinatorial, structural, or other possibilities made available through a given potential algorithm (as is the case of combinatory algorithms), can we deny that the machine creates or at least updates something that at first did not exist? Or that existed merely in a latent state? And, in such case, is it legitimate (as exemplified afterwards) to name such programs creative programs? Meaning they possess generative potential?

Within these parameters, we find it pertinent to discuss the issue of the creative computer or, if preferred, of the creative use of the computer. Undoubtedly, when we mention computer generation we cannot ignore that the human being created the machine, as well as the program. The generative abilities of the program, or of the machine, will ultimately owe authorial rights to human beings and not to the machine...

Additionally, on the side of the process, it is also a human being who is presented as the end addressee of the meaning of the computer-generated messages. As a consequence, it matters little that the machine's manipulations of formal symbols are devoid of meaning: the symbols inside the machine have no symbolic properties. They hold syntax, not semantics. Intentionality and signification of what the computers seem to produce is merely in the mind of those elaborating

the program (those providing the input) or alternatively of those interpreting the results (those receiving the output).

For these reasons, it seems irrelevant to question whether the machine (or the program) may or may not understand what it does or if it does or does not have consciousness of what it generates. It is an irrelevant issue, not to say absurd, for the machine does not need to apprehend the meaning of what it does in order to do it. Such apprehension of meaning will be undertaken by the human end user, and it will only make sense when made by him. In order to be creative, the machine does not need to be intelligent. It is enough that it manipulates structures of signs that enhance the aesthetic effect (as before defined) and that such an effect (output) is not at first entirely configured in the data or in the program (input).

Exploring a field of open possibilities, the machine simply generates (updates) one or several states of possible works, which were actually inexistent at first despite having already been potentially embedded in the program.

Computing, therefore, brings onto the realm of Art the notion of germination power (for those preferring this denomination to creative power): and if we cannot say the seed is already the fully grown tree (it may never become a tree at all), we cannot deny that it potentially contains the whole future tree. And so, the notion of potential text (or virtual text) as materially open text is construed only in the form of project, not preexisting as such.

This marks the limits of our reflection.

We will focus on the application of the computer to Literature through programming potentially creative algorithms, and this new literary genre shall be provisionally named Computational Literature or InfoLiterature.

THE MACHINE OR THE INSIDE OF A VOID THOUGHT¹²⁵

PEDRO BARBOSA

1. The electrical pulverization of the linguistic sign

The issue of the artificiality of the computer generated text, as discussed during the “International Meetings in Geneva,”¹²⁶ is a false issue, quite similar to the most recent debates sometimes rising regarding artificial intelligence. These debates are perhaps due to the general ignorance about how a computerized system works when analyzed closely and also due to the resonance of Promethean myths put forward by some science fiction. In these examples, the machine has always been regarded as an entity independent from its human creator, with the potential to replace, surpass, or even oppose him/ he through war, as if the destiny of any machine (even those new cybernetic machines) could be other than to symbiotically enhance the natural limitations of the human being.

We intend to clarify some of the false pretenses behind these groundless fears, by introducing a brief consideration of the computer in its basic machine-like way of working.

Let us then ask: how does human language deposit, circulate, and be manipulated by the electronic components constituting the physical material (the hardware) of the computer?

It was mostly during the 1960's, at the time of Cybernetics and the utopian goal of Computer Assisted Translation, that the early generations of researchers focused on the possibility of simulating human thought and language through automation. They did so without fully evaluating the difficulties of treating language formally in the semantic sphere, as if the problems of meaning emerged

125 Pedro Barbosa, “A máquina ou o interior de um pensamento vazio,” from *A Ciberliteratura: Criação Literária e Computador*, 1996, pp. 55-67. First published in *A literatura cibernética I. Autopoemas gerados por computador*, 1977, Porto, Árvore. Translation by Isabel Basto.

126 The “Rencontres internationales de Genève” took place in Geneva, Switzerland, in 1965, with the topic “Le Robot, la Bête et l’Homme” (“The Robot, The Animal, and Man”).

from a strictly formal modeling or as if the computer evaded these types of applications.

To simulate thought is not the same as thinking. To simulate an act of speech is not the same as talking. Hence, appearance must be parted from the phenomenon itself. It was this non-distinction that frequently presented the issue of the artificiality of computer generated text at that time produced by the so-called electronic brains.

A computer working in a self-regulating cybernetic regime—from the Greek *Kybernetiké*: the art of leading, commanding—could generate a text like the following:

ertumivakto rumissintuc

It is quite possible that earlier, some unadvised or quite naive reader would feel tempted to interpret this expression's enigmatic and sibylline tenor as deriving from a strange artificial language, an unknown code that was part of the aberrant machine language through which machines communicate in their own world. In the boundaries of fiction, such overwhelming thought would possibly end up in a fantastic meditation on the Realm of the Machine and on the advent of a new artificial intelligence. While excluding the fact that the characters employed are also human made, we could only strictly declare it artificial text in one of those cases. Yet, undecipherable as it is, what value does such a message hold for us humans?

The anthropomorphism of computers is an enduring and relentless temptation, and it is even consecrated in the linguistic habits of the very technicians dealing with them (“the computer identified an error,” “the computer does not accept the software,” etc.). Regarding the names used to baptize them (Calliope, Eliza, and Sophie), such attribution of human characteristics is no doubt responsible for much of the fiction surrounding them, with the added contribution of a certain sensationalist press taking metaphors literally.

Certainly, it may be unsettling that mechanisms are now able to execute a range of operations formerly considered as exclusively human and even as distinctive attributes of the human species. The use of articulate language is exactly one of those cases. However, one must keep in mind that when Pascal built his first arithmetic machine,¹²⁷ it was also considered that addition or multiplication were exclusive privileges of the human mind!

127 T.N.: known as the Pascaline.

The risk of attributing a magical character to computer activity is now renewed by the polemics surrounding Artificial Intelligence, chiefly when—as stated by Jacques Arsac—one is tempted to extrapolate from partial results and to state that all intellectual activities of man may be transferred onto machines (10). The enthusiasm even reached the point that some cyberneticists, such as Norbert Wiener, were driven to state that:

We ordinarily think of communication and language as being directed from person to person. However, it is quite possible for a person to talk to a machine, a machine to a person, and a machine to a machine (76).

Others, such as H. R. Rapp, take a more moderate point of view: artificial systems cannot think and only humans can create meaning. Our free will defines our difference from machines. When words are devoid from their meaningful content, the machine cannot think, talk, or create in the actual sense of these terms. It cannot construe concepts, nor does it apprehend the meaning of the sentences it manipulates.¹²⁸ It merely works with the material portion of language, the signifiers: signs devoid of meaning. This standpoint is essential to the whole issue of computer generated text. As we approach it here, the meaning of a text (if any) can only be awarded by the reader. The act of reading is then, more than ever, essential.

We cannot disregard the development that computerized machines may achieve in a more or less near future; however, we can only speak as for the present state of development. And, what they offer us already deserves watchful attention. Nevertheless, the temptation of anthropomorphism and metaphysical speculation seem to vanish when dealing daily with those machines or having once entered inside them to know their technical operation at the most elementary level.

Therefore, to work at the level of literary creation with foundations stemming from the technological reality underneath, it is convenient to remind ourselves, even as a mere approximation, of the transit of the linguistic signal through the inside circuits of a computer.

128 The AI programs, working as black box, may simulate such understanding and make the machine proceed interactively regarding the user as if it understood the meaning of natural language. However, generally, they do so by analyzing the context of the sentence, not by real apprehension of the meaning of the sentences.

It has already been stated here that computerized machines manipulate syntax but ignore semantics. Even though research in Artificial Intelligence aims to overcome such limitation through programs performing content analysis, the truth is that—from the bipolar structure of the linguistic sign—the computer only recognizes the signifier and ignores the signified. It deals with words that are reduced to strict graphic materiality (as in writing) or sound materiality (as in digital speech processing). Reduced to this level, the word is no longer word for the machine. It only becomes word to us when meaning is conferred during the act of reading.

But even this can only be declared when we place ourselves at the macroscopic level of programming (software), disregarding what happens inside of the machine. At a strictly technical level (hardware), not even this happens, for each graphic signal (letter, number) is converted in a strictly coded set of electric impulses, which are the only signals the machine recognizes. When we reach this stage—reduced to a simple flow of electronic impulses—the very linguistic signifier disappears, is pulverized, and is no longer recognizable in its linguistic nature.

Hence, once the whole text has been converted into machine-language and has entered the internal organs of any computer, it is shredded into a bundle of electromagnetic impulses (input). Only afterwards, through the inversion of the process (output), is it reconstituted and restituted by the peripheral organs (screen, printer, loudspeaker) in a form directly accessible to the human receiver. It is, therefore, only at this level of outside observation that computers may originate the feeling of mastering human language, of being able to read or write, if not hear and talk. But, if the machine imitates human language, it does so in a way that is totally mechanic and devoid of meaning.

If this is valid for the logical or syntactical operations from information dynamic processing, the same happens for the celebrated feature of memory (another anthropomorphism perpetuated by use), integrating all computers. In short (and regardless of the inevitable technical imprecision) we will now consider what occurs at this level of observation.

If the central organs of the computer only admit electronic impulses and, besides that, are only able to recognize two orders of states (positive and negative, or + and -), then any instruction to be entered into the machine must be reduced not only to a system of impulses, but also to the only logic the machine is able to accept. This is the binary logic: the yes and no, the + and -, the 1 and the 0. In this

complex process of coding, the human message goes through several stages. In a first phase of human performance (programming), speech will have to be structured according to the rules (syntax) of a particular conventional language suited to the man-machine dialogue: Fortran, Algol, Cobol, APL, Pascal, Lisp, Prolog, BASIC, etc. Once the program is written, including instructions and data to supply to the machine, it will automatically code the message in order to be able to assimilate it (machine-code). Then, it will register the coded message according to a sequence of bits (0 and 1), which is the only binary system that the computer can truly manage.

Formerly, in large third-generation computers, this operation of binary coding was more perceptible to the user when one had to employ the photogenic perforated tape in order to communicate with the machine. This operation was automatically performed by perforating/tape reading machines (with keyboard and printer) that condensed instructions or data. This constitutes the program as a coded series of perforations on paper tape or small cards, where each alphanumeric character (letter or number) pressed on the keyboard by the programmer corresponded to an ordered set of perforations or non-perforations. Those rolls of perforated tape, then, became the instrument for man-machine dialogue. Through a tape, the user entered his message onto the central unit of the system, and through another tape (later on to be reconverted through the same peripherals into directly readable alphanumeric characters), the computer issued the results.

Therefore, between one tape and the other there were only electric impulses. The reading made by the computer was comprised solely of decoding and compiling the instructions on the tape, matching each hole (or absence of hole) to a certain value with positive or negative charge. Its memory was merely the record of that same value into pre-determinate cells in magnetic supports (disk or tape, ferrite plates, transistors, chips). And its intelligence, or calculation ability, was (whether numerical, logical, or algebraic) merely the processing and forwarding of such information through pre-established circuits (electronic valves, transistors, integrated circuits) that although extremely complex in structure, were quite simple in their elementary basic principles.

This way, when pressing a letter on the keyboard of a perforator (“R”, for example), it would code the letter into a conventional series of holes distributed along the eight usual columns on the tape, which we will symbolize by 1 (hole) and by 0 (absence of hole): 11010010. Upon entering the machine, this series of

signals would be converted into corresponding electrical states, positive or negative, and similarly the letter “R” would be stored in any cell of the computer’s memory.

When observing the operation of a computational system at such close range, would it be legitimate to continue discussing, besides metaphorically, the linguistic activity of these machines?

Throughout the whole process, what happens inside any computer is a complex set of successive transmissions of signals, coding, and decoding chains. These materialize linguistic signals in the shape of electric impulses and reconvert them on the way out, reversing the process into alphabetical characters directly accessible to the human reader. That is the writing computers display: everything is performed in a pure machine-like way, with no possibility of awareness (at the material level of hardware) of the semantic content of the message. Concerning this issue, a common anecdote regards a robot to which the programmer ordered to remove from the room all round objects, and that robot ended up removing the head of the programmer himself.

The machine might never be able (or if so, not in a near future) to transcend the harsh materiality of the word, to assume language in its meaningful plenitude. Anyway, as Kondratov noted, its creative activity is limited to orders such as “take the word from cell 00101 in the memory and place it next to the word in the cell 00100” (136).¹²⁹ In other words, the computer does not deal with semantics, but it may deal with syntax (which is quite a lot). Would such a conclusion exclude any chance for the creative use of computational machines?

Yes and no. The answer depends on the level of analysis at stake. At the hardware level, the answer seems to be no; at the software level, it may be yes. It also depends on the selected approach to achieve this creative power.

If the ambition is (as the 1960’s cyberneticists advocated) for the computer to fully simulate creative activity, then one must recognize that the machine is devoid of the primary magma (life experience) with which the artist makes his work. In light of this, the only possible thing to do would be to equip it with a linguistic weaponry to overcome or to simulate overcoming such handicap. However, it is not our goal to solidify the myth of the robot-poet and to place it at the pedestal of the man-artist. It matters little if the computer creates nothing on its own.

129 O.P.: “tomar a palavra da célula 00101 da memória e colocá-la a seguir á palavra da célula 00100.”

The man-machine symbiosis is what actually matters. What we intend to know is whether it is possible (and how) to use the syntactic and combinatory potential of computers in the domain of artistic creation. In other words, how can the new artist-programmer use the computer? If we are to deny all informational systems any autonomous aesthetic creation ability, this does not imply that artistic creation may not be reasonably simulated, widened, expanded, or enhanced through suitable programs. This leads to the discussion that the creative potential does not lie inside the machine itself but in the program. Hence, the artist-programmer.

2. The Computer as Amplifier of Complexity

So far, we have tried to estimate the computer's functioning in its most elementary physical structure. At this level, it may only be described in terms of electrical impulses going through a vast network of electronic materials. And, in this viewpoint, such impulses are not even able to be considered as symbols yet. Since the beginning, we have advocated that the computer is a machine for manipulating symbols.

As a matter of fact, without software or programs to define the tasks to be performed, the computer itself is merely an inert structure of electronic components, a useless tool, a bunch of junk accomplishing nothing. An informational system may only be regarded as the result of the symbiotic association between material and program, electronics and informatics, and hardware and software. We shall now discuss the more abstract level of programming, for it seems that there (to the unaware user) these machines sometimes actually perform intelligent operations.

These so-called "electronic brains" simulate operations connected to our central nervous system through the most diverse peripheral devices. They now seem to be able to read, write, think, create, see, and talk. This does not imply that there is some sort of structural resemblance between brain and computer, but merely an operational one. However, despite performing the most complex mathematical calculations and a wide range of formal operations, they cannot see, hear, speak, read, write, think, or create, in the sense that such activities have to us as conscious human beings. The machine, devoid of understanding (the ability to apprehend the meaning of the signs it works with), merely simulates. To

simulate thought is not the same as to think. To simulate an act of speech is not the same as to speak.

When stating that computers may display, simulate, or model operations usually attributed to an intelligent behavior, this does not apply to a hermeneutic framework. Instead, it is restricted to a merely formal perspective and is nothing but a behavioral analogy.

Here is exactly where trenches were dug regarding the loud polemics on the so-called Artificial Intelligence,¹³⁰ whose new programming strategies (generally with heuristic methods and context analysis) aim to produce operational models of intelligent behavior. Within these modes, the machine performs as if it were able to apprehend the meaning of what it does: comprehension of natural language, automatic translation, problem solving, games, learning through attempt, error method, etc. Without getting involved with such polemics—because it is irrelevant to our goal—we will argue that informational systems are only able to develop a new sort of ability, which we shall name mechanical intelligence or instrumental reason. This construes all intellectual operations as able to be specified and materialized through signals.

Indeed, to argue that computers may perform any formal operation (actually deriving from the word form, an idea that also influences the consecrated terms information and informatics) is quite a lot: a whole new world open to collaboration between man and machine. However, we believe that this allows us to avoid inaccuracies regarding the abusive identification of human intelligence and mechanical intelligence, or even between human reason and instrumental reason. This is because, besides appearances, we believe the realm of meaning remains an exclusive dimension of the human mind—always seemingly out of reach for the machine due to its intrinsic operation mode.

Certainly, according to the most radical point of view of some informatics technicians, a cognitive machine as the computer (as complicated as it may be) is,

130 Note the books by Jacques Arzac, *Les Machines à Penser* and by Terry Winograd and Fernando Flores, *Understanding Computers and Cognition*. To frame this subject within an earlier stadium in computing, note the book by Hubert Dreyfus: *What Computers Still Can't Do: a critique or artificial reason*. Regarding the skepticism advocated regarding the computer and the ability of Artificial Intelligence, there is an interesting debate by François Rastier, “Débat sur les limites de l’Intelligence Artificielle”. On the contribution from linguistics to AI, note Inês Duarte’s, *Aplicações computacionais da linguística*.

at the end of the day, nothing more than the extension of such a common utensil as the pencil.

As a matter of fact, a pencil may also be regarded as a mechanical extension (albeit an artisanal one) of our thought. It is not difficult to assess to what extent the simple possibility to fix signs on paper and work on them has already allowed the human brain to stretch its reasoning ability—infinately more than if it were solely confined to the limited capacity of its memory.

Symbols, materialized in paper, not only help memory, but also induce new suggestions, propelling thought into operating in another dimension.

Actually, the computer can be no more than a vastly more complex and powerful device than a pencil. And it is well known that, without it, numerous scientific discoveries would not have been possible: from chemistry, to genetics, to fractals' geometry. It is also known that without its huge ability to manage data and to perform calculations in real time, the Space Age simply would not have begun!

The computer, therefore, reveals itself in its materiality as a cognitive instrument: a device used to amplify the memory and reasoning of the human mind. It also reveals itself as a powerful research instrument, which according to Heinz Pagels will open for us the doors of the “kingdom of complexity”:

Thanks to its ability to process and manage huge amounts of information in a mechanical and safe fashion, the computer as scientific research tool has already revealed to us a huge universe. This universe was not accessible before, not because it was small or distant, but for being so ‘complex’ that no human mind could devise it (406).¹³¹

Actually, we must not regard scientific instrumentation as just a set of material artifacts—such as the microscope or the telescope, which grant us access to the micro and macro-cosmos. According to Pagels, there are also cognitive instruments—or mathematical techniques. For instance, Riemannian geometry, the geometry of curved spaces, was the cognitive instrument allowing Einstein's *Theory of General Relativity*. Therefore, one may (while borrowing the fortunate expression by Adriano Duarte Rodrigues) refer to a permanent “short-circuit” between technique and science:

¹³¹ See Appendix 11 for original Portuguese.

In this sense we may nowadays say that scientific knowledge depends increasingly more on what is possible to achieve in a Lab, on what observation and experimentation instruments allow us or stop us from knowing (86).¹³²

Innovative software, based on finely elaborated logical or mathematical algorithms, has allowed scientists to solve problems previously impossible to solve or to process. Computer software, therefore, appears as the real cognitive instrument from the realm of complexity.

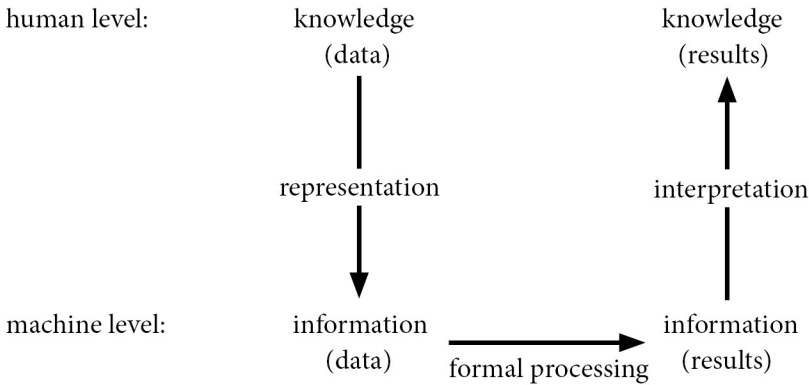
This does not consider replacing human intelligence for mechanical intelligence—the computer is a simple complexity telescope. Rather, it regards proposing the symbiosis of man/machine: if the computer amplifies our memory, its instrumental reason also improves the normal range of human intelligence.

If the microscope and the telescope were once extensions to our sensory ability in the micro and macro-cosmos domain, now the computer becomes undeniably an extension for intellectual abilities in the realm of complexity. Also in this perspective, when applied to the particular field of Art, we will consider it as a complexity extender.

It matters little if it simply manipulates characters, as considered by some more radical informatics technicians—the human mind is there to interpret, under the form of ideas, the material signals it may supply in a renewed fashion. It is not even necessary to acknowledge that the machine requires understanding images or new ideas in order to produce them. The human user will always be present at the end of the process to receive them with his intelligence and comprehension.

The machine is merely required to labor on the pure, formal level with the supplied materials (linguistic or others), so that from its manipulation through the program may result new ideas. Not for the machine, obviously, but for us! This procedure could be represented through the following scheme (Arsac 65):

132 O.P.: “É neste sentido que podemos hoje dizer que os conhecimentos científicos dependem cada vez mais daquilo que é possível realizar em laboratório, daquilo que os instrumentos de observação e de experimentação tornam possível ou impossível saber.”



Computer generated literary creation is prevented from producing semantic effects (knowledge/results), not because the machine only manipulates linguistic information in its pure graphical materiality (information/data), but because the meaning of such effects are apprehended by humans, self-defined as intelligent users of devices and instruments.

Computer generated literary creation, unlike artificial intelligence (resolved the early cyberneticists' ambitions) does not require simulating the whole creative activity. It may be done (while sufficing operability as verifiable) through the simple formal manipulation of verbal language. Given that the apprehension of meaning is always performed by man, the machine is merely required to manipulate linguistic structures with literary effect!

In the scope of Computer-generated Art, there is little support to explore if the machine requires intelligence, aesthetic sensitivity, or creative power in order to generate effects with new meanings. Rather, it suffices that the algorithm for the program is able to produce these effects through the simple formal manipulation of artistic language.

The only issue legitimately remaining seems to be whether or not it is possible to use computers to run programs with creative potential. If so, computer generated artistic creation may accurately be discussed.

GENERATIVE AESTHETICS AND THE STANDARD FOR COMPUTER GENERATED TEXT¹³³

PEDRO BARBOSA

1. Generative Aesthetics in the Computing Age

Within the framework of modern aesthetics, the generative is associated with the semiotic and informational. This considers the branch of generative aesthetics as more openly directed towards an application of art to the computer. Aiming at the generation of artistic products through programming techniques, Max Bense defined (in 1965) generative aesthetics as the “sum total (*Inbegriff*) of all operations, rules and theorems that applied to a repertoire of handling material elements may create a conscious and methodical aesthetic state” (135). This first definition, although very general, already included the possibility of admitting mathematical and machinic procedures.

Bense’s generative aesthetics is, therefore, a theoretical-informational aesthetics intimately connected to Moles’ Information Aesthetics, which is defined as follows:

From this theory [information theory] was born a new application of cybernetics to these particular systems studied by science in the sphere of the artificial composition, and there is now an informational aesthetics. From constraint rules, duly established in the assembly of signs, the aesthetician may have a computer storing pieces of information, then using a program we call algorithm, gathering them in a certain order more or less subtle, and finding the possible variations (combinatorial) (218).¹³⁴

In the arts that allow an immediate formal representation—such as musical or pictorial production (electronic and stochastic music, industrial design,

133 Pedro Barbosa, “A estética gerativa e o modelo geral da criação computacional” (From *A Ciberliteratura: Criação Literária e Computador*, 1996, pp. 69-78). Translation by Isabel Basto.

134 See Appendix 12 for original Portuguese.

creation of image synthesis, or cinematographic animation)—astounding results have already been achieved. Why not, then, in literary production?

Here the plot thickens, partially due to the intimate nature of the verbal sign, which is composed of an indissociable pair of signifier and signified, without which the verbal sign loses its peculiar linguistic functioning. This sometimes occurs in the so-called visual poetry, as in sound poetry, where the word is taken essentially in its material, graphic, or sonic dimension. The verbal sign always assumes a dimension that transcends it as pure sound or visual material, designating a real or imaginary space with its own rules and peculiar demands.

Such semantic halo concerning words, when they emerge from the spew of the machine, have constituted one of the major obstacles both to the abstract radical formalization of language and to its purely material treatment. The machine may work on language in its phonetic or lexical status, as well as in its morphosyntactic functioning. However, its total blindness regarding semantics—its complete awkwardness regarding the world of meaning—is perhaps the limitation that has chiefly affected or impaired research in this domain.

Generative aesthetics, by definition, aims to achieve products through computer programming techniques. In its objective and in its method, it diametrically opposes traditional aesthetics (analytical and descriptive). Traditional aesthetics elaborates on created aesthetic objects, studying them a posteriori, in order to detect in them the general laws of artistic creation. Whereas generative aesthetics proceeds through anticipation, aprioristically, researching creation models able to generate new aesthetic products. Both lines of work are complementary, but whereas one approaches the performed work, the other turns to the work to be performed. Generative aesthetics is, therefore, a virtual aesthetic, essentially fulfilling a heuristic function. It is not merely a philosophy of beauty but also an experimental science founded on a theory of creation.

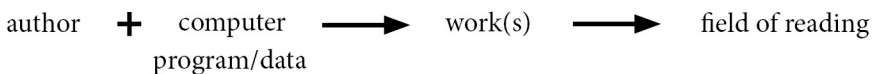
In *Gramática da Fantasia*, Gianni Rodari adapted Nake's formula from computer graphics and proposed this: the set of the three elements (S, R, I) will schematically represent the aesthetic program. Where S is a finite repertoire of signs, R is a finite number of rules to combine those signs among themselves, and I is a finite intuition to establish which signs and which rules to apply to S and R.

2. Standard for Computer-generated Literary Creation

From the previous definition, the idea emerges that artistic creation—while incorporating electronic computing systems—needs to unfold in two distinct operations: conception and performance. The conception phase, which includes the elaboration of a repertoire of data and the invention of an algorithm (or generative model) to treat it, is the human part of the process. The performance phase will then be executed by the machine. This way, the aesthetic product will firstly depend on the material elements supplied to be used as signs. That is, it will depend on the kind of repertoire, to the extent it may be constituted of graphic signals, words, sounds, lines, forms, or colors. This will determine the kind of aesthetic performance to produce, whether it is a text, a melody, a drawing, or a colored image. Secondly, the aesthetic product will depend on the work model (algorithm) introduced in the program. The computer will obey the program's directives.

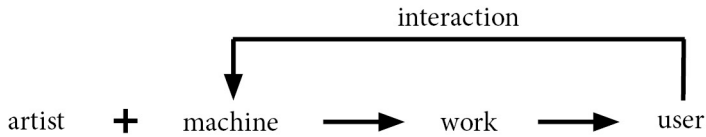
At this stage, it becomes clear to what extent the human decision will affect the product, as well as the machine labor. The artist-programmer then commands two fundamental fields of intervention: at the repertoire level and at the algorithm level. Through the repertoire (according to the physical nature of the signals fed to the machine) the artist-programmer will determine the type of aesthetic object to perform (text, graphic image, music, etc.). According to the sign selection, he/she will determine in variable degree the very scope of meaning. Through the algorithm of creation embedded in the program, he/she can influence the model, the structure, and the composition of the aesthetic products to be obtained.

At any rate, computer generated artistic creation intertwines a new element—an interactive cybernetic machine—within the communication circuit between the artist and the performed work(s):



What is fundamentally new in computational art is this interposition between the

author and the work of a cybernetic machine—a machine with a relative autonomy or machinic freedom, defined by the indetermination parameters and the retroactive variation contained in the program itself. If the device is also equipped with interactivity (as discussed next), it partially transfers the ability to influence the resulting

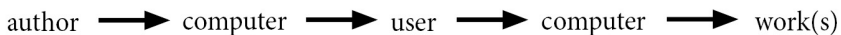


work to the user, while attaining its freedom to decide:

Actually, the field of reading that is widely provided by the machine in its variety of multiples can be exploited by the author directly, who will select the results obtained in symbiosis with the machine and deliver them to the reader. A printed book is a perfect example. It can also be exploited by the end user of the potential work: the reader/user, who is directly using the program and running it in his/her own personal computer. In fact, at the time of the great computers from the 1970's, literary mediation was usually made through written text (book, magazine, green bar paper, etc.), implying that the field of reading was previously exploited by the author according to the scheme:



Nevertheless, with the widespread use of the domestic microcomputer, the vehicle for literary mediation became the program, remaining the field of reading to be exploited directly by the software users, as end readers. With some fluctuations, the mediation scheme has become:



The computer (or program) intervenes in this second mode at two stages. This allows the degree of openness, which was previously restricted to the structure of the texts, to become inherent to the program itself. This allows for an

interactive dialogue between the program and the user, in other words, a dialogue between the computer and the reader, and subsequently a more active participation in the final making of the work(s).

Interactivity (proven to be the most exploited resource over recent years in literary computing) allows the program to reserve a margin of freedom that is increasingly larger when the user is requesting data, or when the user introduces other elements by their own choice. These new indications are afterwards manipulated by the program that had previously left them out in the open. In such case, a real interactive dialogue between the program and the reader is established. The resulting texts will now depend not only on the program's author, but also on the elements partially provided by the reader. The program's degree of openness thus leads to an active participation (user/reader) in the making of the text.

3. Fundamental Creativity and Variational Creativity

The term creativity—as noted by Melo e Castro in his book *Poética dos Meios e Arte High Tech*—tends to lose certain metaphysical connotations that were once part of the very concept of creation.

Regarding this subject, Abraham Moles' distinction between absolute creativity (or fundamental creativity) and variational creativity (secondary creativity) seems useful.¹³⁵ Absolute Creativity (or transcendental) is exclusively human, and we will name it fundamental creativity (or primary creativity) because it creates from the root, determining the foundations of Variational Creativity itself, which is a derived (or secondary) creativity regarding the former. The latter may be perfectly executed by a computer, which reveals a tendency to systematically exploit the entire range of possibilities inside the module determined by the program. In turn, the program configures the result of an act of fundamental creation. And, therefore, all combinatory creations are no more than derived creations of a fundamental model.

Human creativity—which in computer creation will be expressed in the algorithm's conception (more or less potential, with a larger or smaller degree of freedom reserved to the user)—is, therefore, an essential or ontological creativity. Only the human mind may invent or originate literary models.

¹³⁵ This is an adaptation of Moles' work by Barbosa.

The computer is supposed to develop and apply this fundamental creativity in its multiple variational scopes. The computer will, therefore, operate in the field of this variational creativity, exploiting it to exhaustion (combinatory case), or through partial choices (randomly extracted) when the combinatory reaches endless results at the human or machine time scale. It is, therefore, always a derived or secondary creativity.

Let's say that the primary creation is the abstract conception of an object or artifact (for instance, the design of a house, an automobile model, or a simple shoe), and the variational creativity is the one the architect, the engineer, the industrial, or the artisan develop afterwards around that matrix (of the house, automobile, shoe) exploiting the unlimited amount of possible concrete objects. In the first example, each resulting house may differ from the others in its accessory and adjective features (wall paint, doors, positioning of windows, roof shape, orientation of verandas, etc.). An automobile factory, in turn, applies a standard for a motorized vehicle—considering not only its shape but also its function. Within that standard, an indefinite amount of concrete units are generated, all more or less different from each other.

Fundamental (human) creativity will then correspond to the conception of that abstract model of an object—which may be, in the present case, a textual model to exploit. The computer will receive the task of exploring and eventually updating (depending on the sort of peripherals employed) all possible variational units in accordance with the parameters defined by the potential model the program formally contains.

Computer use introduces a cleavage between those two types of creativity in Art: the creation of models (in fact, the authentic creation reserved to the artist) and the variational creation (reserved to the machine). With superhuman precision and speed, the machine may explore and eventually execute all or most of the concrete applications of that abstract model—its variational multiples.

The choice between these multiples may be subject to rules defined and filtered by the program itself, but it may also be made by the author, who in a posterior phase will analyze and select—according to his own criteria—the wide range of materials provided by the machine. Presently, in the age of the personal computer, this choice may be otherwise left to the end user of the program: the real substitute of the book reader in the computing age. All of this implies a concept of potential literature, which is open in its concrete results to the user or

reader, and a concept of variational art, whose invention was actually far previous to the computer appearance (Moles 97–134). The structure of both concepts is intrinsically tied to Umberto Eco's notion of open work.

4. The Limits of Artificial Imagination

We expect to have reasonably clarified the limits of machines' creativity and, at the same time, the scope that, according to our point of view, may attain the so-called Artificial Imagination.

Obviously, in the present computing scenario, the Artificial Intelligence domain is not consensual. It has originated diametrically opposing attitudes—from a discouraging skepticism (the weak AI hypothesis), to a perhaps sometimes unrealistic optimism (the strong AI hypothesis). We believe this is due, in both cases, to a different use of the term intelligence, and also to the difficulty in reaching consensus regarding the concept of intelligence. Therefore, the expressions “creative computer” and (even if metaphorical) “Artificial Imagination” are defined cautiously with a limited scope.

Ultimately, it seems legitimate for us to accept that the computer generated artistic creativity, or the use of creative computer (at least in the present state of Computing), will for now remain limited to the exploit of that secondary creativity, derived or variational.

But the computer is not undervalued. As a machine, it is placed at the status of precious auxiliary to the artist (not his/her replacement), collaborating with him/her in the exploit that, at the human scale, may be infinite of the countless variational possibilities of one same matrix.

The computer, benefiting from extreme working speed and precision, may function symbiotically with the artist and become a real extension of his creative and executive potential.

Of course, this new line of artistic work (made in collaboration with the computer) seems justified only in the cases demanding or allowing the application of potential algorithms. It is within them that the machinic freedom (cybernetic or interactive) will operate. And, concerning the law of the large numbers, it is easy to conclude that the computer may best perform its mission of sign manipulator within the scope of a combinatory art.

After all, every artistic choice inevitably implies an implicit combinatory, which is more or less possible to formalize or achieve. Even language can be construed as an endless hierarchic combinatory of a quite restricted number of signals.

A NEW CONCEPT OF WORK¹³⁶

PEDRO BARBOSA

1. The Multiple instead of the Copy

The reproductive role of the combinatorial algorithm and, in many cases, of the randomized algorithm, facilitates the almost endless execution of the possible variations on a model. Each idea for composition gives place to multiple new productions, similar in structure but different in particular details. Instead of producing a unique work, the artist originates countless pieces for each idea of a composition: the multiples.

The artist's production is henceforth no longer based on the unique (only able to be reproduced through copy). The multiples, which may themselves be direct diffusers of the matrix model, provide the plural model with a multifaceted appearance. The creator, as noted by Abraham Moles, pulls away from the work:

He places his signature on the normative norm, supplies the idea, but he is not necessarily the one to shape it or to produce the work. For a same idea there is a large number of works, and if we admit that the most valid end work may not be produced by the same person creating the rules, one devises the moment when the creator will program a computer and feed it his repertoire to let the machine explore the proposed field of possibilities.¹³⁷

Thus we enter the realm of variational art.

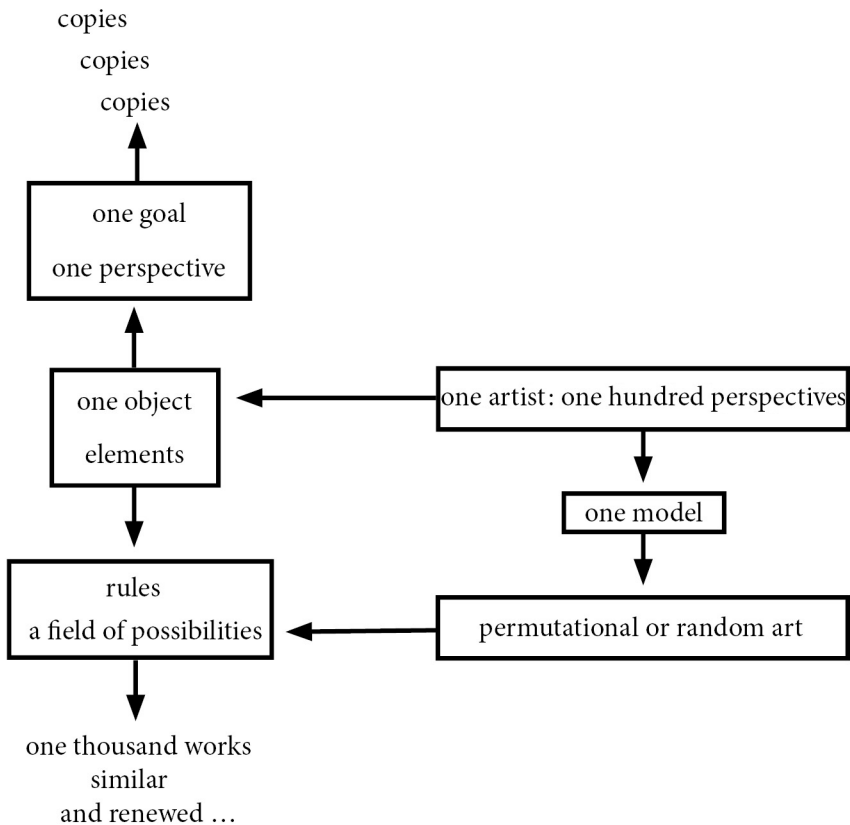
Obviously, the artist will always be the one supposed to hold final control over the variations performed by the machine on the model. They are the one to apply to all variations their own aesthetic standards. They will always be the final judge, and the amount of multiples issued onto the world will depend on the artist unless such a task is delegated to the program's individual user, in the case of an interactive operating regime.

136 Pedro Barbosa, "Uma nova noção de obra," from *A Ciberliteratura: Criação Literária e Computador*, 1996, pp. 105-118. Translation by Isabel Basto.

137 This is an adaptation of Moles' work by Barbosa. Consider all following references to Moles as an adaption by Barbosa as well. See Appendix 14 for original Portuguese.

Yet, admitting that it is possible for people to obtain an unlimited number of variations from a restricted number of elements, it may be possible to use these variations as the direct form of dissemination. The notion of multiple, as suggested by Moles, may therefore replace the notion of copy, without the degrading monotony it implies. Multiples present themselves as a renovation of a previously set model. And if in pre-computational art, the dissemination of works was ensured only through copies, with InfoArt, multiples can assure a distinguished dissemination of the work, replacing copies directly, besides constituting the very object to copy. Hence, to hold a multiple is not the same as to hold a copy—each one has its own ontological status. While the multiple is the direct emanation of a unique creative act, the copy is no longer the artist's work but merely the multiplication of the real (ibid).

We may then apply the diagram proposed by Moles, slightly modified:



Computer generated art therefore allows the multiplicity of new forms, in which the numerous multiples are also the concrete extension of a tentacle-like creative thrust, dispersed in a tree-like shape. Through multiples, we will then have direct access to the work because they are still the work itself, in one of its countless metamorphoses.

2. A Mutation on the Author's and Reader's Status

How will the artist behave (and, at the same time, the reader) before the creative computer? How will the human being adapt, asked Moles in 1971—"bearer of the thinking diploma issued by philosophers, with messages issued by artificial organisms." If all dignity of Mankind relies on thought, how will he/she face (today and tomorrow) the informatic machines in their capacity of thinking-machines (or at least machines-towards-thinking)? It seems that Leibniz did not worry too much about such problems—he himself dreamed of a "philosophical machine." Worries seem to arise—as ironically noted by Moles—only between the modern philosophy teachers, who are "reluctant to [face] the idea of being necessary to add a laboratory to their lecturing" (47).

The problem posed to the thinking-machine is rather similar to that posed to making-machines, which are also machines-towards-thinking. In any case, the use of computers forces us to rethink our own attitude regarding the word "create," and leads us to a new way of conceiving and practicing the creative activity. How often do artists need to turn to technology and the computer in order to realize their idea? When the artist's proposed work is beyond human abilities, new technologies become the vehicle for imagining.

At the edge of the space age, the computer is now at the crossroads of a new artistic production. The role of the artist is about to be changed, as stated by Moles in 1971:

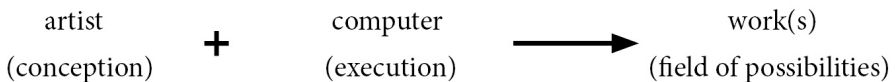
The supreme value lies nowadays in the ability to invent ideas: to perform them may now be the role of the technicians, in arts, as in space shuttles—ask and they will answer you.¹³⁸

138 O.P.: "O valor supremo, profetizava já Moles em 1971, está hoje na capacidade de inventar ideias: quanto a realizá-las, poder-se-á a partir de agora deixar isso ao cuidado dos técnicos, aos da arte como aos das naves lunares—perguntai, eles responder-vos-ão."

The predominant role of the artist, which is to create, will then be elevated to the quintessence—free at last from routine tasks demanded by the manufacture of any work of art. The artist finds himself occupied with the one task to conceive the general laws of artistic creation.

Computerized machines, far from replacing what is specific to the artist (the decision to create and artistic valuation) will instead constitute a warranty for his/her liberation, excusing him/her from the execution of the work. Electronic automation may therefore mean, in a near future, the very dignifying of the artist. The same has happened for the blue collar workman, accountant, engineer, architect, or mathematician—and not their enslavement or annihilation.

Two complementary stages must still be distinguished within the creative process: the conception stage, laboring in the ideal and intentional field, and the performance stage, taking place in the field of technical materiality (Bense 136). It is precisely in this second stage that the computerized machine aids the artist, replacing them. The work is no longer a result. Preferably, it becomes a model, as creation is distanced from performance. Motivated by this distinction, the author/user emerges from the traditional communication circuit and is intercepted by the machine:



Therefore, the work no longer presents itself as immediate regarding the creator. He supplies the generating idea (or the algorithm to create) to the computer, which, according to a chain of semiotic and operational treatments, develops and executes it, supplying finally the piece of work (or its multiples) for the reader to use. It then happens that the artistic relationship—previously a direct communication relationship between an author and a receiver (merely mediated by the work)—becomes an indirect communication relationship where a cybernetic mechanism is interposed, intercepting the circuit between sender and receiver.

The role of this cybernetic mechanism (as an open machine) is not limited to a mere passive act of message transfer (as would be the case for any closed machine that only transmits or registers information with no auto-

mous manipulation, such as telephone, radio, audio recorder, video recorder, etc.). The computer, as a machine for information manipulation, holds an active role, with wider or shorter generative amplitude according to the currently running program.

The electronic computing system therefore works as a real amplifier of complexity, developing and executing the ideas for composition supplied by the artist-programmer. Artistic creation work then emerges distinctively dissociated in two stages, one of which is handled by human beings and another by the machine:

1. Conception (human): repertoire + algorithm
2. Performance (machine): computing + execution

The artist is thus awarded the possibility to act upon two domains. On the one hand, he/she gains the choice of the repertoire (color elements, form, sounds, words, etc.) that reflects his/her sensorial and semantic orientation regarding the world to express. On the other hand, the artist conceives of the algorithm to define the very structure of the work or multiple works to create, setting a field of possibilities that the machine will explore according to an induced executing activity. Once such parameters are elaborated and defined by the computing artist, the machine will be in charge of developing them automatically, according to precise rules, and the text will result from the successive transformation of the model along the various semantic fields traveled. But in this case, if there is a signification, it is *ad posteriori* and, to a certain degree, unpredictable.

We will then have achieved the machine-text. In the scope of poetry, for instance, this is what will later on be named auto-poem. This term is not exact, though, because it is not a pure automatism (only theoretically admissible as an utopian limit), but rather a relative indetermination from the machine.

Obviously, to accede this creation mode, the artist (and why not, the user), must eventually free themselves from prejudices that bind them to the romantic myth of poetic inspiration, according to which, the artist, indescribably visited by the muses, is led to the illuminated creative work. Psychoanalysis has already unveiled such allegedly spontaneous creative torrents and has shown that if it seems to flow outside any laws and beyond the artist's voluntary control, it is not, for that reason, free from norms issued from the deepest areas of the unconscious mind. Besides, the classic attitude and the romantic attitude, correspond-

ing *grosso modo* to the image of the transpired artist and the inspired artist, have always coexisted along the ages, although one or the other would prevail according to trends and the artist's temperament.

In any case, if aesthetic creation intends to make use of electronic computing systems, the work must not be approached as an uncontrolled mental explosion. The work will demand from the artist a radically opposed attitude, speculative and totally aware of the processes applied. To standardize in the act of programming the machine, it requires, above all, a reflection of inflexible clairvoyance on the creative process. In other words, a rigorous and thorough rationale of the principles is unveiled by computing aesthetics aimed at producing a certain poetic state.

Computational creation will, therefore, have to become plainly aware of its methods and purposes. Such theoretical awareness required by the computational artist will obviously not question unique, specifically human ways to create, namely the secret resource of unconscious germination available by the occult. One creative procedure does not take the place of others—one merely opens a space in the horizon where new myths will someday be built.

And in an individualistic society as ours, an old myth is immediately reached: the author's. Being forced to abandon the proud loneliness attitude they so often assume, the author is now compelled to share their creative purposes with technicians and the machine. Melo e Castro has repeatedly reminded us that the notion of authorship is mythical, and only one proof of its prior existence exists: the texts he left us (4).

It is in fact quite recent that the binding of authorship is essential to the produced work, for there were times in which works were anonymous, and anonymity was part of their essence as today their collective or individual signature is. To know who was or was not Homer—whether he was a blind bard or a legendary author who gave his name to the community's oral tradition texts—does not alter the pleasure of reading the *Odyssey*. The ancient did not worry much about signing works, and many medieval or popular books saw the day anonymously. In many cases, this was probably a collective anonymity. Nowadays, a film is also the result of a collective work, performed as a team, and that does not in any way diminish the value of the work achieved.

Computer generated literature seems to demand, once again, the trans-individual sharing of authorship with a whole team of writers and literature theo-

rists, poets, linguists, mathematicians, computer technicians, and programmers. We could refer to groups as the Oulipo group or the Alamo group as a collective designation canvassing a wide range of technicians, theorists, and writers. Reference could also be made to programs such as “Your Personal Poet,” announced and marketed under the most radical individual anonymity, subscribed only by the American software house Computer Poet Corporation.

Regarding computer generated text, the writer’s attitude is actually found deeply altered from the foundation that before held him as an author, as the originating source or gravitational center of the message. The simple fact that the communication circuit is intercepted by an informatic mechanism brings along a radically new situation that totally changes the very stylistic groundings of the literary text. It does not, for instance, make much sense that the poet seeks the machine to express his/her own innerness in sincere impetuous lyrical outbursts. That would cause the reader a quite distressing communication issue when in the text, for example, the word “I” would be mentioned! To whom should the feelings expressed by the author be attributed: to the “I” poet, to the “I” programmer, to the “I” that structures the text, or to the anthropomorphic “I” machine?

We must bear in mind that aesthetic communication finds itself altered in its traditional scheme. It is no longer immediate or (most of the time) individualized, so the “Me” and the “You” start working in a different topological setting, as if fading away before the material weight of the produced text, which acquires a sort of an unusual contour and density. The role of the author will be to structure as objectively as possible the literary creation, and the reader should face the text as an aesthetic object to some degree independent from its author. The text emerges in a first plane, as if itself—the text—were the original source of information.

An active participation of the program’s user may actually be required by a software designed to work in a regime of interaction, which partially transfers onto the reader the selection or even the making of the text, thus placing the reader/user in a new position of sharing or co-authorship of the produced text, causing any “I” occurring to be immediately awarded to him, program user, and no longer to its originating authors/programmers!

Computer generated text no longer immediately displays the author, and the work dives more and more into anonymity. From creator of works, the new character of the computational artist mostly takes over the role of creator of

ideas. The artist designs a model, the technician formalizes the program, and the machine will execute the work(s).

Today, we are merely at the doorstep of a new type of literary creation: because it is always risky and fallible to foresee definitive conjectures in a totally open space. But, this demands from us a new attitude and total responsibility regarding artistic creation.

There are outdated concepts that need to be kept in the cultural freezer, as stated by Abraham Moles: we must let our thought be invaded by machine procedures. The scientist, the accountant, the blue collar worker, the doctor, the engineer, the architect, and the advertiser all sit in front of their computerized machines daily. This will be their new servitude but also their freedom. A similar future seems to await the artist: one day he/she too will become programmer, or at least user of programs made for him/her. And, to the extent that the artist accepts that conversion, he/she will not be replaced or surpassed by the machine, merely potentiated in his/her creative abilities!

The machine-to-create is nothing but a myth, and as such we will never have access to it except in an idealized level. But as noted by Philippot: “there is no reason to suppose an enthusiasm or a passion lesser in Hiller or in Barbaud conceiving the algorithms for musical programming than for Leonardo da Vinci, Valéry or Beethoven.”¹³⁹

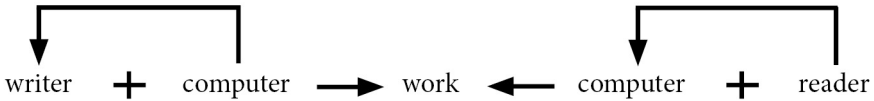
It is up to the modern artist to study the language of the machines and to learn to live with them. When Xenakis composes music about algebraic logic operations (“Herma”), when Melo e Castro structures poems according to mathematical models (*Álea e Vazio*), and when the OuLiPo designs potential models for works to be performed by the reader (*Atlas de Littérature Potentielle*), the path is open for information machines to help artists solve their problems in aesthetic creation. This path leads to a neo-Pythagorean art and an algorithmic literature.

A new attitude is also required from the reader, who becomes invested in his/her new character of reader/user of literary software: often interactive. He/she is offered the opportunity to share with the author the creation of the work, either merely by choosing pre-established deciding nodes, or by supplying data and other elements to the program, and all these according to a dialogue established through the machine.

139 See A. Moles, *Arte e Computador (Art and Computer)*, cit., p.252.

Reading takes place directly on screen. The information is typed on the keyboard and the resulting textual product may be printed out on paper.

This is not futurology; it is reality in today's literary landscape:



It doesn't concern dreaming of a literary machine, automatically working in an solipsistic monologue routine, but rather concerns learning to use it in a creative symbiosis. The goal is no longer the mythic poet-computer. It is instead the dialogue between the writer and the machine, as well as the dialogue between the machine and the reader.

Today, this is the status of the new artist/programmer and—on the opposite pole of the literary communication circuit—the status of that new literary character: the reader/user. Today's utopias are the motor of tomorrow's realities!

3. The Opacity of Computer Generated Text: A New Reading Practice?

To end these reflections on computer generated text, one last conclusion becomes apparent. A new attitude seems to be required from the reader, mostly when he/she is demanded to participate actively in the making of the text. It was usually said that each text demands its own reading; and a new kind of text would demand a new kind of reading. But in the present case, more can be said: each computer generated text also demands its own making.

Unlike any entirely human discourse, upon which words usually come to surface intentionally imbued with meaning, the discourse generated by the machine (mostly when chance is involved) is a fabric of non-intentional signals that move between absence and partial presence of meaning. Only through reading may the receiving subject bestow meaning upon this discourse. Therefore, reading fulfills a mission more than *sine qua non*: the unilateral enlightening of the text, composed originally from signs devoid from meaning.

Only through the act of reading can a computer generated text transmute the irradiating source, or formless mass of potential linguistic materials, into meaning. Reading thus becomes a vital operation able to confer life to an amorphous text. The role of the reader (which may in fact be represented by the work's author) enlarges and becomes essentially active. The movement of the reader regarding the text is dominant, instead of the movement of the text regarding the reader.

In fact, computer generated text differs from human discourse, which is born animated by the univocal impulse to communicate. By contrast, part of its essence as potential text is a multiplicity with a variable dose of unpredictability. Its passiveness regarding the reader may even be total, comparable to natural landscape, which also requires a human look to be recognized as aesthetically valid.

We have already seen that the machine works exclusively with signifiers, signs from which the signified is absent. As far as the machine is concerned, linguistic signs merely exist in the materiality of the signifiers and in the sequential nexus they may establish among themselves. The computer labors in the universe of signals, not the universe of meaning: semantics does not exist. But, how many writers have already employed a similar process in their writing? Was it not Valéry who stated that beautiful works are daughters of their form? And did he not also confess to have written "Le Cimetière Marin," obeying only the obsession with a certain rhythm?

Today, more than ever, the work of art is not only a representation of the world, but also the construction of an imaginary model of the world with its own laws and partially inherent code. Literary writing has often become the elaboration of an object (text) with a material that is language. The modern notion of text frequently approaches the notion of Abstract painting (or to be more exact: Concretism).

The Concretist movement in literature is a rather accurate example of that modern notion. On the one hand, phonetic and rhythmic poetry, approaching music, uses language only in its audible and sound materiality. On the other hand, visual poetry uses a different technique of writing, in which graphic signals and their spatial setting make objects-poems that touch the realm of plastic arts. Although off limits regarding strictly literary boundaries, it destroys the basic union of the signifier/signified. In this union, a large spectrum of no longer

transparent signals designates nothing external to the work nor means anything beyond the microcosms it creates in a nearly tautological reference process.

Regarding the concrete text, the universe that is signified by the work is born and dies inside of it. It is structured within it, and the code for its interpretation belongs to the work. Between abstract art and the modern notion of text only one thing varies: the forms and colors of the material are constituted by vocabulary, letters, sounds, or rhythms.

Also, the computational text becomes apparent to us, mainly through its verbal concreteness: the aesthetic effect, when occurring, seems increasingly more derived from language and not from the surrounding outside world. It is no longer the world that is poetic; it is rather poetry that reveals to us the poetism of the world. Signifiers, grouped around a form, structured according to a determinate profound law, and focused around an idea of composition, are the builders of meaning for the work.

And computational writing, following this type of literary writing, has just completely disrupted the common use of language. Instead of departing from what is intended to be communicated to words that manipulate such communication, one departs from signifiers, taken for themselves. The resulting meaning reveals itself as the luminescent explosion of an *ignis fatuus*. Computer generated text will always be language that summons meaning, such as magical practices summon the spirits: the feast of meaning is reached through successive rituals of language.

Following precise and meticulous linguistic procedures, the machine will organize the textual material, and humans, through reading, will award meaning to it. Made of only signifiers, the computational text will always be an opaque text: only the act of reading may award or not award a meaning. Depending on whether it allows or refuses the development of meaning, the text will remain opaque or become transparent. Through this meaning catastrophe, it is language itself that reveals to us the referent: in a random text, more than in any other, meaning does not precede the text's existence; it is generated by the text itself. It is an epiphenomenon generated by non-intentional signals.

In fact, what the computer creates, as well as what an author creates, is never finished: the reader always carries on the creation. In this case, the role of the receptor becomes decisive and much more involved: as in a projective test, the artist may cease to be exclusively the sender by also becoming a selective

receiver, who is expected to solipsistically animate the message through imaginative internalities.

This way, the text synthesized by the computer will highlight the interpretative freedom of the receptor: the reader participates as coauthor of the interactively produced text—with data and decisional options left unclosed—even when he/she is not actively interfering with the program.

Valéry and others offered the idea that poetry only means what it is meant to. It is, in a way, made by the expectations we place upon it. To understand poetry is exactly that: one must also be, in one's own way, a poet.

Poetry has always suggested more than it has said. And computational text, more than any other, will assume the status of a real semi-projective message, whereas multi-meaning conglomerate of mere signifiers. In the sense that Umberto Eco interprets all work of art as being an open work, that is, always requiring some sort of mental activity from the user to complete it, computational text can only be considered within the frames of aesthetics of openness.

In the present case, however, these frames are not merely structural openness, but they are more or less dynamic according to the degree of potentiality and interactivity designed by the program. Here, we enter the full domain of virtual text. The virtual text is a latent text that holds the genetic program of works to be generated; therefore concrete works only exist in it in a latent state, as seed. And the same way the seed is not yet the fully grown plant, or the egg is not yet the animal, also the textual program is not yet the work(s) the reader will enjoy. The virtual text is therefore configured as egg-text or seed-text. According to this perspective, the virtual text is immaterial: what exists in the physical support of a computer is not a text, not a sense, it has no meaning—it is merely the engine of a new plurality of textual performances to be materialized through signs.

Therefore, the idea of potential text is inherent to the notion of computational text. In this way, computer generated text always tends to imply a more or less radical disruption in intersubjective communication between author and receptor.

Appendix

1.

Este paraíso é de víboras azuis...

Este poeta é de grutas azuis...

Este silêncio é de folhas azuis...

Este pénis é de mãos azuis...

Este soneto é de jubas azuis...

Este poeta é de noites azuis...

Ofereço-te um lírio—diz a canção sentada

Ofereço-te um espaço—diz a cegueira sentada...

Ofereço-te um pneu furado—diz a roupa sentada...

Ofereço-te um espaço—diz a chuva sentada...

Ofereço-te um movimento—diz a avenca sentada...

Ofereço-te um sono—diz a flor sentada...

Ofereço-te um rosto—diz a vocação sentada...

Evapora-se a roupa, mas não sinto.

Evapora-se a noite, mas não sinto...

Evapora-se a curva, mas não sinto.

Evapora-se a paisagem, mas não sinto.

Evapora-se a maçã, mas não sinto.

Evapora-se a vida, mas não sinto.

Evapora-se a cegueira, mas não sinto.

Evapora-se a voz, mas não sinto.

2.

O poeta aperta o sono, e derrapa.

O Rosto...

é branco, o espaço

plano, a morte

certa. Não há curva

de pontos cardeais.

Putá de noite, subdesenvolvida.

Entre as rimas e o instante aparece e des

aparece uma rosa. No dia de Verão,

confuso,

chegam uvas negras e varandas

de maçã que batem

em suas ligeiras casas tremendamente claras.

E os lugares

todos esperam doces jardins que assomam

a pontuação da espuma
 A cabeça
 levanta grutas cruéis durante a combustão
 das linhas
 do paraíso. Pintadas na distância
 com as folhas respirando brutalmente—que
 melancolia
 combatem, a reluzir,
 sob as glicínias
 de praias implacáveis?
 Uma loucura de mel
 fervente, uma rede dolorosa de um pénis que se ilumina,
 uma morte
 incandescente na parte
 mais forte da magia—Onde os retratos pintados
 no fundo dos tempos
 da inocência?
 Suas uvas negras
 rutilantes latejam
 com uma voz horrível.

Porque há maneiras graves de os mortos
 viajarem: noites ciclistas de energia e de tristeza.

3.

Num tempo sentado em espuma uma infância imersa
 cantava o espaço.
 Era depois da morte,
 avencas
 dormindo. A leveza tinha flor. Então a chuva
 pronunciava lenços, pombas
 impressas. Arrefeciam terras no corpo
 posterior
 àquele enigma.

O mel
 tem a sua
 incli
 nação perigosa: quando se toca,
 a combustão queima. O sorriso tem uma vida
 ao fundo: treme. Este
 pénis é de mãos azuis.

Aparece com a rapariga de uma noite mortal. Quem se
 alimenta de morte, quem
 se despe entre flores encostadas, pergunto,
 quem ama até perder o mês?

Ofereço-te um pneu furado
- diz a roupa sentada.

Olha: eu queria saber em que animal
se morre, para ter uma chama e com ela
atravessar paisagens leves e ardentes e crimes
sem rosa. Existe nas máquinas resolutas
um lírio para
a poeira tremer, e o teu ar
se voltar lentamente cheio
de febre para o país de uma criança
terrível e fria.

4.

Uma rede de mel fervente, uma rede dolorosa de um mel que se ilumina.
Uma loucura de mel fervente, uma rede dolorosa de um pénis que se ilumina.
Uma avenca incandescente na parte mais forte da cabeça.
Uma morte incandescente no suspiro mais forte da magia.
Da noite chegam paisagens de água,
que batem em suas grutas tremendamente claras.
Da morte chegam mãos de criança,
que batem em suas folhas tremendamente claras.
Saber que lenço lhes pertence,
que feixe de linhas taciturnas urdiu sua cara largada no ar.
Saber que nome lhes pertence,
que coração de ilhas taciturnas urdiu sua aterradora curva lançada no ar.
Não faças com que esse mês te procure:
leva os mortos como se fossem um lenço verde...
Não faças com que esse tecido doloroso te procure:
leva planos como se fossem um nome verde...

5.

Num tempo sentado em seda, uma mulher imersa cantava o paraíso.
Num tempo deitado em espuma, uma infância imersa cantava o espaço...
Num tempo sentado em doçura, uma criança imersa cantava o tecido
doloroso...
Num tempo sentado em fruta, uma doçura imersa cantava o sol...
Num tempo escoado em água, uma cabeça imersa cantava o mês absoluto...
Num tempo deitado em morte, uma leveza imersa cantava o tempo...
Num tempo sentado em rapariga uma rede imersa cantava o sono...

6.

A maçã precipitada, os incêndios da noite, a neve forte: e a rude beleza
da cabeça -.

A velocidade precipitada, os símbolos da noite, a neve forte: e a rude beleza da música-.

A flor precipitada, os mapas da noite, a neve forte: e a rude beleza da água-.

A voz precipitada, os dedos da noite, a neve forte: e a rude beleza da morte-.

7.

Os jardins contorcem-se entre o estio e as trevas. / Avança o ar...

Os buracos contorcem-se entre o rosto e as trevas./ Avança o nome...

Os mortos contorcem-se entre o mel e as nuvens./ Avança o éter...

Os ciclistas contorcem-se entre o vício e as trevas. / Avança o pénis...

Os dedos contorcem-se entre o nome e as trevas. / Avança o coração...

Os rebanhos contorcem-se entre os confins e a noite. / Avança o pneu furado...

Os corredores contorcem-se entre as sedas e o mar. / Avança o silêncio...

8.

Arrefeciam grutas no paraíso posterior

àquele enigma:

vivem imóveis

os jardins das vozes. Nasciam linhas de vento se alguém,

sorrindo, respirasse.

O corpo

tem a sua

inclinação perigosa: lírio de laranjas sobre a candura.

Quando se toca,

a dança, queima. O relâmpago tem uma cidade ao fundo:

treme. Há quem fique num paraíso para assistir ao ar.

Terrível é o ar da janela.

Anda-se pela canção

com as folhas a ferver, diz-se: o peixe o nome e as

violas. Há um crime sagrado onde

o amor

aparece Digo: clareira.

Velocidade do mel Oh,

inteligência. Aparece com a canção

de uma noite mortal.

Ofereço-te um sono—diz a flor,

sentada.

Olha: eu queria saber em que escuro

se morre, para ter uma pintura e com ela

atravessar praias leves e ardentes e crimes

sem infância. Existe nas Colinas

um frio para
 a poeira tremer, e o teu mel
 se voltar lentamente cheio
 de febre para o peixe de uma rosa
 terrível e fria.

A morte
 tinha água.
 Arrefeciam noites no lado posterior
 àquele enigma. Porque tem o sono a salsa?
 Nasciam vozes de poeta se alguém,
 sorrindo, respirasse.

Evapora-se a noite
 mas não sinto.

Nesse espelho nocturno escrevo o que grito, ou então que durmo,
 ou que às vezes enlouqueço.
 Batem as paisagens da flor
 Um pouco abaixo do silêncio. Quero saber
 o sono de quem morre: o vestido de frio ardendo, os pés em movimento no
 meio
 do meu retrato.
 A velocidade precipitada, os símbolos da noite, a neve forte:

e a rude beleza da música—Uma rapariga de sopro cru
 vivem mim sem dar um passo, amando
 respirar em sua morte, o espaço
 do sangue maternal.
 O meu vento, parou diante
 do ouro mortal que o aguardara.

Evapora-se a paisagem mas não sinto.

Nesse ânus nocturno escrevo o que grito, ou então que durmo,
 ou que às vezes enlouqueço.
 O poeta dá à beleza como os outros animais?
 Arrefeciam paisagens no adolescente
 posterior
 àquele enigma:
 vivem imóveis
 os jardins das vozes.
 Quando se toca,
 a seda, queima. O mês
 treme. Há quem fique num sorriso para assistir ao ar.
 Terrível é o ar da inocência
 e das grutas paradas na atenção. Este
 silêncio é de folhas azuis.

Digo: velocidade do nome.
Quem se alimenta de crianças
quem
se despe entre folhas encostadas, pergunto,
quem ama até perder o algodão?

Ofereço-te um espaço
- diz a chuva
sentada.

Ah, um Rosto
é o que eu procuro
nas ilhas tenebrosas. Por isso canta essa flor para a voz
de um tempo—

Olha: eu queria saber em que coração se morre, para ter uma morte
e com ela
atravessar uvas negras
leves e ardentes e crimes
sem cabeça. Existe nas glicínias,
um paraíso para
a poeira tremer, e o teu nome se voltar lentamente cheio
de febre para o remoinho de uma loucura
terrível e fria.

Entre as rimas e o oxigénio selvático,
avança o pénis
a correr com as patas
sobre a noite branca.

Arrefeciam linhas no dia posterior
àquele enigma:
da noite
chegam linhas de água que batem
em suas vozes tremendamente claras.

Na pontuação da loucura
a velocidade
levanta linhas cruéis durante a combustão
das vozes
do poeta—
pintadas na dança,
sob as ilhas de mãos
implacáveis,
uma voz de mel
fervente canta.

Não faças com que esse granito te procure.
 Leva buracos como se fossem um coração verde
 chegado
 de uma criança
 transparente. O silêncio—está cheio
 de álcool gelado—Não te sentes atrás
 de um lenço parado.
 Porque tem o paraíso a salsa?
 Quando se toca,
 a noite
 queima.
 Há quem fique num sono
 para assistir ao ar.
 Este
 poeta é de noites azuis:
 então veste-se.
 Quem se alimenta de pintura quem
 se despe entre ligeiras casas encostadas, pergunto,
 quem ama até perder o ar?

9.

Le développement de l'intelligence artificielle aidant, l'ordinateur aspire progressivement à 'simuler' toutes les procédures du raisonnement et même de la pensée en général jusqu'à s'inspirer toujours plus étroitement du fonctionnement de notre cerveau.

Ainsi, plus l'ordinateur excelle comme machine, moins il apparaît comme machine, plus il apparaît comme conscience. C'est précisément aux ambiguïtés qui accompagnent ce phénomène en émergence que sont dues la fascination et, simultanément, l'inquiétude du public.

10.

Os sistemas artificiais do tipo dos computadores não podem pensar. O que neles se passa são processos físicos que só se tornam processos de pensamento mediante a interpretação do homem. Pois somente o homem conhece, graças à sua consciência, a significação daquilo que a máquina faz. A física é assunto da máquina, a semântica é assunto do homem. A diferença decisiva entre o homem e o autómato consiste em que o ser racional possui consciência, vontade livre e fantasia criadora, ao passo que o autómato não possui estas qualidades.

11.

Grças à sua capacidade para tratar e processar enormes quantidades de informação de uma maneira mecânica e segura, o computador, como instrumento de investigação científica, já nos revelou um enorme universo. Este universo não era acessível anteriormente, não por ser pequeno ou por estar distante demais, mas por ser tão 'complexo' que nenhuma mente humana o podia destrinçar.

12.

De cette théorie [la Théorie de l'information] est née une nouvelle application de la cybernétique à

ces systèmes particuliers étudiés par les sciences dans l'orbe de la composition artificielle, et il existe maintenant une esthétique informationnelle. À partir de règles de contrainte, dûment établis dans l'assemblage des signes, l'esthéticien peut demander à un ordinateur de mettre en mémoire des éléments d'information, puis, à l'aide d'un programme que l'on appellera algorithme, de les rassembler selon un certain ordre plus ou moins subtil et d'en chercher les variations possibles (combinatoires).

13.

Il y a deux formes de Créativité. L'une peut être qualifiée de Créativité Absolue, elle obéit au théorème de Gödel, et n'est pas susceptible de surgir sans un effort de transcendance de la pensée humaine par rapport à l'ensemble des connaissances qu'elle possède déjà. L'autre est la Créativité par variations, elle repose sur l'ensemble des modifications et combinaisons que l'on peut faire subir à un pattern, à une forme, à une configuration donnée a priori. Elle est susceptible d'être réalisée par ordinateur, si l'on prend la peine d'introduire une forme déjà connue et un programme de variations.

14.

Ele apõe a sua assinatura sobre a forma normativa, fornece a ideia, mas não será necessariamente aquela que lhe dará corpo ou que realizará a obra. Para uma mesma ideia há um grande número de obras e, se se admitir que a obra definida mais válida pode não se produzida pela mesma pessoa que criou as regras, vê-se chegar o momento em que o criador programará um computador e alimentará o seu relatório para deixar à máquina o cuidado de explora o campo de possíveis proposto.

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“THE DEAD MUST BE KILLED ONCE AGAIN” PLAGIOTROPIA AS CRITICAL LITERARY PRACTICE¹⁴⁰

RUI TORRES

Introduction

Húmus by Herberto Helder is recognized for its direct quotation from Raul Brandão’s 1921 text of the same name. However, Helder’s work is more than the simple intertextual suggestion of a text: it transforms it, putting into motion its latent power, reviving it. As may be read in the epigraph of this work, the “words, sentences, fragments, images” from *Húmus* are used by Helder in order to achieve, through re-writing, a full reading of the text by Brandão. Such reading multiplies and transforms the meanings that are crystallized in the work by Brandão, thus articulating the scope the poet refers: “freedoms, freedom.”

Maria dos Prazeres Gomes, in *Outrora Agora (Once Now)*, seeks to map the dialogical relationships in Portuguese poetry of invention, which, according to the term coined by Haroldo de Campos, constitute a “plagiarian/plagiotropic movement of the culturally settled forms” (19). Including Helder’s texts in a vast set of texts marked by a “critical-ludic-transgressive attitude” (22), Gomes defines plagiotropia within a conceptual domain (20) that involves several theoretical concepts such as metalanguage, intertextuality, dialogism, and parody. Despite having articulated all these concepts, the critical-ludic-transgressive attitude of Portuguese poetry involves, in her opinion, an enhanced “operation of translation in the sense of a critical rereading of tradition” (20).

To creatively explore the plagiotropic relationships between Helder and Brandão’s work, we have engaged in our own plagiaristic experiment in the creation of a third work. The resulting text generator, also entitled *Húmus*, draws upon its predecessors as databases, allowing readers to once again re-read the tradition and conceptualize the links between its historical forbears.

140 Rui Torres, “The dead must be killed once again: Plagiotropia as Critical Literary Practice,” originally published in *Electronic Book Review*, August 5, 2012, <http://www.electronic-bookreview.com/thread/electropoetics/plagio>.

1. Re-reading, Re-writing

The topic of critical rereading of tradition is inscribed in the realization that every text is created in a dialogue with the past. In Portugal, this issue was addressed by the Experimental Poetry group, namely in works by Ana Hatherly, Ernesto de Melo e Castro, and Herberto Helder. In the preface to the first issue of the *Experimental Poetry* anthologies (*Poesia Experimental* 1 and 2), Helder points out that “tradition is a movement” (5), thus paving the way towards its recovery in current literary practices. Ana Hatherly is perhaps the one to better summarize these experiences:

The cultural heritage of a people, and even of a continent, is ever present, one way or the other: what is required is to become aware of that, because when this awareness takes place, it ingresses our lives and transforms it. [...] What the Experimentalists did was to bring tradition to the daily lives of their poetic creation: by “translating” it into new forms they created the new [the novelty]. (Hatherly 179)

This dialogic process, as Bakhtin proposed and Julia Kristeva showed, implies that “every text is built as a mosaic of quotes, every text is an absorption and transformation of another text” (Kristeva 146). In a study on parody, Linda Hutcheon also recognizes the significance of intertextuality and self-reflexivity (12). For the author, this increasing interest allows the emergence of “an aesthetics of the process, of the dynamic activity of perception, interpretation and production” of works of art (12). Hutcheon further defines this attitude as a “structural and functional relationship of critical review” (27).

Raul Brandão and Herberto Helder are writers who constantly rewrote their productions: they are author and reader, one and the same. Concerning the elaboration and transformation of *Húmus* revisions and re-writings by Raul Brandão, Maria João Reynaud interprets the three versions of *Húmus* as “the inherent possibility of a continuous metamorphosis” (92). The existence of three versions of *Húmus*, according to the author, places us

before a complex discontinuous process of “written enunciation” in which each version is presented as “variation” of the same work—witnessing the mobility of writing Mallarmé refers in his utopia of the Book—projecting it onto a virtual horizon of perfection. (56)

Governed by a clearly modern indeterminacy principle, Raul Brandão staged in his work a process of “destruction-reconstruction (of rewriting), performed in the course of rereading, reactivating a ‘project’ of integration and determining the aesthetic object’s ‘metamorphosis’” (95).

In turn, this metamorphosis expands in Helder’s text, as it seems precisely this project of an “unfinished” work that warrants Helder’s poem its “freedom” to recover through remaking.

Regarding the metamorphosis in Helder’s work, recently given visibility through the publishing of *Ou o poema contínuo* (*Or the continuous poem*), a long poem in which all the poems by this author are connected, Maria de Fátima Marinho has studied the changes introduced by the author in his poems, at the time of the re-edition of his works in *Ofício Cantante* (*Singing Duty*) and *Poesia Toda* (*The Whole Poetry*), as well as in the subsequent re-editions of *Os Passos em Volta* (*The Steps Around*). Marinho recalls that “Herberto Helder is almost unable to republish his work without rereading it—without transforming it” (25).

Regarding the act of reading, Umberto Eco explains that “[o]nce it must be updated, a text is always incomplete” (53), thereby leaving to the reader “the interpretation initiative” (55). The text is “interwoven by blank spaces, of interstices to be filled” (55). In charge of a task of concretization, the reader holds the possibility of abolishing points of indeterminacy and, for that reason, the reader is an entity whose role is to complete. As Wolfgang Iser demonstrated regarding the phenomenological process of artwork reception, “one text is potentially capable of several different realizations, and no reading can ever exhaust the full potential” (55).

2. Raul Brandão

Raul Germano Brandão was born in 1867 in Oporto and died in 1930 in Lisbon. His work includes theater, diary, history essays, journalistic pieces, and prose.

The work that concerns us here, *Húmus*, was written during the First World War (1914–1918) and first published in the year of the Russian Revolution (1917). Considered by many critics as his masterpiece, to the point of repeatedly referring to Raul Brandão as “the author of *Húmus*,” this work originated the most varied readings from literary critics—sometimes assigning it to Symbolism, emphasizing the emotional grotesque elements, or considering it a rare example of Portuguese Expressionism. A certain “character of anticipation” should be

noted in this work because its presence as living legacy seems to justify the admiration still aroused in so many Portuguese writers (Vasconcelos 14). Jacinto do Prado Coelho even states in 1967 (also the publication date of Herberto Helder's poem) that "now, fifty years away, *Húmus* seems indeed more lively and admirably present" (327).

Húmus is written in the form of a diary—therefore depending on a time dimension—that covers November 13th to December 25th of the following year in the first edition. In the second edition, revised by the author, the diary covers a period that ends November 30th, with no indication of year except in the end: "Foz do Douro, 1916."

The structure of the work also changes in the different versions. The first edition is divided in 19 chapters. In the second edition (1921), the one that seemingly was used¹⁴¹ by Herberto Helder, the last chapter disappears.¹⁴²

As the title seems to suggest, *Húmus* stages transformation: composed by animal and vegetal organic matter, humus is the fertile portion of soil where life and death became involved and confused, "all rotting together in the same mixed and composted soil" as the author of the text informs us (Brandão 27).¹⁴³

The motto to develop along the whole "metaphysical perambulation" is forwarded in the first lines of Brandão's text: "I always hear the same sound of death that slowly gnaws and persists" (17). Only then does the author establish the scenery where the action (or absence of action) will occur:

A soiled village—deserted streets—yards with slabs uplifted by the sole effort of grass—the castle—the remains of fortifications with no use: a staircase carved in the alveoli of walls leading nowhere. (17)

From this we learn that the village is located in a negative space, symbolically associated with death, representing a landscape that, as put by Jacinto

127 Our (comparative) reading of the works by Herberto Helder and Raul Brandão begins with the 3rd edition (Lisbon: Vega, 1991), reproducing the text from the 1st edition (1917). Verifying the inexistence of some portions of the poem in that edition, we retrieved the 2nd edition (Lisbon: Aillaud & Bertrand, 1926), concluding that was the edition "read" by Helder.

142 The changes resulting from the rereading/rewriting of Brandão—the text's metamorphosis—may be consulted in the appendix of the above-mentioned study by Maria João Reynaud (2000).

129 Except where stated, all citations refer to the text of the 1st edition from 1917 (Vega, 1991). To simplify and make the text more readable, when this work by Raul Brandão is cited, we will only indicate his last name and page number.

do Prado Coelho, is “subjective, dreamlike, made of glacial paper, meanness and tragedy” (221). Because the village is a fictional and not representational space, it represents itself alone.

The beings inhabiting the village are ghosts that, by having a second life, create over time a network of habits, trifles, and smidgens—aspects of a trivial immediacy that pulls them away from the contemplation of life. This permanent opposition between apparent and real life assists, however, in suggesting that the human being is composed of overlapping layers of subjectivity: “In every soul, as in every house, beyond the façade, there is a hidden interior” (47), learning that “on the inside, man does not conform [desconforme]” (65). On the other hand, it leads to the conclusion that between one side and the other “interposes a wall” (69).

In this grotesque atmosphere of stagnation and immobility, the village faces the possibility of change. Because this village, although “grimy and tomb-like, hides within its walls a non-conforming dream” (34). It is the dream that will play the role of triggering the opposition between the everyday mask and something that grows within and corresponds to a dissimilar dimension of life. In the dream, uncontained forces coalesce, agitating death and life and thus reconnecting the living and the dead:

Here walk not only the living—but also the dead. The village is populated by those who agitate in a transient and dull existence, and by others imposing themselves as if they were alive. Everything is connected and tangled. (27)

In this sense, death is a chance to face life in a dynamic way, to the extent that it reveals its ideal of authenticity. Death is also an opportunity to regenerate. And *Húmus* precisely ends with a cry of revolt against immobility, against the imposing tradition, authoritarian, reactionary, in favor of the revolt of creativity and the new: “Can you hear the cry? Can you hear it?...—The dead must be killed once again” (181).

As it is impossible to address in detail the various symbologies common to the work of Raul Brandão, we will mention some keywords that obsessively inhabit *Húmus* and which we find in Helder’s poetry as well: stone and mineral elements, gold and its alchemical properties, water and its purifying properties, spring and the regeneration it brings, and also the grotesque, despair, and pain.

One of the possible lessons from *Húmus* by Raul Brandão is the line of thought proposed regarding the issue of language's creative sphere. Since consciousness only becomes reality when embodied in signs, Brandão poses the problem of social immobility alongside the problem of language wearing out, as reflected in the statement: "Always the same things repeated over and over, the same words, the same habits [...]" (21).

Raul Brandão was aware that "we live on words. To the grave we live with words. They subdue us, restrain us [...] Words contain us, words drive us" (24). This route still upsets us:

It is with words, that are just sounds, that everything in life is built.
But now that values have changed, what is the use of these words?
We need to create different ones, to use other ones, obscure, terrible,
in the flesh, that translate the angers, the instinct and bewilderment.
(106)

3. Herberto Helder

Herberto Helder (Luís Bernardes de Oliveira) was born on the November 23, 1930, in Funchal, Madeira Island. His first poetry book, *O Amor em Visita* (*Love Visiting*), is from 1958. In 1964, he organized the first anthology of *Poesia Experimental* (*Experimental Poetry*) with António Aragão, and that same year he published *Electronicolírica* (*Electroniclyric*, later renamed *A Máquina Lírica—The lyrical Machine*). In 1967, he published *Húmus*. Helder is also dedicated to the "translation" of poems, resulting in three volumes of "poems changed into Portuguese." More recently, Helder has been reediting his works, as with the publication of *Ou o Poema Contínuo—Súmula* (*Or the Continuous Poem—Abridged*) and *A Faca Não Corta o Fogo—Súmula & inédita* (*The Knife Does not Cut Fire—Abridged and Unpublished*).

The work *Húmus* belongs to several intertextual exercises developed by Helder mainly during the 1960's. The first poem in this category, which was already partially quoted, is "'Transformed is the lover into the beloved,' with his," published in *A colher na boca* (*The Spoon in the Mouth*). Helder exploits the reading made of Camões to the edge of transgression, where the code of idealized love usually read in the Camões' sonnet is eroticized in Helder's poem. This line of

action may be regarded as subversive, since it reads the past as a system of impositions, thus proposing a redefinition of the present.

In *Electronolítica*, Herberto Helder explores for the first time the combinatory process, which is the starting point for our approach to combinatorial and cybernetic poetry. The afterword of the book's first edition would fit as preface for *Húmus*. It mentions an experience with an electronic calculator performed by Nanni Balestrini in 1961 in Milan, Italy, in which old and modern texts were processed through a given set of combinatory rules previously instated, which resulted in 3,002 combinations. Helder explains that the same attitude takes place in his book, through a transfer system, though not bound to any rule (49). Subsequently, according to the poet, there is a resemblance with "some primitive magical texts, some popular poetry, and some medieval lyricism" (50), thus creating a peculiar "magic ritual formula in which there are traces of popular refrains, as well as traces of medieval lyrics, such as the cantigas (songs) from the *cancioneiros* (songbooks)" (50). Helder concludes that "[t]he combinatorial principle is truly the linguistic foundation for all poetic creation" (50).

In *A Máquina de Emaranhar Paisagens* (*The Machine to Entangle Landscapes*), first published in the anthology of *Experimental Poetry* and later included in *Ofício Cantante* and *Poesia Toda*, fragments from the books of Genesis and the Apocalypse are freely combined, mixed with fragments from François Villon, Dante, Camões, and Helder himself. This work is quite similar to the one performed in *Húmus*, although the latter is exclusively built from Raul Brandão's work.

In the preface for the first anthology of *Poesia Experimental*, Helder explains that "there is only one law governing both the world of things and the world of imagination. That law would be metamorphosis" (5). And in the preface to the anthology *Eloi Lélia Doura* (*Communicating Voices in Portuguese Poetry*), Helder tells two stories from which we cite the first one, "caught somewhere, through reading." It is about:

a tribe that buried their dead in the concave of large trees. The trees, that were given the name of the people: baobab, devoured the cadavers, and from them they webbed their own natural flesh. From the name removed from them and put into alchemy, the tribe invested in general transmutations: death took the name, and the name, active and tangible, grew in the soil. (7)

Such a “tribally magical commitment, governed by the overwhelming understanding of the metamorphosis of the flesh in the organic scheme of matter” drives Herberto Helder to the conclusion that “an image of itself, an absolute image, universal, devours this people, and this people places a signature in the image returned to the world” (7). All poets, as all poems alike, are “surrendered to serve a common inspiration, a common art of fire and night, to a same constellated subsidy” (8).

In the afterword for *O corpo o luxo a obra* (*The body the luxury the work*), Helder recalls that the “transmutation is the general and universal foundation of the world. [...] to work in transmutation, in metamorphosis, is a work of our own.”

This work of transformation is precisely what is carried out in *Húmus*: metamorphosis of meanings, enlargement of connotations, text inscribed in another text. In this sense, Helder’s text can be interpreted as a path towards the rebirth of Raul Brandão’s text. As described by Maria Lúcia Dal Farra, Brandão’s text is displayed “as a submerged universe whose appeals for restitution and rediscovery were assumed by the still combustive energy of written words, stated and drowned in time” (200). If writing is driven by the principle of regeneration, it is irreversibly tied to death: “death becomes the appropriate response to the impulse towards regeneration” (Lindeza Diogo 40).

In the same manner we find Brandão’s *Húmus*, Helder uses, in his poetry before *Húmus*, symbols such as water, stone, gold, death and the dead, spring, the tree, silence, resurrection.

The first edition of *Húmus* by Herberto Helder has the suggestive subtitle of *Poema-Montagem* (*Montage-Poem*). Montage is a term borrowed from film-making language, concerning the work of “concocting the various scenes from a film, according to particular goals in syntactic organization” (Reis and Lopes 240). The master theorist of montage was the Russian filmmaker Sergei Eisenstein. In his essays on film-making language, Eisenstein explains that “two film pieces of any kind, placed together, inevitably combine into a new concept, a new quality, arising out of that juxtaposition” (4), collision and conflict being ideal for montage (37).

Montage is therefore the main system through which Helder’s poem establishes and updates the reading of Brandão’s text. Montage links parts, forming an autonomous whole. Helder explains the system that he is about to implement: the “material” being used is composed by “words, sentences, fragments, images, metaphors from Raul Brandão’s *Húmus*,” and the governing

rules are “freedom, freedoms.” Helder also includes in the first pages a proverb: “Death is an ever new thing.”

One of the aspects conferring intertextual coherence to the poem is the fact that the beginning and the end of Helder’s poem coincide with the beginning and the end of Brandão’s novel. The scenario is the same, although in Helder’s text there is no reference to the village, or to the small fragment preceding the text by Brandão: “I always hear the same noise of death, slowly nibbling and persisting.” Regarding the abolishing of the latter, it may be justified by the inclusion of “Do you hear the scream of the dead?” With it, a more comprehensive communication circuit is introduced, thus calling “the other” and interrogating it: “Ouves?” (“Do you hear?”), instead of using the first-person singular “Ouço” (“I hear”).

What Helder transforms in the text by Raul Brandão cannot be thoroughly rehearsed in these pages; nevertheless we will display some examples deriving from the deconstruction we performed on the texts.

4. Deconstruction—Herberto Helder reader of Raul Brandão

We will now confront both texts by displaying them next to each other. Helder’s text was divided in eleven sections, concerning the first 82 verses out of 380 (therefore 30% of the overall text of the poem). This is the starting point for the combinatory that we will explain later.

While the full scope of correspondences is documented here, some key passages illustrate the relationship between Helder’s and Brandão’s work. Take for instance the following series of passages from Brandão:

A soiled village—deserted streets—yards with slabs uplifted by the sole effort of grass—the castle—the untouched remains of fortifications with no use. A staircase carved in the alveoli of walls leading nowhere. Only a wild fig tree succeeded in entering the interstice of stones and thereof extracts juice and life. The tower—the door of the Cathedral with the saints in their niches—the square with dessicated trees and a zinc bandstand. Over this a denigrated and uniform tone: moisture embedded into stone, the sun embedded into moisture. (17)

All this seems to float under water, which greens under water. (11, 2nd ed.)

All dreams are standing for a thousand years and a day.—Do you hear them? Do you hear the scream of the dead?... (187, 2nd ed.)

These passages, edited and recombined, become the first eight lines of Helder's work:

Yards with slabs uplifted by the sole
effort of grass: the castle
the staircase, the tower, the door,
 the square.
All this floats under
water, under water.
 - Do you hear
the scream of the dead?

Helder's reading of Brandão continues. Note the following passages from Brandão:

At every scream grows paler, blazing, changes color, opens the golden tail, from fall to fall. [...] The combat is relentless between the living and the dead, among the living and the dead. (258–259, 2nd ed.)

And the silence is mounting. Only water speaks on wholes dilapidated from stones, in dialogues that never cease, in a chorus of uninterrupted and fuzzy voices. [...] (166, 2nd ed.)

Her words rare and small, pronounced afraid of landing, saddened me, and the paleness the black hair was framing made her look like a creature not belonging to this world. (177, 2nd ed.)

Now I remember her as an afternoon coming slowly on tiptoe, and clinging to a minute, to silence, to things suspended in the light of the buttons about to open. (Brandão 57)

Now I do remember her as an afternoon coming slowly on tiptoe, and clinging to a minute, to silence, to things suspended in the light of the buttons about to open. (57)

[...] more screaming to the world, more volcanoes of colors that portend disaster, and a buffered noise, weird, unbearable within ourselves, that I can only compare to the sound from a butterfly flapping against the walls of a vase. (175)

That is why I insist that Death does not have only five letters, but the most beautiful, the most tremendous, the deepest of mysteries. (101)

In my soul is reflected the dialogue of the universe as the clarity on the water to make me dizzy. (210 2nd ed.)

A street descends to the church in stonework carved. [...] The stone crumbles, but I contemplate it alive, with a people of statues on top, with a people of dead below. (27)

In Helder's work, this provides the source material for lines 9–20:

The stone uncloses the relentless gold tail,
only the water speaks on holes.
They are words pronounced afraid of landing,
an afternoon coming on tiptoe, the sound
slowly of a
butterfly.

- Death does not have
only five letters. As the clarity on the water
to make me dizzy,
the stonework
carved:
with a people of statues on top,
with a people of dead below.

And so the correspondence between the two pieces continues, affirming Helder's plagiotropic process, while demonstrating the richness with which such reading/writing activities can be performed.

5. Recombination—Reading Herberto Helder reader of Raul Brandão

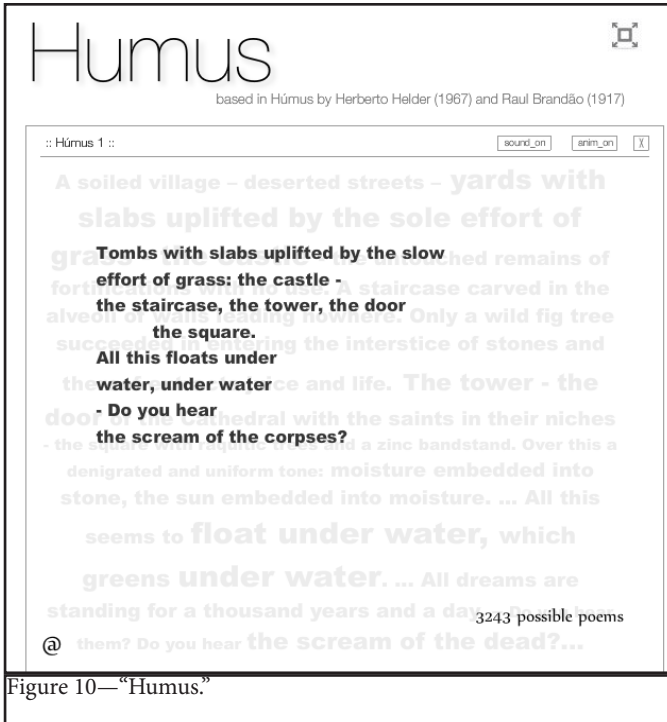


Figure 10—“Humus.”

*Húmus—Continuous Poem*¹⁴⁴ is a creative research project in the area of cyberliterature aiming at proposing new ways of re-creating the montage-poem studied above. The numerous versions virtually available in these program-texts use as a tool for textual programming the *Poemário*¹⁴⁵ programmed in Actionscript 3.0, allowing the user/author to create texts (poems, short stories, etc.) by following combinatorial procedures.

144 English version (experimental) online <http://www.telepoesis.net/humuspoemacontinuo/humus.html>. Portuguese version available in CD-ROM (ISBN 978-989-643-063-4). Conception, design, and textual programming by Rui Torres; sound by Rui Torres and Luis Aly; voice by Nuno M Cardoso. The software *Poemário* was created by Rui Torres and Nuno F. Ferreira (programming). Layout and navigation system by Ciro Miranda. The resources employed to build this work include, besides the software *Poemário*, include Adobe Flash, Perl, XML and WordPress. Internet access is required in order to read and interact with this work.

145 Available at <http://www.telepoesis.net/galeria-poemas/pplayer.php>. Conceived and designed by Rui Torres, programming by Nuno F. Ferreira.

In terms of reading and interaction, these are the operating options of the program-text:

- Automatic animation or interaction: Depending on the reader's choice, the poem *Húmus* can be automatically animated (words change in automatic and random mode) or through the interaction of the reader (the reader will have to click on the words in order to process the respective combinatorial processes).
- List editing: The reader of the poem has access to programmed lists of words and thus can invoke and change them by clicking on the respective word(s) while pressing the Control button (Ctrl).
- Sound: Allows the reader to use sound in combinatorial and random mode. If the reader chooses to listen, reading will be accompanied by a soundtrack generated through combinatorial procedures, switching between voices and sound textures.
- Dir-WordPress: The reader may also choose to send his/her readings to the blog *Poemário* (by clicking @), thus allowing the archiving of versions by different readers. Posts published in the blog *Poemário* are also displayed on the right side of the interface available on CD-ROM, and therefore do not require any browser to access them. However, if the reader wishes to consult the blog outside the CD-ROM, the address is <http://www.telepoesis.net/poemario>.

The text of *Húmus—Poema Contínuo* was programmed taking into account these software features.¹⁴⁶

Let us now see how this textual programming took place.

First, we selected a few verses from *Húmus* by Herberto Helder which were divided into 11 sections. These excerpts were programmed to allow the reader to change, in runtime and through combinatorial and random procedures, the different categories (or paradigms) that supply the original syntax of Helder's text. The vocabulary animating these categories was selected from Raul Brandão's work.

146 To access other works within this combinational rationale using the software *Poemário*, see: *Amor de Clarice 2.0—versão combinatória* (Love by Clarice 2.0—combinatory version) (texts by Rui Torres and Clarice Lispector), available at http://www.telepoesis.net/amorclarice/v2/amor_index.html; *8 brincadeiras para Salette Tavares* (8 games for Salette Tavares) (text selection by Rui Torres from verses and with vocabulary by Salette Tavares), available at <http://telepoesis.net/brincadeiras>; *Do peso e da leveza* (On weight and lightness) (texts by Rui Torres from poetry and lexicon by Sophia Andresen and Fernando Pessoa), available at <http://telepoesis.net/dopesoedaleveza/index2.html>.

The sound is also generated dynamically and randomly, from previously recorded databases, consisting of readings of fragments of both texts, with sound textures and varied musical atmospheres. Each new reading of this work takes as its starting point a completely new textual configuration, distinct from the previous, both verbally and in terms of the soundtrack, generated to facilitate and encourage navigation and exploration. Hence the chosen title, playing with Helder's earlier works: this is a continuous poem and in continuous metamorphosis.

The large amount of possible text executions led to the use of one of the features available in *Poemário*: the ability to record versions created by the readers. Thus, in addition to changing the poem's arrangement, the reader can keep her/his versions/readings in the weblog available on the Internet, constituting a sort of community of readers.

In short, in terms of reception, the reader is able to read, listen, and combine textual fragments. Subsequently readers may interact, discover and scroll the navigation space in which they are operating, and finally they can contribute and share their versions of combinatorial poetry, saving them in the previously mentioned weblog.

Húmus—Poema Contínuo is intended to be an experiment testing the limits of various languages, along with their possibilities of interaction and relation. Inscribed within cyberliterature, the variety of generative elements presented intends to give to the reader the means of the production of meaning. As a virtual space of intertextual reading, this work calls for the reader's reflection on language and textuality, promoting instability and variability in interpretation, as indeed was proposed by Helder in his assembly/montage-poem.

Conclusion

Plagiotropia exists in the Portuguese tradition as a process of active, reflexive, literary appropriation. This is useful for scholars of digital literature and culture. Contemporary notions of poaching in digital media practice tend to emphasize the productive relationship between audiences; however, given an abundance of popular culture resources and access to networks of transmission, plagiotropia implies a more sustained practice of appropriation focused on close readings of literary texts, that are resonant with contemporary notions of authorship as both contested and distributed.

On the other hand, implicit in this practice is an understanding of literature that is often lacking in contemporary criticism: that the dead can scream via the text, and that they can be killed once again, suggesting that our relationship to the work of literature is rich and enriched by the long, tangled process of regeneration documented in the genealogy of works known as *Húmus*.

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PORTUGUESE EXPERIMENTAL POETRY— REVISITED AND RECREATED¹⁴⁷

PEDRO REIS

Portuguese *Experimental Poetry*, claiming to be an avant-garde movement, arose in Lisbon in the mid 1960's. It got its name from the title of a magazine, *Cadernos de Poesia Experimental*, which became the herald of the movement. Two issues were published, the first in 1964 (organized by António Aragão and Herberto Helder) and the second in 1966 (organized by António Aragão, Herberto Helder, and E. M. de Melo e Castro). The first issue was presented as an anthology, since it included texts not only of Portuguese poets and musicians but also Brazilian, French, Italian and English artists. It also had a section which included poets of several epochs and tendencies, such as Luís de Camões or Quirinus Kuhlmann, representing respectively the mannerist and baroque aesthetics of European poetry.

Therefore, its roots are founded in the mannerist and baroque tradition, but also in the European avant-garde from the beginning of the 20th century (with the *parole in libertà* of the futurists or the collage-poems of the dadaists, for example). We can also emphasize, among several initial influences of the movement, the Italian avant-garde, which António Aragão got in touch with,¹⁴⁸ and the international movement of concrete poetry, which appeared simultaneously in Europe and Brazil in the mid 1950's. This wide set of influences had different emphasis in the individual production of each member of the group.

Some of those members, initially attracted by creative innovation or by the transgressing character of the experience, diverged afterwards from the initial movement, but others would build a poetic work in the following decades that allows us not only to identify them as the main representatives of this tendency in Portugal but also to place them among the international representatives of similar tendencies. This scenery explains the diversity of authors and proposals that can be found in the two issues of the *Cadernos*. This is a probable reason why there

147 Pedro Reis, *Media inter Media: Essays in Honor of Claus Clüver*, edited by Stephanie A. Glaser (Rodopi, 2009), 449–462.

148 As Aragão explains to Ana Hatherly in a letter written on the 16th of September 1975, sent from Funchal: "Soon after my return from Italy, where I collaborated in avant-garde magazines and socialized with avant-garde Italian poets, I met up assiduously with Herberto Helder, and together we organized and directed graphically the first issue of *Poesia Experimental!*"

wasn't a Manifesto, but, in spite of this, one can find some programmatic statements, such as these by Herberto Helder:

These writings of experimental poetry intend to assume the responsibility of stating that, before the human conscience (witness), things and events—charged with ambiguous energy—stimulate, to revelation, an experimental freedom which is accomplished obviously in a polygonal sense. (...) This ambiguity, uncertainty and the multivalent character of the real are witnessed, in the field of aesthetic representation, by experimentation determined by adjustments and maladjustments between imagination and reality.¹⁴⁹

In the Portuguese context of the 60's, facing a government which enforced conservatism, isolationism, and stagnation, in an epoch affected by colonial war, censorship, repression, and the persecution of dissidents, the experimentalists intended to denounce this political and cultural situation, rebelling against the dominant speech, which they accused of causing retrocession and alienation. Ana Hatherly says:

In a country with more than eight centuries of lyrical tradition, the fact that [the experimentalists] made anti-lyrical statements and produced texts and objects as those that they produced, which were completely against the tendencies accepted by the establishment, was in itself an act of political subversion. (181–88)

If one tries to sum up the proposals developed in the texts that the experimentalists left us, which are documented in *PO.EX: Textos teóricos e documentos da poesia experimental portuguesa*, it is possible to conclude that *PO.EX* opposes the sentimentalism of traditional poetry in general, and it rejects the rigidity of metrics and rhyme. On the other hand, it proposes the objectivity and collective work, in order to counterbalance a very much heavy heritage of psychological individualism that was typical of the Orfeu generation. It also suggests resistance

149 After the two issues of *Poesia Experimental*, two issues of another magazine, *Operação*, were made public, both in 1967. *Operação 1*, organized by Melo e Castro, with several collaborators, was printed on thick paper and presented in an exhibition. *Operação 2* is exclusively composed of Ana Hatherly's texts. The presentation of these two issues of *Operação* took place in the gallery/bookshop Quadrante, complemented by a happening and involved in a huge controversy. It is important to stress here relevant differences between *Poesia Experimental 1* and 2 and *Operação*, *Visopoemas*, and the *Concerto e Audição Pictórica* which took place in the gallery/bookshop Divulgação. While, in the first case, the participants were quite heterogeneous, in the second, only those who had really chosen the experimental approach collaborated. It is also important to evoke, as equally relevant marks, the collective exhibition.

and internationalism as a way of repudiating the nationalist Portuguese project, as well as it rejects the neo-realistic ideological speech and the surrealist automatism, proposing in their place an approximation to a scientific approach.

The opposing vocation of the movement is then fulfilled, from an ideological point of view, by taking part in a world-wide tendency, thus contradicting isolationism and placing Portugal along with its contemporaneity and, from an aesthetic point of view, by being a subversive practice which dismantled the dominant syntactic speech.

In fact, notwithstanding the characteristics imposed by the specificity of the Portuguese social and historical situation at that moment, Portuguese experimental poetry can be integrated in a world-wide context of experimentalism. Overcoming indeed the frontiers of the countries where it was born and the limits of the idioms it used, this poetry, which we can consider intermedia, according to Clüver, Higgins, or Vos given the fact that it made use of signs beyond the verbal ones, placed itself in a supranational level.

Besides this supra-nationality of language, these poets sought the impersonality of the poem/object, and the selection of words was made not only according to their meanings but also to their significance. This allowed Melo e Castro to argue that we move from the artistic creation to the piece of art separated from its creator and with a universal validity (24).

All this allows us to understand that the theorists of concrete poetry, for instance, declared their desire of universalization, which was to be understood as the potentiality of their project to abolish all kinds of boundaries and constraints, so that it could spread all over the world. It is also important to stress here that critics also contributed, in their way, to confirm the international character of the movement, for example, elaborating international anthologies,

mainly labelled *Concrete Poetry*.¹⁵⁰ A world-renowned scholar, Claus Clüver, affirms on this subject:

Concrete poetry was the first literary movement to start spontaneously in several countries and to receive its name by intercontinental agreement; it must therefore be considered in relation to a mainstream defined in terms of continents, not individual cultures. (113)

The emphasis put on universalism seems to be inseparable from the intersemiotic nature of this poetical practice. The raw material of intermedia poetry is the language, or languages. Therefore, considering different national idioms is no longer relevant. In this sense, the polyglottism of the international anthologies can be placed in a similar level to those poems whose verbal material cannot be associated with any particular idiom. When concrete poetry announces its intention of abolishing all barriers imposed to communication through the existence of several idioms, it hopes to replace them by an approach to language that does not rely uniquely upon the semantic content of words, so that the problems that affect contemporary people world-wide can be communicated.

Therefore, in spite of the existence of local differentiations, it is important to emphasize the internationalization of this movement. In fact, we ascertain that not only Portuguese authors were invited to sign international manifests, as they also are included in several experimental, visual, and concrete poetry anthologies.

The fact that this poetical project promotes the use of language in a reduced form makes the internationalization easier. Beyond the possibility of communicating with an objectivity identical to the scientific formula, it also reflects other uses of language, such as advertising and mass media which are also forms of expression settled in supranational codes.

150 Claus Clüver elects four international anthologies, published in the USA between 1967 and 1970, as the most representative of the international movement of concrete poetry (114): Bory (ed.), 1968; Wildman (ed.), 1969; Williams (ed.), 1967; and particularly Solt (ed.), 1970. Moreover, we can also mention the issue 21 of *Rot*, a magazine edited by Max Bense and Elisabeth Walther, in 1965, entitled “konkrete poesie international,” which also has an anthological character given the presence of concrete poems from several countries. We can still add the important catalogue *klankteksten / ? konkrete poëzie / visuele teksten*, edited by Liesbeth Crommelin for the Stedelijk Museum of Amsterdam, in 1971, which assembles works of 140 authors from several countries, and it also includes a record, “Concrete Sound Poetry,” containing works of nine poets/performers: Chopin, Dufrêne, de Vree, Cobbing, Novák, Jandl, Heidsieck, Hanson, and Johnson. Within a deeper approach, Clüver identifies eleven international anthologies of concrete poetry published between 1965 and 1970 (33, 54n1).

Concrete poetry, for instance—according to the “Pilot-plan”—intends to speak the language of a new era. Confronted with the technical scenery of industrial society—the new patterns of non-verbal communication, the advertising language and the billboards—the poem should get rid of the “metaphorical alienation,” in order to be projected as an object in itself, and not as an interpreter of exterior objects or feelings more or less subjective. In this context, the industrial poem/object intends to communicate its own structure, considering the relations between the words, in an optical and acoustic organization which leads to a visual syntax (cf. A. Campos, Pignatari and H. Campos 156).

Practicing a poetry of brevity, of reduced construction, the constellational poetic configuration would become an harmonious combination, a logical disposition, a meaningful generating area, which can be seen as a strategy that stresses its tendency towards iconicity, in such a way that it leads to the dilution of the traditional structure of the verse. Consequently, the text displays mostly its visual features emphasizing the typographical spot of the text or, as Ana Hatherly (95) puts it, “the visual body of the text.”

We are then dealing with a poetics that promotes a distinct use of *the word*: at the morphological level, it is used as a sign, but refuses its usual meanings and assumes new ones motivated mostly from a sonorous or visual point of view, while, at a syntactic level, it questions the logical structure of traditional narrative language, creating a non-narrative linguistic area which shares its features with some non-verbal modalities of communication.

In this sense, experimentation can be seen as a contribution to overcome an eventual exhaustion of codes, reactivating them in order to create new mechanisms of meaning production, not yet depleted by the use. In this process of reinvention, the aim is to revitalize the verbal dimension of the word, as well as to enrich its capacity of producing meaning, by exploring the sonorous and visual dimension, but in a symbolic plan away from the mimetic representation.

Hence, the incidence upon this totality of the verbal material accentuates the intersemiotic character of this practice. The exploitation of the triple function (verbal, visual, and sonorous) of the elements of language, together with the negation of traditional syntax, and consequently of verse, implies a spatial syntax. In this context, reading can head for several directions, giving way to the irruption of multiple meanings, none of them prevailing over the others, so that the poems remain continuously open.

The influence of the cultural context can be detected in this typographical writing, since it can be identified with the mechanical and industrial ways of writing. Considered this way, experimental texts would reflect the depersonalization of press typographical writing (Hatherly 101).

In view of the prosecution of these goals, experimental poems reveal several composition methods and techniques, such as the atomization or pulverization of the verbal material, juxtaposition, agglutination, interpenetration, redistribution, cutout, among many others. By using many of the above methods, poets intended to assimilate poetry with the predominant communicational processes of their time, so that poems could be identified with quick, condensed, and direct messages, which characterize those processes (ads, slogans, titles...) and media (telephone, radio, television, and so forth).¹⁵¹ So, as the idea of communication was then (and nowadays even more) associated with speed and with the existence of effective media, experimental poetry aspired to accommodate itself to that model.

In agreement with this intention, experimental poetry would show a tendency to adopt procedures similar to those employed in mass media, placing literature in tune with the communication methods that were emerging at that time and providing it with an expansion to visuality, sound, and movement. This last intention was exploited mainly with the so-called kinetic poems, although print was, in this particular case, more a limitation than a fertile field.

Meanwhile, nowadays, a new instrument, the computer, originally intended only for the manipulation of numbers, has evolved into an instrument suitable for multiple forms of communication. A certain literary creation already existing in electronic environment emerges precisely from these new areas of application of the digital technologies, which begin to rival the previous technology, interfering with the monopoly of the printed book. Considering these conditions, it has begun to be possible to fulfill the program that Mallarmé, Apollinaire, and others delineated at the beginning of the twentieth century, when they imagined that, if the potentialities of the typographic devices were audaciously exploited, not only could a visual lyricism unknown until then arise but also give way to a certain synthesis of the arts.

151 On this subject, Jon Tolman says: "The modern urban consumer, accustomed by television and the newspaper to headlines and simplified syntax, has been conditioned to high speed communication. In the concrete aesthetic what functions, what communicates possesses artistic value" (161).

Experimental poetry can be seen as a step in that program, since it questions the primacy of writing by integrating extra-linguistic elements or even by creating without direct reference to verbal language. At the present time, the computer enlarges even more the field of possibilities, as it allows the production of variable and dynamic texts. Furthermore, it not only integrates time and movement as textual components but also, for the first time, through interactivity, it promotes a certain type of previously unobserved opening of the productive field.

Given the introduction of unedited parameters in the general situation of writing, such as the management of time, the interactivity and the change of essential aspects of production, diffusion, and reception, one might argue that there is a curious solidarity between experimental poetry and the possibilities the computer offers. However, we have to recognize that many of the operations that the machine provides could already be found in previous poetical practices: collages, automatic writing (such as the surrealist technique of the exquisite corpse), formal games, permutation, as well as the dream of a total poetry, synesthetical and multisensitive, that could become an endless collective text, a work-in-progress always eluding a final shape. Nonetheless, it seems undeniable that this horizon, determined by poetical experimentation, is in consonance with the universe of informatics, since the computer codifies quite easily this material composed by words, images, and sounds.

In this context, concrete poets, for instance, who evoked Pound as one of their fundamental influences, accentuated this fragmentation to a point where they drove the printed page to its limits, when they tried, with their experiments, to establish new relations between the reading of a text and our perception of the organization and control of its structures. Consequently, the topographical writing in the space provided by the computer represents a natural extension of their work. In this sense, one might say that a topographical writing mediated by the computer renews the innovative intentions of a certain creative writing. This allows us to sustain that some authors have already been writing in a topographical way, though still using print, a surface that is not the most appropriated to that kind of writing, which finds in the computer a more suitable support, as Bolter suggests:

[T]he whole tradition of experimentation needs now to be reconsidered in the light of the electronic medium, since each previous experi-

ment in print suggests ways in which writing may now break free of the influence of print. (132)

In this sense, works developed in computers, like those of animated poetry, may be understood as an extension of experimental poetry; they confirm that the adoption of new technologies makes possible a progressive expansion of the literary supports. This is also Kostelanetz's opinion, who explains that the small rectangular page does not have to be the only possible medium for poetic language (45). So, there should not be any restrictions regarding the media which can possibly incorporate literature. This is why other tangible materials, but also film, video, holography, or computers, can be equally valid supports for literature.

Considering this premise, we can maintain that today poets dispose of a large panoply of new resources for poetic invention. It is possible, with the help of software, not only to choose the lettering, to select the colors, to copy, modify, or paste images, but also to integrate shapes, sound components, perspective, and animation. Especially with the new tools of virtual reality, it is possible to create dynamic audiovisual poems, so that the bi-dimensional and static page gives its way to the tri-dimensional and dynamic screen. It is thus possible to go from the suggested movement of the illustrated words (the typogram) to the real movement of the computerized words (the videogram).

Making use of the new technological resources, experimental poetry found a space of potential renovation, but the same happened to most forms of experimental literature in general. So, it seems that we are witnessing a general "renovation of experimental literature."¹⁵²

Donguy and Balpe also defend that computers accentuate even more the notion of experimentation in poetry, since we now have to consider the exploitation of the potentialities of the machines in literary creation (Donguy 221, 226). This leads us to believe that current digital resources allow poets to fulfil the dream of "textual machines," formerly idealized in terms of intervention of chance (Mallarmé), automatic writing (surrealism) and strategies based on constraints (Oulipo, Cage). It was also the case of intermedial works, mixing texts, images, and sounds, as dadaists, futurists and, later on, concrete poets used to do identifying their work as "verbivocovisual."

152 For further information on how computers may equally be used to renovate verbal experimental literature, see Barbosa 181–8.

This is why we assert that the effect of innovation brought to literature by computers is relative, because writing and computers were associated in the sequence of former texts, which took place in the realm of printed literature and whose features were likely to be wider developed in the electronic environment. Moreover, these are the main features of electronic literature: the combinatory strategy, the use of space, the destruction of syntax, the depersonalization of the work, the expedient of chance, and the relative absence of orientation in the poetic structure, so that it may be (re)discovered and (re)invented every time.

In this way, the technological evolution of the late twentieth century comes out as a fertile field, not only for innovation but also for the adaptation and reinterpretation of principles formerly announced, seeking to unveil potentialities not yet revealed. Considering all this, we intend to reinforce the relation between experimental poetry and the digital medium because it seems undeniable that it is suitable for electronic treatment. As a matter of fact, reflecting this emulation, some concrete poets, for instance, have been interested in computers, creating digital versions of several of their poems, namely those which presented some suggestion of movement, that is, the kinetic ones, that we have already mentioned above.¹⁵³ This leads us, with Bolter, to point out the affinity between concrete poetry and computers:

[C]oncrete poetry too was an expression of the growing dissatisfaction with the medium of print in the 20th century. Concrete poetry too belongs in the computer; indeed, the computer makes possible truly kinetic poetry, a poetry in which letters and words can dance across the screen before the reader's eyes. (145)

Summing up, we defended here the thesis that today the mediation of computers gets us closer to a more effective fulfilment of aesthetic goals that were formerly pursued by experimental poets. In this background, a research team at Fernando Pessoa University—including my colleagues Rui Torres, José Manuel Torres, and myself—is analyzing and producing recreations of Portuguese experimental poems of the 1960's. These proposals, which are still works-in-progress, were solely completed, until now, by Rui Torres. They are related to a research

153 For example, an electronic version of Décio Pignatari's "organismo" (1960), with animation of Elson Fróes (1997), can be found in: URL: <<http://www.ubu.com/historical/pignatari/pignatari4.html>>.

project approved and financed by the Fundação para a Ciência e Tecnologia (Foundation for Science and Technology).¹⁵⁴

Beyond the adequacy of experimental poetry to electronic treatment mentioned above, with this work we aim to approach, and eventually enrich, for example, António Aragão's programmatic statement about his "poesia encontrada" ("found poetry"), included in the first issue of *Cadernos de Poesia Experimental*:

The two examples of "found poetry" that we propose here came from newspapers. They were taken from improvisation in the discovery of the look. The malleability of expression allows several readings, that is, several poems can appear within the same poem or a poem connected to another one or a different poetry reached by a different articulation. We provide a reading—one reading that we may find more adequate to a certain occasion and, in the manner of a transformable art, in collaboration with the receiver, we also leave to the reader the possibility of elaborating other readings, or of making, to a certain extent, his own poem. The reader will really be able to find another poem as long as he engenders other combinations, through a choice commanded by his spirit. For that he will use the process that he enjoys the most, manipulating the text in any sense or direction. (37)

In the present digital version, the source that generates words of different sizes is a list of words that belong to the original poems (in the future we may have small sentences). This software is based on a process of algorithmic distribution of elements in the screen. This leads to a visual display of words in the screen, which seems quite relevant dealing with the work of a poet who gave

154 From a pragmatic point of view, the aim of this project is to produce a CD-ROM for the divulgation of this poetry. Actually, some of the goals of the project include: to motivate new theoretical propositions and new didactic and research methodologies by reuniting theoretical investigation with the development of a hypermedia product; to contribute to protect literary assets that are progressively disappearing, creating an electronic archive of the magazines and supplements of Portuguese Experimental Poetry of the 60s; to freely distribute the CD-ROM in schools, universities, libraries and cultural institutions, creating the conditions to form new politics and strategies for the use of new technologies in the divulgation of poetry; to attain new and diverse publics, through free access to the contents of the CD-ROM, and Internet divulgation (<http://po-ex.net>); and to appeal to a younger public, proposing poetry readings by means of the new digital media which they understand and enjoy.

so much importance to the plasticity of the significant.¹⁵⁵ In the future, the texts can be fed, not by the words that appear in the original poems, but by fragments of news titles taken from online newspapers. Each execution of a “found poem” is unique and unrepeatably in visual terms, that is, it is a poem on only one page that is initiated by an aleatory procedure of displaying words on the screen.

In conclusion, experimentalism appears as one of the most fruitful areas when it comes to the overcoming the limits imposed by the theory of genre that seems to confine western literature. Moreover, the process of literary experimentation foregrounds the method of its own creation by searching originality in the composing methods. Given its intermedial nature, since it recurs to signs that are beyond the verbal dimension, we argue that it also seems very adequate to the new digital media, which gives us the opportunity to reinterpret and recreate experimental poems in electronic format.

155 The recreation in digital environment of Aragão's poem uses the code entitled Emotion.Fractal, developed by Jared Tarbel, using the Actionscript programming language. It is an open source program, meaning that it is available to anyone who wants to change it, transform it, and recreate it. It is available in <http://levitated.net/daily/levEmotionFractal.html>. Here we can read: “The Emotion Fractal is a recursive space filling algorithm using English words describing the human condition. Use the Right Mouse button to Zoom In to the fractal. Reload the page for an entirely new construct. Given a rectangular area defined by two points, that of the upper left and lower right corners, place an arbitrarily sized word anywhere within it. Further subdivide the remaining area into rectangles and repeat the process for each. The result is a region of space completely filled with increasingly smaller type. A limit on the depth of the recursive call exists in addition to reasonably limiting the size of the region to be filled (in this case, 8 square pixels or more). An exit strategy must always be formulated in recursive construction, or the algorithm will run endlessly until all available computational resources have been consumed. The actual word placed is randomly determined, taken from a predefined list of English words. I particularly enjoy this algorithm. One might say that the Emotion Fractal tells a winding tale of human experience personal to each observer.”

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FLASH SCRIPT POEX: DIGITAL RECODING OF THE EXPERIMENTAL POEM¹⁵⁶

MANUEL PORTELA

In this article I analyze digital re-readings of experimental poems contained in the digital archive *Po-Ex: Poesia Experimental Portuguesa - Cadernos e Catálogos*. This project, to be published online during the second semester of 2008, was developed by the Center for the Study of Informatic Text and Cyberliterature (CETIC) at Fernando Pessoa University (Porto, Portugal). I consider how experimental poetics is applied and transformed in the processes of electronic remediation of texts by E. M. de Melo e Castro, Herberto Helder, José-Alberto Marques, Salette Tavares, and António Aragão. While digital recreations redefine the source texts by means of specific programming codes, they also reveal the complex linguistic and graphical coding of the printed page.

1. The poem as writing and performance

Experimental poetry of the 1960's inflected the self-reflection characteristic of modernist aesthetics towards a critique of discursivity. This critique involved a double rationale: it was a critique of discursivity in poetic discourse itself, i.e., of the discursive modes of poetic production; and it was a critique of discursivity as part of the social modes of production of the subject and of a certain order of political representations of the real. Experimental, in this particular historical context, meant performing a critique of language both by means of combinatorial syntax and semantics, and by means of visualization and sonorization of the poem. Graphic, diagrammatic, and ideogrammatic materiality of spatialized signifiers on the page, and pictorial and sculptural three-dimensionality were constituted as specific poetical resources, thus redefining the materiality and form of the poem.

Stressing the acoustic, aural, oral, and gestural materiality means recovering the poem as temporal and temporary event. As an instance of writing, its visibility is made to imply a voice and a body in the body of the poem. Whether sound

¹⁵⁶ Originally published as Manuel Portela, "Flash script poex: A recodificação digital do poema experimental" in *Cibertextualidades*, Number 3, Edited by Rui Torres and Sérgio Bairon, Edições UFP, 2009, pages 43-57.

or visual, in these operations the text on the page reveals itself as mere notation or record of a poetic interpretation that has to re-enact itself again and again as a unique performance, which can only happen through specific and concrete acts of reading. And this is perhaps the particular contribution of experimental poetics: the combination of many of the modernist and postmodernist procedures (procedural writing, serialism, randomness, fragmentation of the signifier, critique of referential transparency, poetic self-referentiality, the poem as a sonic event, the poem as visual figuration, objectuality, intermediality, performative presence of reading in the poem itself) in order to investigate the conditions of meaning production in language, and of poetic meaning production in particular.



Figure 11—Antônio Aragão's "Poema encontrado" ("Found poem") (1964) (in *Caderno de Poesia Experimental* 1: 40)

The concrete poem is another specific instance of the experimental aesthetics of the 1960s. A concrete poem can be defined as a self-referential poly-sign that, through fractal self-similarity between graphic form and semantic form, seeks to enclose its field of reference in its own materiality. From this point of view, the concrete poem is the linguistic equivalent of abstractionism and minimalism in its desire to refer to its own objectness—even if the external contexts of words and graphical forms often make signifiers return to the space of social interaction from where they were isolated. Augusto de Campos is certainly one of the extreme practitioners of this abstract conceptualization that aestheticizes signifiers by enclosing the sign in the sensoriality of its graphic and typographic form, as if sign and referent could somehow coincide.



Figure 12—Sequence of digital recreations of Aragão's poem. Hipermedia version by Rui Torres (2006), using the open source programming language Actionsript, by Jared Tarbel

But there are, of course, other processes no less procedural, such as those that arise through random collage or through so-called found-poems. For instance, visual poetry made with pre-existing materials (extracted from newspapers, magazines, and other kinds of printed materials) works on the basis of a tension between the original meaning of assembled materials and re-signification obtained by re-contextualizing. In this kind of texts, unlike what happens in classical concrete poems, in which the text appears as an allegedly self-sufficient microcosm, signs retain their contiguity with the contexts of communication and discourse from which they stem. And this is one of the ways through

which discourse is represented within the poem, that is, as a ready-made capable of re-appropriation and critical recycling. The “Poemas Encontrados” [“Found Poems”] (1964) by Antônio Aragão are exemplary in the re-signification operated upon the language of newspaper headlines.

Two other formal and material features explain the apparent easiness with which many poems lend themselves to digital re-readings and recreations: their intermediality (or intersemioticity), especially their triple verbal, visual (both typographical and topographical), and sonic coding, which tends to associate voice and writing in grapho-phonetic forms; and their cinematicity, that is, the suggestion of graphemic motion. Spatiality and temporality are incorporated into the poem, thus sustaining a poetics of reading and language. By embodying this experimental poetics, texts show themselves as products of their own generative procedures, and of the particular perceptual and cognitive motions of reading. The text becomes the place of its own effects, which are structured in a series of intersemiotic echoes between the phonetic, the semantic, and the syntactic levels of verbal language, on the one hand, and of the representational and non-representational dimension of writing, on the other. Mimetic and expressive effects are displaced to the inside of language and of its codes and practices, calling into question the discursive modes of reference to self and world. A correlative of that type of metatextuality of writing is precisely the attempt to represent the materiality of reading in its neurological and mental motions. It is this awareness of reading and writing codes that gives digital properties to many experimental texts.

2. The uncertainty principle of hermeneutics

Digital re-readings of the experimental and concrete poetry of the 1960's were, in some cases, initiated by the authors themselves, as happened with E. M. de Melo e Castro, in the series “signagens” (1986–89), and with Augusto de Campos, in several poems in the 1980's and 1990's, and in the series “clip-poemas” (1999–2000). In these digital versions of texts originally made for books and exhibitions, multiple reading paths are transformed into animation sequences, which temporize the appearance and movement of characters, actualizing a set of combinatorial possibilities in the original constellation or textual algorithm. The text foregrounds itself as a performance of its own writing and of its own reading: once the text is animated, it becomes clear to the reader how the movement

of the letters-as-writing replicates in its own specific algorithm the combinatorial rules of language, and how the movement of the letters-as-reading embodies the physical and cognitive motion of interpreting a verbivocovisual notation. The reader experiences the materiality of reading and the co-dependence between meaning and particular semiotic and hermeneutic operations, which denaturalize pragmatic uses of language. Experimental poetics explores the probabilistic and stochastic nature of language for meaning production.

In his reading of *Ideogramas* (1962), by E. M. de Melo e Castro, Américo Rodrigues interprets the page-layout of words as musical notation, combining the reading of horizontal lines with the reading vertical columns in various iterative and repetitive patterns. The syntagmatic axis of syntactical association and the paradigmatic axis of lexical replacement, as structural properties of verbal language, become combinatoric and probabilistic operators of poetic sequences. On top of that vocal permutation, which is but one actualization of many possibilities offered by graphical spatialization, Américo Rodrigues freely inserts variations in sound intensity and variations in pace. By changes in register, tone and pitch, he emphasizes different intentions and emotions. Such iterations and reiterations define patterns and recurrences constructed by reading upon the entire semiotic ensemble formed by written signs, and by their typography and topology. Co-dependence between writing and reading is unequivocally clear in this exercise: reading recodifies writing through its own protocols, and through its enactment in a unique performance of the text, revealing signification as a single event resulting from the act of reading as a material and concrete act.

It is as if the notational function of notation were defined only after the fact, when the vocal interpretation gives it a sonic and emotional value. When written text consists solely of black dotted lines and blank spaces, what Américo Rodrigues does is to find pre-linguistic vocal equivalents that may be said to read dots, traces, and blanks. The relationship between dash/trace length and white space length works as individual notation for relative duration of sound emission and pauses, which are interpreted in a fairly free and improvised manner. Sounds are grouped by the speech organ's articulation affinities, with variations in increasing or decreasing respiratory rhythm and sound volume. The relationship of these changes with graphical variations is almost entirely arbitrary, since their vocalization has an internal order that re-signifies graphic marks, as if vocal sound preceded and originated graphical representation. Again, the convention-

ality and arbitrariness of the written sign depends upon an act of production and an intention that is produced through the act of reading as unrepeatability of a vocalization.

The voice rewrites the marks in the act of reading them. And this vocal exercise by Américo Rodrigues shows, in “Ideogram N° 1” as in the other ideograms in the series, the co-dependence between reading and writing: both the sound, and the meaning, seem to operate in a feedback loop between the form of textual reading and the form of textual writing. The interpretation gives meaning to the notation, and the notation gives meaning to the interpretation in ways that are always asymmetrical and inexhaustible. Thus notationality becomes a function of interpretability, and vice versa: the vocal repertoire co-extends the written repertoire. This seems to be the peculiarity of dissemination as the mode of meaning production of writing: the presence of the absence of meaning, which must be made present at each new reading, can only occur through the temporal inscription of the interpreter’s voice in the eventuality of its own interpretation. The sound recording, in its performative singularity, is an occurrence of the phenomenological co-dependence between reading and writing. It is as if the algorithm that determines the structure of the elements in the text remained incomplete without the combinatorial intervention specific to the act of reading.

3. Language as a generative machine

In the 1964 “A Máquina de Emaranhar Paisagens” (“The Machine for Entangling Landscapes”), Herberto Helder rewrites the *Genesis* by permutations and recombinations of words, thus suggesting the co-extensibility between creating the text and creating the world in the text, and showing metaphoric attraction as a form of creation of the world as a language. Words, in their metaphoric recombinations, display the mechanism of language, i.e., its limitless capacity for meaning transfer. The generative productivity of the landscape of language enables it to evoke the whole metamorphosis of creation from a limited set of interchangeable elements. The transformational syntax that sustains lexical re-combinations is a correlative of morphological variations of organic matter in the world. To reveal the genetic code of the poem is also to reveal the poem as self-replicative machine, capable of expanding and transmuting in accordance with its own program of instructions. In the digital recreation of this poem, Pedro Barbosa makes explicit

the algorithm for entangling landscapes, by using his automatic text generator 'syntex' for recombining texts from the books of *Genesis* and *Revelation*, and from texts by François Villon, Dante, Camões and Herberto Helder.

This means that he has formalized the procedure used in the original text and programmed it more explicitly: once the syntactic structures of sentences have been defined and word-classes have been assigned their position code within those structures, permutations and combinations can be guided by an algorithm that selects in a randomized sequence the words from each of the subsets and then inserts them into a syntactical string. Metaphorical attractions reveal themselves as the result of the genetic process of textual creation, less dependent upon a subject's intentionality as such than upon the iterability and productivity that is intrinsic to language, which, in a paradoxical way, materializes as the creator of the creation that creates itself. Thus, the self-replicative property of life can be recognized in the generative property of language. And it is precisely this mode of critical knowledge of language that developed out of the anti-expressive and anti-referential project of the experimental poem as verbal mechanism. Self and referent emerge as functions of language in its proliferative way of presenting and representing reality.

The double articulation of language explains its digital nature: it is the phonological machine-code that sustains, at the morphological, lexical, and syntactic levels, the system of differences that originates meaning. This revelation of the basic code of language in its written form is the compositional principle of "Homeóstatos" (1967), by José-Alberto Marques: graphemes contained in a single line, which may be either the first or last one in the text, and which repeat themselves in the same relative positions, appear as elements in other lexemes and morphemes, which in turn recombine at the syntactic and semantic levels. Self-replicative, self-referential, and recursive properties of the linguistic code are shown as similar to the possible permutations in electronic code. Much like the phoneme-grapheme, which generates an infinity of permutations, the machine-code sustains the semantic and syntactic level of programming languages. The generativity of both codes is evident in the digital version by Eugenio Tisselli, who uses Processing to make the letters disappear at each reading, which suggests homeostasis as a dynamic balance between signal presence and signal absence. José-Alberto Marques, as Edwin Morgan was doing at the time in similar poems, seems to demonstrate the double articulation of language as the way in which natural language is already digital.

In the digital version of José-Alberto Marques' 1966 poem "Dois fragmentos de uma experiência" ("Two fragments of an experience" 1966), recreated by Rodrigo Melo, the programming consists of highlighting the continuity of lines, in which letters are just a string without word-spaces. The possibility of reading—which depends upon spaces that mark beginnings and endings of words, and reconstitute syntactic hierarchies in sentences—seems to have become even more remote in this digital translation. Strings of letters run in opposite directions and at different speeds, making it impossible to understand more than a few fragments of meaning. The fragmentariness of the original experience, whose non-representability was emulated both in the continuity of unspaced text and in the difficulty of deciphering caused by the lack of spaces between words, is now translated into the undecipherability caused by the motion of letters. The anxiety of experience as fragmentary representation is experienced in the motion of the text and in the movement of reading a text in motion. The reader is not only at a loss in isolating words and in remaking phrases and sentences, but he/she cannot help but to experience the incessant motion of the very language with which he/she tries to make sense.

The recreation of "Mapa dodeserto" ("Desert map"; 1966), by E. M. de Melo e Castro, in a version by Rui Torres, and Actionscript code by Jared Tarbel, also suggests the permutational processes of linguistic structures. Each set of letters permutes with all the other letters of the alphabet until lexicalized forms appear, i.e., forms that are recognized as words in the dictionary. Thus represented, the combinatoric potential of alphabetical writing (as graphic translation of phonological permutations) makes it possible to understand the genetic code of language and the possibilities for replication and mutation capable of generating new words. The permutations are timed and pre-defined, but they also allow for an interaction with the mouse cursor: by clicking on a letter a new sequence of letter permutations is triggered. Permutations only stop when letters vanish or when a lexicalized string is formed, suggesting that the word, i.e., the pair signifier-signified, is a temporary stabilization of the permutational flux inherent in the language code. Replication and transformation are the two main consequences of such generative property, with sequences appearing and disappearing consecutively. This is mapping the genome of language with the probe of writing, in what may be described as a digital extension of one of the principles of experimental poetry: the co-extensibility between world and poem, which produces the

real as the real of the poem in the poem, i.e., of the linguistic and graphic forms that realize its mode of existence and signification.

In “Edifício” (“Building”; 1962), by E. M. de Melo e Castro, the digital re-reading by Rui Torres and Jared Tarbel represents the potentiality of form through the potentiality of a structure under construction. Its ideogrammatic structure, which evokes reinforced concrete (in the original paper version), is transformed into a dance of materials in search of form: to the iconic similarity between graphic structure and referent, typical of the ideogram, the digital version adds an image of the structural potential of structure as a combination of materials and materialities. Cement and iron, paper and printing, electronic screen and animation. Kinetic translation of a static layout turns the movement of reading contained in the original text into an actual motion of signs. It also introduces coalescence between the materiality of materials, which offers a sensory perception of the fluidity and arbitrariness of structure as hypothetical construction. Such flow is also the fluidity made possible by multiple re-inscription on the same space, a feature of the electronic writing space. The building of writing is emulated by the potential of drawing for the invention and manipulation of forms. As in other animations of experimental poems, decisions for animating certain textual objects seek to make more visually explicit the process of writing as a live act of thought and as prosthesis for the imagination.

4. A random and automatic galaxy of signifiers

The digital dimension of language and alphabetical writing as generative devices is also foregrounded in the two digital recreations of António Aragão’s “Poemas encontrados” “Found poems” (1964), authored by Rui Torres, Jared Tarbel and Nuno Ferreira. As re-readings they are, at the same time, analyses of the procedure for composition implicit in the original, and an occurrence of reading as algorithmic procedure of recombining signs. The original “Poemas encontrados” (1964), while they contain a reading, are also a rewriting of a first writing, which exposes the social nature of language in this poetic appropriation of the graphics and semantics of fragments of phrases or words found in the press. The text by António Aragão consisted of a collage of headlines from newspapers, which point to the infosphere as social and political space of collective representation. The random collage of those headlines seems to refer to the alienating effect that

seems to make readers and writing strangers to each other at the very moment of their encounter. To (re)find those pieces of text as a poem is to be confronted with the proliferative materiality of language as it manifests itself in the written press. It is to see again its signifying materiality outside the reading protocols of newspapers and of their mode of production of a daily agenda. By doing this, these “found poems” also expose the unspeakable in the public space of the 1960s Portuguese press: the lack of political freedom.

The two digital recreations adopt different strategies, both of which stress the timed and temporal condition of writing in the periodical press. The randomized combination of printed headlines on the pages of periodicals is performed, in one case, by means of animation, in Actionscript code by Jared Tarbel, on a set of pre-defined words and phrases. Typographical differences in face, size, and style, as well as the progressive overlapping of white letters on black background, across different areas of the screen, emulate the indiscriminate collage of titles in the original. Instead of digitally recreating the original forms and phrases, what is recreated is the compositional and procedural principle of aleatoric combination of a pre-defined set of words and sentences. In the second instance, the Actionscript code by Jared Tarbel works in conjunction with PHP programming by Nuno Ferreira, and with RSS feed in real time from online editions of several newspapers and sites—*Público* (Portugal), *Jornal Folha de São Paulo* (Brazil), Google News Brazil, *New York Times* (U.S.A.), *Jornal Folha de São Paulo* (Brazil)—v. 2, *Jornal Expresso* (Portugal) and *Jornal La Vanguardia* (Spain). The combinatorial collage of newspapers’ headlines has been applied to the current online press, using the RSS tools and the language of web pages to build a mechanism for real-time digital collage—a device that is able to produce “found poems” through this particular sort of algorithmic procedure. By displacing the particular historical content and historical reference of the original collage, this digital recoding de-contextualizes and breaks the chains of meaning that bind text and context, a move comparable to the one occurring in the original. Indeed, this is one of the main effects of the collage by António Aragão: original sentences and references have been abolished, or they remain only as a distant echo, since the poem has broken the markers of discursive cohesion and coherence that ensured their pragmatic function in the context of origin. Its signifying emptiness, that is, its potential for meaning is embodied in the arbitrary network of relationships between words and sentence fragments, which continuously overlap and repeat

in different scales and at various points of the screen, resembling statistical clouds of occurrences.

Once the program has run, the final layout resembles the graphical space of the “*Poemas encontrados*” (1964) by António Aragão. In the meantime, the reader has been able to observe the formation of constellations of news fragments in an automatic process that delights in the randomness and automatic nature of the final result, an entirely contingent and temporary effect of an iteration of the program’s code at a particular moment, and from a particular corpus of textual sources. Even more so than in the text by António Aragão, meaning appears as an accident of reading and of its processes for filling in spaces and ellipses, and establishing links that are at once unique and patterned. Such links, however, have lost the hierarchy characteristic of newspaper or poem, i.e., they’ve lost the whole function of producing discursive cohesion and coherence. They emerge rather as live wires of semantics and as chaotic appearances of the proliferation of writing in a world saturated with letters. The black background represents the negative space from which an almost illegible galaxy of signifiers emerges—a galaxy that algorithmically re-constellates the original analog collage, and makes the generative process the very meaning of the text.

This is, incidentally, a materialization of the distributed and web-like nature of digital materiality: the fragments that make up the text, like the addresses of files in computer circuits, have to be transferred and reassembled from multiple servers in accordance with the hardware and software properties of the machine that presents them. The automatic feeding of headlines from news sites—which, in turn, is over-determined by the code that generates the graphic layout of the transferred textual fragments—also refers to the materiality of distributed electronic reproduction as a machine for “finding” poems. The semi-determined nature of the graphic and linguistic output, which can be printed, means that this second digital version of the original poem is ergodic and interactive, i.e., a work whose final instantiation depends on an intervention by the reader, which is unique and temporary. Like other digital works, the introduction of temporality into the writing occurs at two levels simultaneously: as a pre-defined timing in the source code and as the temporality of acts of reading that respond to newly generated text. Time of writing and time of reading gain material expression in textual animation/generation and in the interaction with the animation/generation mediated by the mouse cursor.

This textual engine gives the reader the possibility of seeing the combinatorics of text generation, and understanding how this process is a function of the automated tools of electronic writing. And this is perhaps the fundamental difference between the original text by António Aragão and its digital recreations. In the first case, the random combination of words and phrases found in the press still hosts the mark of the historicity of the particular act of the subject that “found” them. In the second case, the association is generated by a randomized programmed procedure, whose historicity seems alien to the human subject who activates its generation, as if the text were constructed independently of his/her participation. And this is, in effect, one aspect that resists conceptualization in the phenomenology of electronic hypermediation: the semi-automatic nature of text generation, although subject to decisions that affect its enfolding, appears to offer the text as a kinetic spectacle, disconnected from its interpretive remediation by a reader. Considered as a reflection on the nature of writing and reading, the experimental poem located the dissemination of meaning in the relationship between semiotic intervention and hermeneutic intervention, drawing our attention to visibility and topographicality as textual markers, and therefore as particular sets of reading instructions. In this respect, digital recreations seem to depart from a poetics of reading, typical both of ideogrammatical texts, and of collage- and assemblage-based texts, because automation sometimes diminishes the self-consciousness of reading.

5. Kinetic rewriting of the visual poem

The use of kinetic properties of electronic writing for rereading and rewriting experimental poems makes visible the operations performed by programming code upon the graphical code that configures language in visual and concrete poems. In electronic remediation of the printed page, the digital recreation of typo- and topographic markers usually consists of projecting a sequence of movements onto the constellated poem. These motions frame the printed text constellation as either final, or initial, or even intermediate frame within a sequence of other related frames. The original layout enfolds as a storyboard for animation, that actualizes through specific sequences the multiple reading paths featured in the spatialized field of signifiers, which the eye follows from point to point, exploring various motions suggested by the radial distribution of letters and

words. The hermeneutic potential of the original text, that is, the interpretive possibilities arising from the proliferation of paths for reading a topological space, is converted, by means of animation, into a new semiotic set.

This conversion of hermeneutic space into semiotic marks presupposes the conversion of an act of reading (for example, eye movements that connect letters or words along certain paths) into an act of writing (the explicit presentation of that perceptual and mental linking as a property of the kinetic sequence). This rewriting, in turn, is poised upon an intersemiotic translation, which involves, among other things, implementing operations characteristic of film codes (definition point-of-view, shots, cuts, angles, zooms, travellings, etc.) that stand for (and transform) the original graphical code. This re-visualization of the visual text also implies a geometrical shift from the paper plane to the screen space. The bi-dimensionality of printed writing makes way for the tri-dimensionality of electronic writing: to the x and y axes of the paper sheet, we have to add the z axis of the third dimension of electronic space. In this process of transcoding the experimental poem, it is the electronic space itself that opens up as a laboratory for forms released from paper. Certain self-referential and self-similarity operations can now be worked with reference to the new electronic environment.

Let us take a look at the digital recreations of “Transparência/Oblivion” (“Transparency/Oblivion”; 1964), a poem by E. M. de Melo e Castro, digitally redesigned by Rodrigo Melo; “Hipopótamos” (“Hippopotamus”; 1964), a poem by Herberto Helder, digitally recreated by Rodrigo Melo; “Poemas em f” (“Poems in f”; 1964), by Salette Tavares, recreated by Rodrigo Melo and Pedro Reis; and “Algarismos Alfinete” (“Numbers Pin”; 1964), by Salette Tavares, recreated by Rui Torres and Jared Tarbel.

In “Transparência/ Oblivion” (1964), the procedure is to build a kinetic narrative, of which the original visual text becomes a kind of compressed version. The letters first appear and distribute themselves according to the spatial axes of the paper version, but they soon extend beyond that grid as they accumulate and become denser all over the screen in order to suggest a rapid explosive expansion and the shrapnel scattering after the blast. The phrase “a pax evita a explosão” (“pax avoids explosion”), which was set along axes parallel to the scattered letters, has now become the culmination of the sequence, offering in a much more explicit way its pacifist message as textual closure. Narrative sequencing of elements that were simultaneously present on the plane of the printed paper page is, in some of

digital recreations of printed visual poems, a factor that reduces the diagrammatic complexity of the original.

This reduction of combinatorial possibilities works, to some extent, as a hermeneutic action that performs a particular interpretation on a complex set of verbal and visual signs. Perhaps this explains why these recreations also present themselves as re-readings: in many cases, they are actually exercises of electronic interpretation applied to written/printed texts. In other words, what we see on the screen is not only the potential of electronic tools as a new way of writing, but also what these tools reveal about the ways in which the visuality of written language and of bibliographic codes produce meaning.

In the recreation of “Hipopótamos” (1964), the exercise of separating letters, needed to read the original text, is mediated by the mouse cursor - which allows the reader to speed up or slow down the circles of text, and to move them back or forward. This is a frequent digital trope in the rewriting of printed visual poems: the physical movement of reading is transferred to the movement of the text itself, and the cursor is made to perform part of the work of the eye by acting upon sets of signs in order to make them legible. The motion of writing and the motion of reading emerge as co-related and co-dependent movements.

In both poems by Salette Tavares, the layout of word lists is set in columns: in “Poemas em efe,” they have to be read in several directions, and they come in various typefaces, sizes and styles; in “Algarismos Alfinete” there are two directions for reading, and a single typeface and type size. In the digital version of “Poemas em efe” (1964), the movement of words starting with f has been set along a diagonal axis, with relative variations in speed causing multiple and overlapping patterns and several patterns of movement, which suggest the phonic, semantic, and graphic attractions of the original combinations. The typographic contiguity between groups of words that are distributed along horizontal and vertical axes, which form subsets in the original text, is turned into web-like and radial contiguity. Their animated motion enhances the relations of contiguity between any one element and the other elements in the set. Any act of reading this digital text reflects its random recombination of words, by forcing the reader to fix his eyes at random on a particular element. Although it lacks some of the play with the graphic materiality of the letter f in the graphic layout of the original, this recreation brings digital materiality to the fore: the

kinetism of words on the screen is the inter-semiotic equivalent of the topographicality of the static printed arrangement.

In the digital version of “Algarismos Alfinete” (1964), the original words have been radially reconstelated in a way that suggests three dimensions, emphasized by differences in size and tonal shade of characters, with words superimposing each other in four or five successive plans. The words are pre-programmed to increase in size and to move continuously towards the forefront of the picture until the extreme close-up falls outside its framework. Besides this kinetic and cinematographic effect, the reader has the possibility of clicking on one of the words, which automatically causes it to move to the central area of the screen, dragging with it the remaining word constellation. Both effects (radial distribution and reconfiguration of the three-dimensional position on the set when one element is brought to the center) perceptually convey in a more powerful way one of the effects of the original: the perception of the coexistence of words in a network of phonetical and lexical affinities, often indicated by their common origin. If in reading print the eyes are moving between each of the words, and momentarily demoting or erasing the others, in reading the digital version the co-presence of the network of constellated words remains, when the eye moves to the word that functions temporarily as the central focus for reading. The movement of the text towards the screen activates peripheral vision and does not allow the eye to isolate the word where it is momentarily fixed from the others surrounding it.

This means that the original effect of decentering, which presented words as a kind of musical-lexicon score, is emphasized in this animation, in which each word appears as a link in a web of language without center, at the same time de-centered and re-centrable from any one point. The first and last planes may change their respective positions in a loop with neither beginning nor end.

6. Coda-ex

Digital recreations of *Po-Ex* seem to make clear that releasing poems from paper and from books (chapbooks, catalogues, etc.), i.e. from bibliographic coding, is not so much a way of pointing to the limitations of the printed page as it is a demonstration of the astonishing complexity of its topology and of the semiotic and hermeneutic effects of that topology. In fact, certain digital recreations fall short of the signifying potential contained in the paper text, thus helping to discard the

false dichotomy between the linearity of one medium versus the multi-linearity of the other. Considered as a critique of poetical codes, the experimental poem rightly sought to augment its knowledge of the specific materiality of graphic and linguistic mediation, i.e., of the media by which meaning becomes possible in the body of the poem. Being a technology for writing and reading, electronic tools extend this research through self-awareness of the semantic effects of their specific modes of mediation.

In digital recreations of visual and concrete poems we can see the relationship between a reading function, which reveals the complexity of the graphical source-code on page, and a rewriting function, which explores the potential of the computational source-code. If some properties are directly derived from the first, others are specific to the formal operations of electronic digitality. It is through that dialectical relationship that we can reassess the prospective value of the experimental poem as anticipation of a new technology for writing and as an exploration of the digital properties of natural language. In other words, it is not only digital technology that allows us to reread the experimental texts: experimental texts also help us in thinking the specificity of digital mediation in its intrinsic intermediality and generativity.

“Concretus” (2002), a digital work by Tiago Gomez Rodrigues, is one of the best demonstrations of the digitability of the concrete poem, that is, of the profound relationship between computer codes and printed-page codes. In these works we can see digital recreations as an extension of the machinery of writing and print, and as a renewed engagement with the complexity of reading acts.

Experimentation with the codes of writing and reading, a central feature of the experimental poem of the 1960s, and experimentation with a new technology for writing and reading, characteristic of electronic literature in recent years, occur in the context of a deconstructionist reconceptualization of writing and reading, for which both poetic practices continue to contribute. More than mere repository, the digital archive *Po-Ex: Poesia Experimental Portuguesa—Cadernos e Catálogos* (*Po-Ex: Experimental Poetry Portuguese Chapbooks and Catalogues*; 2008) should be understood as part of the ongoing process of research into the experiences and codes of signification. This digital recreation of experimental poetics is a remarkable contribution to that process.

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Operação 1. Edited by E. M. de Melo e Castro. Lisboa, A. Aragão [et al.], 1967. 25 f. em capa própria : il.; 51,5 cm. Contains—cartazes [posters]/ António Aragão; Alfabeto Estrutural [‘Structural Alphabet’]/ Ana Hatherly; 10 sintagmas [‘10 syntagms’]/ E. M. de Melo e Castro; 9 homeóstatos [‘9 homeostates’]/ José-Alberto Marques; 4 epithalamia/ Pedro Xisto

Visopoemas, exhibition catalogue; Lisboa, [s.n.], 1965. Galeria Divulgação, Lisboa, opening 2/1/1965, with the participation of A. Aragão, E. M. de Melo e Castro, H. Helder, Barahona da Fonseca and Salette Tavares. «Concerto e Audição Pictórica» was a performance that happened in the Gallery exhibition room on 7/1/1965, with the participation of Jorge Peixinho and Mário Falcão.

Suplemento do Jornal do Fundão, Supplement “Artes Letras” special issue, E. M. de Melo e Castro, Lisboa, s.n., 1966, 4 p.

2. Digital recreations

“Poemas Encontrados” (António Aragão). Recreation by Rui Torres, Jared Tarbel and Nuno Ferreira.

“Dois Fragmentos de uma Experiência” (José-Alberto Marques). Recreation by Rodrigo Melo.

“Mapa do Deserto” (E. M. de Melo e Castro). Recreation by Rui Torres and Jared Tarbel.

“Transparência/Oblivion” (E. M. de Melo e Castro). Recreation by Rodrigo Melo and Pedro Reis.

“Hipopótamos” (Herberto Helder). Recreation by Rodrigo Melo (Continuum).

“Edifício” (E. M. de Melo e Castro). Recreation by Rui Torres and Jared Tarbel.

“Algarismos Alfinete” (Salette Tavares). Recreation by Rui Torres e Jared Tarbel.

“Poemas em efe” (Salette Tavares). Recreation by Rodrigo Melo (Ferrugem).

“Ideogramas” (E. M. de Melo e Castro). Reading by Américo Rodrigues.

“A Máquina de Emaranhar Paisagens” (Herberto Hélder). Version in Sintext, an automatic text engine by Pedro Barbosa, based on code by Abílio Cavaleiro.

“Homeóstato” (José-Alberto Marques). Version in Processing, by Eugenio Tisseli.

“Concretus,” by Tiago Gomez Rodrigues (from the ideograms «Tontura», by E. M. de Melo e Castro, «Aranha», by Salette Tavares, and «Cascata», «Cubo» and «Esfera», by Tiago Gomez Rodrigues).

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ABOUT THE AUTHORS

Pedro Barbosa (1950-). Born in Porto, Pedro Barbosa is Bachelor of Arts (Romance Languages Philology, University of Coimbra) and Ph.D. in Communication Sciences - Semiotics (New University of Lisbon). Barbosa has taught and conducted research at various universities in the Portugal and abroad: Faculty of Letters of the University of Porto, University of Paris X (Nanterre), University of Siena (Italy), and University Louis Pasteur (Strasbourg). At the University of Strasbourg, with Abraham Moles, he developed research in the field of computer-generated art. Former Professor at the School of Music and Performing Arts of the Polytechnic Institute of Porto, and former Invited Professor at the University Fernando Pessoa, he was the founder and director of the Center for Computer-generated Texts and Cyberliterature (CETIC) at UFP. Major works of theoretical nature include *Metamorfoses do Real: Arte, imaginário e conhecimento estético* (1995), *A Ciberliteratura: criação literária e computador* (1996), *Arte, Comunicação & Semiótica* (2002), and *Ciberliteratura, Inteligência Artificial e Teoria Quântica* (2012). His dramaturgical work includes *Eróstrato* (theatrical rite, 1984) and *Alletsator - XPTO.Kosmos2001* (electronic opera, 2001). His work with cyberliterature, pioneer in the field of computer use for text generation, includes *A Literatura Cibernética 1: autopoemas gerados por computador* (1977), *A Literatura Cibernética 2: um sintetizador de narrativas* (1980), *Máquinas Pensantes: aforismos gerados por computador* (1986), *Teoria do Homem Sentado* (livro electrónico) (1996), and *O Motor Textual* (livro electrónico infinito) (2001).

E. M. de Melo e Castro (1932-). Born in Covilhã, Melo e Castro graduated in Textile Engineering from the University of Bradford, England, in 1956. He was a teacher at IADE (Institute of Visual Arts, Design and Marketing). He was also a visiting professor at the Pontifical Catholic University of São Paulo and at the University of São Paulo, Brazil, where he obtained his PhD in Literature in 1998. With Ana Hatherly and José-Alberto Marques, E. M. de Melo and Castro was one of the initiators of concrete poetry in Portugal, participating in the first number of the magazine *Experimental Poetry* (1964) and helping organize the second number (1966). His poetic practice has been accompanied by a systematic theorizing on language and on communication technologies. In his extensive work, multiple practices and experimental forms intersect: graphemic and graphic explosion that combines the fragmentation of the word with the spatialization of alphabetic writing and geometrical drawing; three-dimensional object-poems and installation; intermedia recombination of writing, sound, and the moving image; performance, that inscribed the body, the vocal and the gestural presence of the author in the social and technical communication practices; the theorization of the poem as a critical discourse in a media-saturated universe. His awareness of technical mediation in the electronic era is reflected in a number of pioneering works that use video and the computer for literary production, and which constitute a synthesis of the self-reflexive awareness of contemporary science and art. Among his many works of poetry: *Queda Livre* (1961), *Mudo Mudando* (1962), *Ideogramas* (1962), *Objecto Poemático de Efeito Progressivo* (1962), *Poligonia do Soneto* (1963), *Versus-in-Versus* (1968), *Álea e Vazio* (1971), *Visão/Vision* (1972), *Concepto Incerto* (1974), *Resistência das Palavras* (1975), *Cara lh'amas* (1975), *As Palavras Só-Lidas* (1979), *Re-Camões* (1980), *Corpos Radiantes* (1982), *Finitos mais Finitos* (1996), and *Algoritmos: Infopoemas* (1998). He also published several anthologies, including *Ciclo Queda Livre* (1973), *Círculos Afins* (1977), *Autologia: Poemas Escolhidos 1951-1982* (1983), and *Trans(a)parências: Poesia I, 1950-1990* (1990). His essays include: *A Proposição 2.01* (1965), *O Próprio Poético* (1973), *Dialéctica das Vanguardas* (1976), *PO.EX: Textos Teóricos e Documentos da Poesia Experimental Portuguesa* (1981; with Ana Hatherly), *Literatura Portuguesa de Invenção* (1984), *Projecto: Poesia* (1984), *Poética dos Meios e Arte High Tech* (1986), and *Vãos da Fénix Crítica* (1995). He is the author of several video-poemas, including *Roda-Lume* (1969, 1986), *Signagens* (1985-1989), *Sonhos de Geometria* (1993), *Navegações Fractais* (2001), and *Gerador de Universos* (2005).

His most recent production, from Brazil, includes *Antologia Efêmera* (2001), *Livro de Releituras e Poiética Contemporânea* (2008), *Neo-Poemas-Pagãos* (2010), *Quatro Cantos do Caos* (2009), *O Paganismo em Fernando Pessoa* (2010), *A Agramaticidade das Feridas do Coração* (2011), and *Poemas do É* (2012). He has held several solo exhibitions since the 1960s. His work was the subject of a retrospective organized by the Serralves Museum of Contemporary Art: *The Way to Lightness* (2006) and, more recently, the exhibition *Do Leve à Luz* in the cycle “Nas Escritas PO.EX”, in Coimbra (2012), where he has presented 14 new videopoems (2009-2012).

Ana Hatherly (1929-). Born in Porto, Ana Hatherly has a bachelors' degree in Germanic Philology by the University of Lisbon, graduated in film techniques by the International London Film School and has a PhD in Hispanic Studies from the Golden Age from the University of California at Berkeley. Between 1981 and 1999 she was a professor at the Faculty of Social and Human Sciences of the New University of Lisbon. Her vast body of work includes poetry, fiction, essays, translations, performance, film and visual arts. She is represented at the Center for Modern Art of the Gulbenkian Foundation, and at the Museum of Contemporary Art of Serralves, Porto. She coordinated the magazines *Claro* (1988-1991) and *Incidências* (1997-1999). Part of her estate is deposited in the Archive of Contemporary Portuguese Culture of the National Library of Portugal. Ana Hatherly joined the group of poets that organized the issues of the *Experimental Poetry* magazine (1964, 1966), and authored or co-authored some of the programmatic texts of the movement. Her work highlights the assimilation of some characteristics of the international experimentalism of the 1960s, notably through the spatialization of the word and the calligraphic exploration of the relationship between drawing and writing, dealing with great versatility different genres, forms, and styles. An intense self-reflexivity is visible in some of her cycles of parodic permutations, in the developing of new textual forms such as essay-poems and micronarratives, and in the deconstruction of a feminized subjectivity. Attention to the visual and gestural dimensions of writing is evident in both the series collected in books, as well as on the drawings and collages, or even in movies and poetic actions that she has performed. Her academic research has decisively contributed to a revised reading of the Baroque poetry in Portugal and to the knowledge of the history of visual poetry. Some of her works include *Anagramático* (1970), *Mapas da Imaginação e da Memória* (1973), *O Escritor, 1967-1972* (1975), *A Reinvenção da Leitura: Breve Ensaio Crítico seguido de 19 Textos Visuais* (1975), *Poesia, 1958-1978* (1980), *O Cisne Intacto: Outras Metáforas - Notas para uma Teoria do Poema-Ensaio* (1983), and *Escrita Natural* (1988). In the field of the history and theory of visual poetry, she has published *PO.EX: Textos Teóricos e Documentos da Poesia Experimental Portuguesa* (1981, with E. M. de Melo e Castro) and *A Experiência do Prodígio: Bases Teóricas e Antologia de Textos Visuais Portugueses dos Séculos XVII e XVIII* (1983). She had a retrospective exhibition of her artistic work at the Modern Art Centre of the Calouste Gulbenkian Foundation: *Ana Hatherly: Obra visual, 1960-1990* (1992). She

is also the director of the films *The Thought Fox* (London, 1972), *Spaghetti Time* (London, 1972), *C.S.S. (Cut-Outs, Silk, Sand)* (London, 1974), *Revolução* (Lisbon, 1975), *O Que É A Ciência* (Lisbon, 1976), *Música Negativa* (Lisbon, 1977) and *Rotura* (Lisbon, 1977).

Sandy Baldwin, PhD, New York University, is Associate Professor of English and director of the Center for Literary Computing (CLC) at West Virginia University. He teaches and researches on electronic literature, digital writing, computer games, new media, and digital humanities. Under Baldwin's direction, the CLC has become widely recognized as a research center, with a particular focus on digital writing and electronic literature. The CLC has participated in more than one million dollars in externally funded research, including grants from the NEH, NSF, British Council, and other agencies. Baldwin's essays on new media, electronic literature, and digital humanities are widely published and cited. His most recent book is *The Internet Unconscious*. He is co-editor of *Computing Literature*, published in an agreement with the WVU Press, the only academic book series devoted to scholarship in electronic literature. He is co-Editor of *Electronic Book Review*, one of the oldest all-online peer-reviewed journals of criticism. He is also Vice President of the Electronic Literature Organization (ELO), the leading organization promoting and studying literature as it develops on the computer and in networked environments. His artistic works include two published volumes of codework (text/computer code hybrids), hacked computer game mods used for poetry, political agitprop theater in MMORPGs, and a decade-long collaboration with the artist Alan Sondheim exploring performance and embodiment in virtual worlds.

Manuel Portela is Assistant Professor with Habilitation in the Department of Languages, Literatures and Cultures, University of Coimbra, where he is Director of the Doctoral Program in Advanced Studies in the Materialities of Literature. He is a researcher at the Center for Portuguese Literature at the University of Coimbra. He was also a team member of the research project “PO-EX ’70-’80: A Digital Archive of Portuguese Experimental Literature” (University Fernando Pessoa, 2010-2013), and he is the principal researcher of the project “No Problem Has a Solution: A Digital Archive of the *Book of Disquiet*” (University of Coimbra, 2012-2015). He is the author of two scholarly books: *Scripting Reading Motions: The Codex and the Computer as Self-Reflexive Machines* (MIT Press, 2013), and *O Comércio da Literatura: Mercado e Representação* [*The Commerce of Literature: Marketplace and Representation*] (Antígona, 2003), a study of the English literary market in the 18th century. He has translated many English-language authors, including works by Laurence Sterne, William Blake, and Samuel Beckett. In 1998 he received the National Award for Translation for the Portuguese translation of *The Life and Opinions of Tristram Shandy*.

Pedro Reis is Associate Professor at Fernando Pessoa University (Oporto, Portugal) and Head of the e-Learning Department UFP-UV (Virtual University). He is co-founder of Centro de Estudos sobre Texto Informático e Ciberliteratura (Centre for Computer-produced Texts and Cyberliterature Studies), and researcher of several financed projects. His main research interests are Experimental, Concrete, Visual Poetry; Digital Literature; Humanities Computing; and E-Learning. He developed a Post-Doctoral Research Project on e-Learning with the cooperation of the Instructional Technology and Distance Education (ITDE), Nova South-eastern University (NSU) (Florida, USA). He is currently collaborating with the IAEA (UN, Vienna) as consultant on e-learning and Educational Technologist. His publications include “e-Learning in the Portuguese Educational Context” in the publication *Trends and Issues in Distance Education: International Perspectives* (Lya Visser, Yusra Visser, Ray Amirault, Michael Simonson eds., Charlotte, North Carolina (EUA): Information Age Publishing) (2012), “Freeware authoring tools for the creation of e-contents – Current experience” (2011), “Generational gaps in school learning: Digital natives and digital immigrants” (2011), “Primórdios da poesia em computador – anos 60, 70 e 80 do século XX (2011), “Collaborative learning in Higher Education – the use of wikis in language classes” (2009), “Emerging Issues in Instructional Design” (2009), “Portuguese Experimental Poetry – Revisited and Recreated” (2009), “The Sakai Collaborative Learning Environment: Current Experience” (2008). He has lectured in Portugal, Sweden, Ireland, USA, France, Brazil, Spain, Holland, Italy, Senegal, Germany, Ghana, and Austria.

Rui Torres graduated (1995) in Communication Sciences (UFP, Porto), and is M.A. (1999) and Ph.D. (2002) in Luso-Brazilian Literature (UNC -Chapel Hill, USA), was a Postdoctoral Fellow (2005-07) with a scholarship of the Foundation for Science and Technology (COS - PUC-SP, Brazil) and completed his Habilitation (2013) in Information Sciences - Multimedia Studies (UFP, Porto). He is the director and editor of the journal *Cibertextualidades*, member of several editorial boards and scientific committees of academic journals, and has many publications: books, chapters, articles, and other media, mostly about literature, communication, and experimental and electronic literature. He is also an author of electronic literature, with poems published in anthologies, collections, and CD-ROMs. His creative work was studied in theses, dissertations, books and articles. He has participated in funded projects as Principal Investigator (PO.EX70 - 80 - Digital Archive of Portuguese Experimental Literature; and PO.EX CD-ROM: Portuguese Experimental Poetry, Books and Catalogs), as well as a Member (FLUENT, speech practicing tool for European languages). He is a member of the Board of Directors of the Electronic Literature Organization.

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