

The Virtual Poetry Domain

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ABSTRACT

This is a summarized review of what has been done in Argentina in these last years around the development of virtual reality three-dimensional texts, with the intention to "graduate" (in its semiotic meaning) the VR field in respect to those *intrinsic* codes that could be produced therein, and with the help of the future *Aided Creation Programs*.

General Terms

Experimentation, Languages, Theory.

Keywords

Artificial Brain, Cyberspace, Poetry, Semantic Fields, Virtual Reality.

1. INTRODUCTION

Two circumstances exist which seem to challenge the supremacy of *hypermedia* (*hypertext + multimedia*): on one hand, we have *three-dimensional interactive simulations* generated by professional virtual reality (VR) systems; on the other, systems endowed with *intelligent processing*. The former constitutes maybe one of the worthiest contributions made by computer science in order to determine environments that are parallel to our real physical world. It is known that computer developments change at a rapid pace, forecasting with certain clarity the inevitable destination to which they are literally rushing: the breakup of the *abstraction techniques* of the general physical properties of the represented —applied inexorably to the precarious original systems that suffered severe restrictions in compute execution. That is to say, the perfect *concrete* simulation of all those objects or processes transposed into the virtual space of the machine —honoring any intrinsic profile of each event to transpose. Also, VR not only results in benefit of a more realistic access for displays, trackers, sensors, etc., to *representations* of material entities *sustained* in the artificial

environment, but rather, and fundamentally, it offers the invaluable possibility of manipulating *objects without factual equivalence*, ideal entities decidedly developed due to the existence of that support. And here is where the *poetic function* will intervene with enormity in fact for the *design* of events that respect neither natural laws, the processes that they impose, nor those solutions extremely often applied in cases of other previous supports.

The particular way of connection for which hypermedia is arranged is far from becoming at least a basic model for the development of intelligent strategies for data processing, in the order of the *semantic* information that they transport —possibly because it is not able to become a favorable model for the representation of the system of information processing in the human brain. The point here is that the production of texts¹ in the same artificiality could not be reduced in any way to a question linked exclusively to the morphological or syntactical aspects; it is not only a syntax what in the particular case of the digital poet he/she will have to produce.

Therefore, semantic concern of the contents that are driven in new media should be present. This situation, referred to the necessity of implementing intelligent systems able to administer semantic information, has already been noticed for some time by numerous researchers, institutions and even companies that have begun to elaborate diverse answers due to guide another type of resolatory dynamics that overcomes the model imposed by hypertext and, by extension, hypermedia. Here we could point to the following good examples: developments made by Dr. Paul S. Prueitt, at the George Washington University, on *computational intelligence* based on *semantic spaces* and *theme vectors*; *semio maps* introduced by Semio Corporation; the notion of *multidimensional semantic space* like a *constellation of attractors* experimented by Hinton, Plaut and Shallice; automatic techniques of conceptual and semantical evaluation and also of *aesthetic understanding* produced by the Machine Understanding group directed by Dr. Kenneth Haase in the MediaLab; and so on.

Undoubtedly, thought someone could be annoyed by this situation, we are thus positioned in an era of *transition* between our physical or factual reality and that artificiality or logical-synthetic reality that will have to be added to this physical

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¹ In the general semiotic sense —not only verbal— as «result of the coexistence of various codes or at least of various subcodes». Eco, Umberto, *A Theory of Semiotics*.

reality. This unique circumstance allows us to distinguish principally that the radical change in the nature of the support *as has never happened in the history of humanity*—the acquisition of the role of *agent*— and the events that will be generated thanks to it, make us face the challenge and the responsibility to *create* and to *permit the advent of languages that could be of its own*. This involves the process of emission, the brand-new substance of messages, the way of reception, feedback and recreation, the institution not only of codes but of new mechanisms of discernment of those codes, the design of an effective critical theory which fits the virtual environment and that will replace the old-fashioned statements of a philosophy already inoperative for it, the new estate that will gain the human intelligence and sensibility with regard to a system of creativity *shared* with the machine, and so on. This irruption furthered by the digital technologies of simulation (either for *environments* or *behaviors*) forces us to evaluate very seriously the imminent emergence of an n-dimensional virtual world, accessible through all our senses, hyperconnected, intelligent, endowed with artificial life... in brief, what is called the *global information circuit*. It also means that thinking today the future aesthetic production in terms of animations, hypertexts, videos, multimedia, etc. is to miss the target. Our animations or videos will be a little bit related to what will be generated therein; link-node hypertext and multimedia will never be the techniques that emulate the complex processing of signs performed by the human brain, but this kind of processing will be integrated completely to the system in a potential *artificial brain*, with resources like, for instance, a powerful artificial handling of semantic fields, emulation of neuronal circuits and their advanced procedures for signic administration, the possibility of understanding of the diverse functions of language by the artificial entities and the resulting sudden and automatic development of the work by their own will, among others. For this reason, we say that techniques and computing devices that we have today are in some way coarse approaches, simple advances toward that global information circuit. We are conceiving recently the bases of new languages, exploring a relatively small number of properties of only one approach to that new medium. So I believe that what we should never overlook is that all these concepts together with many others will be integrated into that future environment and is only there where they are going to stand out, now as the execution of those preferences that have been conceived through the *Virtual Poetry* proposal (VP or vpoetry) and, very especially, by its implementation in cyberspace.

2. VIRTUAL POETRY

Starting from my experimentation with diverse visual and sound works generated by computer² and the production of non-

² Particularly, the *Sequence on the Madí Logo* of 1986, a performance that consisted in a recreation of a Gyula Kosice's poem using digital synthesis of voice, together with the exhibition on a monitor of three-dimensional images created by means of a photocomposition by Grete Stern.

representative or *madí* poetry—for example, in *Estiajes*³—, I would begin to observe progressively the existence of problems tied, on one hand, with the concept of *information* and, on the other, with the possible structures of the cerebral organization entrusted on the recognition of a text like a poetic one. These matters dealt by the Argentinean semiologist José E. García Mayoraz appealed to me particularly⁴, and they induced me to incorporate *calculus* as an integral part of the process of poetic composition (visualization of values of entropies—null memory source and Markov—, informations, efficiency and redundancy...) and to foresee it as the initial link of a chain that should culminate in a complex system of attendances to creation.

The new singularities highlighted by the manifesto of the TEVAT group⁵ become as the more immediate complement of the work made in *Estiajes*. I'm referring especially to all those facts related to: (i) the identification of codes in the interface of immersion of the VR equipment, (ii) hyperstructures of language in n-dimensional spaces, (iii) vectorial analysis of the semantic fields in systems that simulate the cerebral activity, and (iv) practice of the creation in cyberspace, always trying to institute codes in that medium. These factors together with the previous ideas facilitated the development and the later presentation during 1995 of two projects of extraordinary importance for the expectations of the TEVAT group as a prospective movement. *Art Criticism in Cyberspace* [2] by García Mayoraz—we will focus on it later—and in my case, the necessity of assimilating the digital simulation technologies to a project of poetical creation in cyberspace that surpasses the use of current computing devices and that let me integrate my diverse precedent experiences, would give me the opportunity to formulate, at the beginning of the same year, a proposal that I entitled: *Criteria for a Virtual Poetry* [1] [4], given the relationship expounded at first between poetic creation and VR environments.

Virtual poetry would have to be a precise answer from the field of poetical creation to a digitalized world that already referred us in an almost permanent way to Internet, telepresence, nanotechnology, computed animation, cyberspace, etc. Hence, I recognized in its respect three primary characteristics: behind the indispensable conjunction between human creative work and the use of *electronic media* that has enormously widened *all fields of work*, providing extremely valuable tools for the development of ideas, the entire creative process must progress in the virtual space offered by the machine. Then I said also that *digital world*, which deeply differs from any physical, real or analogical realization, bases its preeminence on the *numerical* character of the elements that it admits, and on the possibility of

³ Verbal work composed with around 3,700 words, formulating *consignas* (independent tracks like *modular objects* that could be added by chance or choice).

⁴ Especially after having become aware of his work *Entropía/Lenguajes*, Buenos Aires, 1989.

⁵ For "Time, Space, Life, Art, Technology" in Spanish. Launched in Buenos Aires during the first semester of 1994, receiving the adhesions of the aforementioned García Mayoraz, the prominent artist, poet and theorist Gyula Kosice, and myself.

openly fixing correlations between virtual space, objects and subjects, as no other medium has yet allowed. Lastly, I adverted that the application of digital computers has not only made possible the access to a *custom-definable* virtual space or to a large series of algorithmic operations, but also it has fundamentally inaugurated an *essentially different* field, for which it is necessary to produce *new languages* which will give birth to a *new aesthetics*. Consequentially, virtual poetry would result after an intimate linking to these three primary qualities: virtual space, its digital nature and the conception of events private to that medium. Toward such effects, *virtual poems* or *vpoems* would be interactive digital entities capable of integrating themselves in—or rather being generated within—a *virtual world* (here called *Virtual Poetry Domain* or *VPD*) through software or routines (for the development of VR applications and real time exploration) that confer on it diverse modes of manipulation, navigation, behavior and alternative properties, evolution, sound emission, animated morphing, and so on; and being experienced by means of partially or fully immersive interface devices.

The opening of the VPDs to the telecommunications networks will facilitate the execution of *virtual teleportations* of subjects toward VP based computers (anywhere on the planet or in physical space), achieving a remote, simulated and exploratory experience of "reading". This kind of network connection from any computer to that established as the base of the system, will permit to share the domain with whoever puts on any visualization interface, wires to it and takes at least a "cyber-reading-tour". You could move about the domain by gesturing with your data-glove or with any other analog device, viewing the texts as they are rendered with the information stored in the VP computer. You could interactively specify "flyby" paths so as to "float" above the vpoems to "read" them from many angles, reaching out to "touch" them—using forcefeedback devices—, and so on. This sort of wired process by means of Internet is not available yet because of the narrow bandwidth of the net, but undoubtedly will be in the next years, since the field of VR and the Internet are rapidly expanding.



Figure 1. Some semiotical resources used in virtual poetry.

Faced with the usual graphic 2D interfaces that current hypermedia systems possess, accessible through superimposed "windows" or "pull-down menus", such access will be contemplated through "sub-spaces" within the VPD, to which it will be necessary to turn with the goal of running a set task or execution. This permits the introduction of a large series of special attributes which will support a highly innovative practice of creation and design. These attributes could be grouped under the proper domain and under the virtual objects that occupy the synthetic space that the system generates. For example, an attribute that characterizes the domain would be the availability of tools of creation and editing of entities capable of receiving instructions and/or acquiring the group of data required through gestural codes (for example, manual) and sound (through voice recognition), replacing the traditional methods by written verbal commands or even icons accessible with 2D pointing devices. In the case, now, of the attributes or operations that affect the constituent elements of the virtual work (see Figure 1), we could mention, for instance, the *linking* functions that send to or call from other text sectors related to some kind of syntactic, semantic, or other mark (known as *associative memory*, in which a *fragment* recovers the *whole*). This behavior fires off an opening of text similar to the complex typical branching of the Global Semantic Universe. On the other hand, the forces (*attractions*) pulling on a sign unit relocate it in space such that it makes manifest with its repositioning the links that act simultaneously in any of its profiles and that the usual syntactic order represses. *Multiple derivations* propitiate the text to branch off into several paths that are continued simultaneously, producing double or triple units, superimpositions, and so on. Also certain resources related to a *spatial semiotics* (folds, separations, rotations, etc.) could concur to reinforce meanings. *Chains of references* allow to discharge a sequence of signs that are linking successively each other from one of them that acts like a beginning, remitting us to almost every document that resides in cybernetic space. This wide list of functions could be continued.

Mentioning virtual poetry today already imposes a full agreement with the idea of a digital domain inside which not only the tasks of recognition or reading are carried out but mainly those of the creation or composition of works themselves. Speaking today about a virtual poetry implies a relationship with a platform of design of the poetic phenomenon that emulates the readiness of resources of our real world in its interface (as for its three-dimensional operating functions), as well as offering approaches to intelligent processing that assist and suggest the immersed subject with creative intentions, new routes, and unexplored fields, not avoiding quantifications when these are necessary. At the same time, he/she is offered methods of probabilistic evaluation of the different instances confronted, advanced semantic operations, rules or functional laws conceived "on the fly" by the user and applicable to different particles defined in the text, empirical strategies to optimize the resolution of certain difficulties in the composition, and so on. Also, since they are complex algorithmic objects and processes, or attainable by means of associated *neuromorphous* circuits⁶,

⁶ Electronic circuits with a highly parallel architecture designed according to current knowledge of neuro-physiology

these virtual systems will have series of tools at the disposition of those who will visit them, able to make operations inconceivable in our natural world and/or signic treatments only comparable to those produced by the human brain. In short, all this permits the specification of very elaborated strategies of composition.

One could also conceive of the existence of supercomputers that centralize the activity of these digital domains or systems, as those we have mentioned in the present work, providing something as well as a public service of attendance to creation in which all the activities of information production are developed in an *integrated manner*, allowing for the renovation and updating of the materials it contains, seeing that the process of gestation, emission, reception, critique and feedback of messages *must take place inside it, without any transposition to external media* —which lighten the burden of the "specific weight" of that which was digitally conceived.

Clearly, that primary demand of a purely digital system of creation and all this group of characteristics which qualifies the proposed system —and which we just revised—, its particular type of interface, will permit, as a final consequence, an extremely intuitive and extensive semiotical development of *universal texts*, in which units coexist coming from numerous languages, codes and syntactical systems, conceived from the most diverse continua, that is to say, texts integrated by verbal units but also sound, visual, kinetic, spatial, tactile, smell, gustatory, thermal... ones. This happens in the *overall* processing of information in the human brain, in which a large number of network routes are activated through neuronal connections, showing evidence of the competition of *all signs*, whether from a more removed field, which for some reason or another is linked to the entity that initially enters cerebral "space". Only this has been the ultimate and more valuable goal of that first demand: the construction of a digital system that ensures that *all the signic phenomena* may participate in an *integrated* and *interconnected* structure similar to that of the human brain, with the appreciable advantage of its disposition open to the telecommunications networks. This is the way VP got planned, in this second instance, beyond hypertext and around an intelligent processing that would allow a truly *living organism* which, being open to interconnectivity, would evolve uninterrupted toward all-embracing strata of high information.

3. ART CRITICISM IN CYBERSPACE

Art Criticism in Cyberspace by García Mayoraz, work in whose realization I was fortunate enough to participate, had been proposed in order to put into evidence that in virtual spaces all creative process, especially poetic one, could be accessed and visualized through a veracious approach to the cerebral signic phenomena that determines it. Kosice's poem *Primer Agua* (First Water) provided him the opportunity to propose this work and, at the same time, to show digitally the behavior of the *Vectorial*

morphology, endowed with functions of overall computing, not sequential, characteristic of integrated neural networks.

*Semantic Fields*⁷. The work illustrates the process of formation of a single sintagm belonging to the aforementioned poem. The object of making explicit such a process of formation, now under the model of the vectorial semantic fields, was to advert about the possibility to possess, already inside digital virtuality, this kind of analytic appreciation as a substantial part of the same creative process. This visualization in virtual space of the diverse stages of signic development of a work is just an *explanation* in the same terms in which that development takes place. That is to say, the same development of the work is either the process of production or its own explanation or *criticism*. «All creation in cyberspace —says García Mayoraz— involves in its own mechanism the reception of the same signs with which it is going to operate, in such way that writing [or authoring] and criticism have no other destination than to progress in an unified path, doing the same things. At the same time the artist carries out the work he/she is also showing how it is produced, in some way he/she explains it —if we could say so (...) In other words, we now discovered that in cyberspace criticism is already constituted in the own phenomenon of production of the artwork» [*Introito a la Crítica de Arte en el Ciberespacio*, personal communication], since the proposed system of aided creation in cyberspace, to which the same artist will be a constituent part, will be able to allow the visualization of the signic development of the virtual work at *the same moment* in which this is carried out, «having there a medium totally superior to those of his/her own isolated media».

For the complete digitalization of the process of formation of the chosen sintagm we agree —continues García Mayoraz— «in assigning spherical forms and arbitrary positions inside the represented brain to these semantic fields, to achieve a didactic outline that was dynamic (...) And although the true semantic-dynamic domains possess other forms, those chosen for this work allow the adoption of many intradomain conditions of interest like, for example, the *Hamming* distances [or code distances], which here appear highlighted by means of trunk-conical bites extracted from the spheres. The representations of the sememes in the form of prisms, and their semes, like hemitoroidal protuberances stuck to them, are much more arbitrary, of course; the sintagms, therefore, had to be "little trains" of prisms» [2].

The work concentrates in a single semantic nucleus (see Figure 2), the sintagm: <porque la gota es una miríada oblicua> (because the drop is an oblique myriad). Located in the semantic field *Primera Agua* (First Water), diverse sintagms of the poem are identified as carrying the *a priori entropies*, that is to say, the elements that having already been incorporated in the text generate almost something alike to a certain propensity for the determination of any posterior expression. The entrance of the diverse sememes that form the beginning of the chosen nucleus is followed almost immediately by the most probable vectorialization, the one that has produced the appearance of the sememe <mirada> (look). We can also see how the field of *the*

⁷ A theory expounded in his book *Entropía/Lenguajes* and presumably confirmed later by Geoffrey E. Hinton, David C. Plaut and Tim Shallice in their studies of language in the brain, published during 1993.

structures, that manages syntactic aspects, participates; we can do this through the observation of the diverse sectors in the virtual representation of the brain. But here, when all indicators would let us to foresee the formation of the sememe <mirada>, element <↳> arises and seems to interfere, precipitating the process toward the chosen lexia: sememe <miriada> (myriad). If we analyze what happened in the proximities of the semantic field *Kosice-discurso del agua* (Kosice-water discourse), in which the field *Primer Agua* is certainly contained, we can individualize several more semantic fields that tried to obtain for themselves the sememe <miriada> which advanced toward the *Kosice* field. In this way <miriada> was attracted simultaneously and in a vectorial form by diverse sememes that belong to diverse fields due to the semes they share. The vectorial composition that prevailed (according to the forces and directions that the vectors that represent the "weight" of their semes show) precipitated the sememe <miriada>, defeated minor attractions of the other fields, into the field *Kosice-discurso del agua* and in particular into the semantic field *Primer Agua*, with the consequent addition of <miriada> to the proper sintagm.

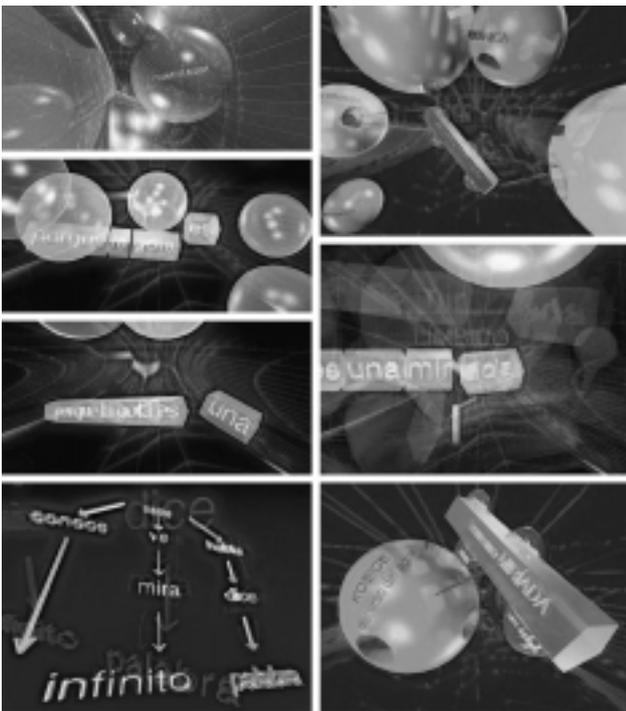


Figure 2. Art Criticism in Cyberspace digital animation stills.

A similar process to which we just described is developed after the approach of the sememe <oblicua> (oblique) to the sintagm formed previously, finally promoting its annexation. Following the resolution of the struggle the appearance of the *a posteriori entropies* takes place, suggesting the continuity of a process necessarily more extensive and intricate that the one expounded by the following of only one sintagm. Nevertheless, it is useful as it makes ostensible this class of analytic mechanism, which

an aided creation system like the one proposed in these pages will have. Additionally, this dynamics of progression of an electronic text starting from the vectorial semantic fields and the processes of attraction that take place therein, have been incorporated as a constituent part of the same vpoetry —this is the reason why I believed it would be convenient to show them in this context.

4. EVOLUTIONS IN VIRTUAL SPACE

Illustrative material that accompanies the text should be considered as a mere demonstration or —if you prefer— a visual approach to the system, applications and works that would rise into the present proposal of a digital domain used for the poetic creation in cyberspace. These practical examples included in 3D digital animation videos, still images and VRML models (see Figures 3, 4 & 5) have been conceived fundamentally in order to illustrate how some of the functions to implement could be. They show, of course, some aspects concerning a mainly verbal formulation of language (that is to say, alphanumeric), although certain visual attributes appear subsidiarily, and in these concrete demonstrations, no sound attributes. It should be understood that this circumstance is merely transitory. In this initial or starting implementation we preferred to limit us to those basic verbal or signic functions, as the specific functions that the project could manage will be added and will evolve progressively and with no delays, since the architecture of the system allows it with no trouble.



Figure 3. VRML of the Vpoem 12 c at lpgyori.50g.com.

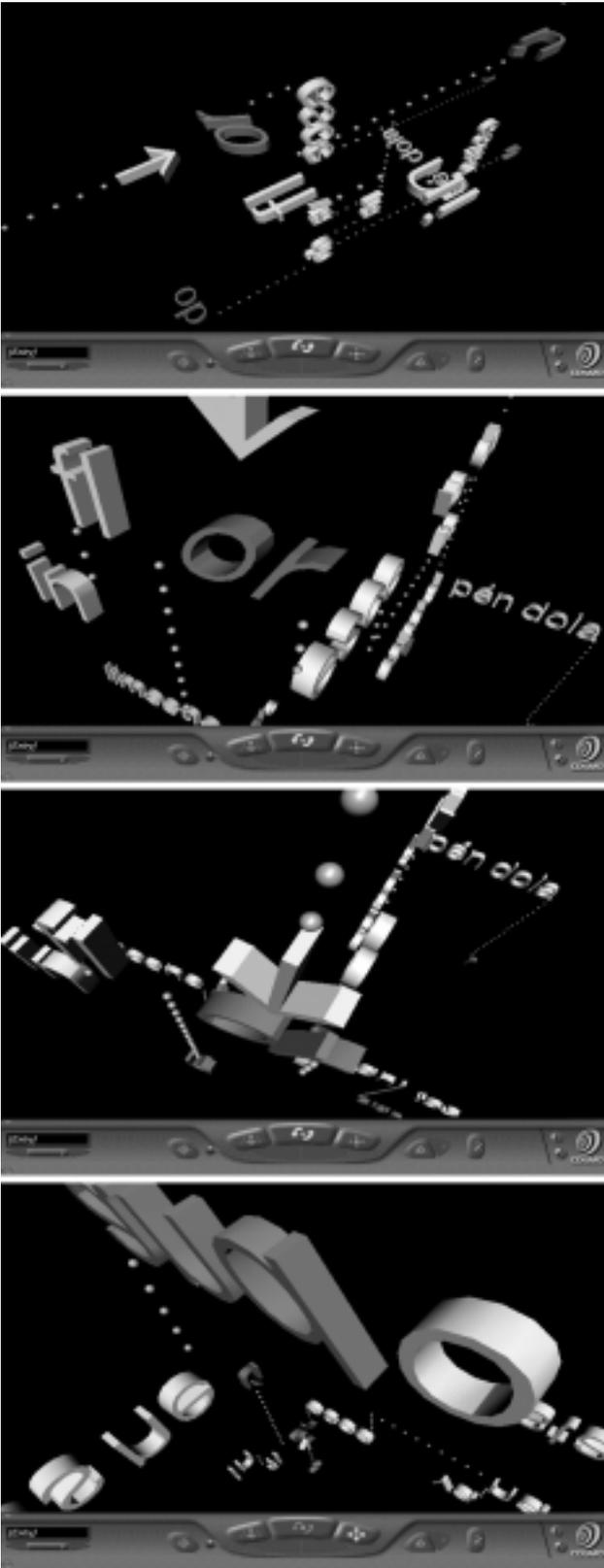


Figure 4. VRML model of the *Vpoem 13*.

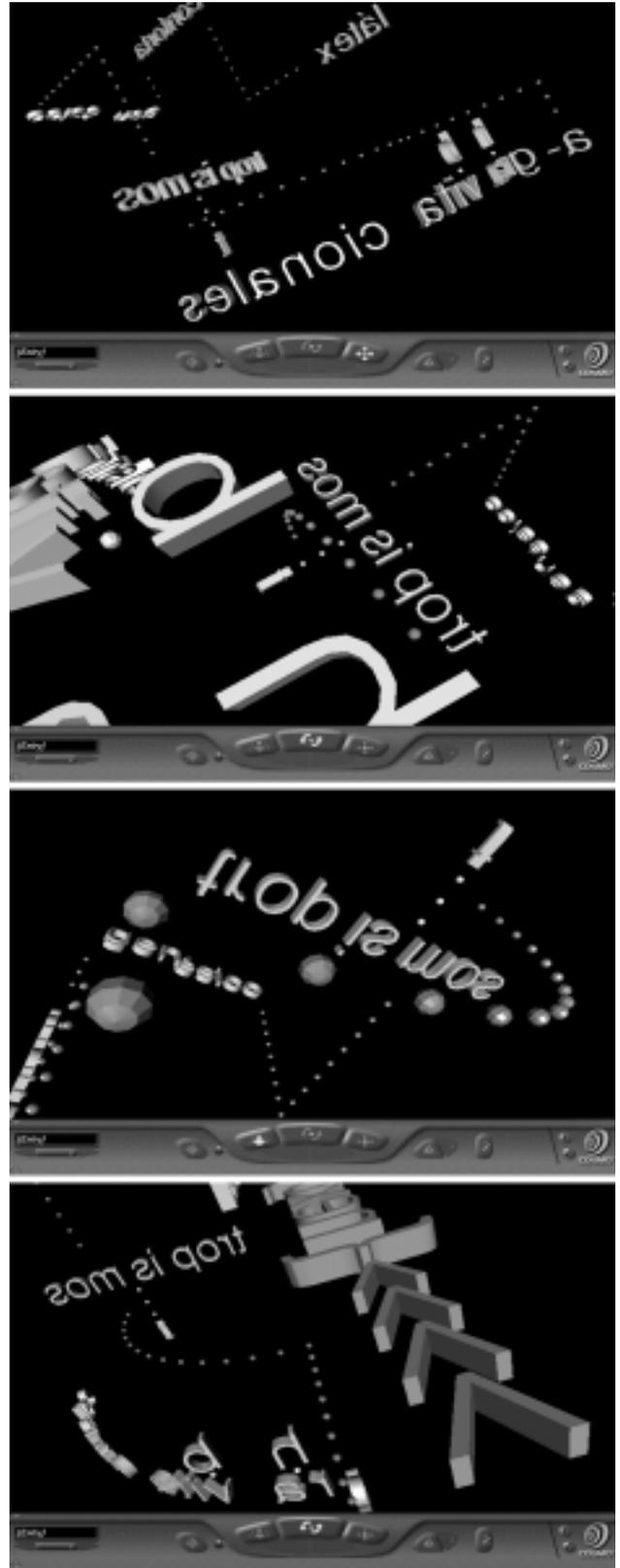


Figure 5. VRML model of the *Vpoem 12 c*.

Vpoem12 (1995) begins its evolution in virtual space by briefly introducing its components, while it reveals diverse profiles during its formulation: after the appearance of <terri.torio> particle, there is an attraction of a nearest field over <torio> (thorium), causing an opening toward some properties related to the classification of chemical elements. Then, the original root works resolving the formation toward <territori (a) lidad>, folding the <o>. The appearance of <hema-> radical considers simultaneously the particle <tíe> and the linking with <globina> by means of the use of the double vowel, producing a singular spatial disposal of the group. The <men> block, at the other hand, leaves <fulgen predicamento> attracted by the block <espéci-> which comes into the space of composition, being shared by both particles. <rectriz> acts between *a* and *b* areas like a nexus. The "recording" symbol attracts the block <rec> showing with its new location that signic connection. Also, from the original composition there is a separation into two groups: a remainder one and another which tends to order itself establishing an alternative structuring. Foldings, separations, the general variability of the composition... reinforce visually certain relations among signs, generating an arrangement which extends largely on 3D virtual space, assuring, therefore, a structural diversity, appreciable during a "flyby" (see Figure 6).



Figure 6. *Vpoem 12* - A closer "flyby" over *area-a*.

When *area-c* is reached, signs reveal a distribution connected with dots, remarking specially a certain aperture at <a-gra-vita>. By coming within a specified distance to the block <vita> a link

to the {2} section of *Vpoem11* is triggered, due to the morphological coincidence with <vita.minoide>. By coming back to the top of the *area-a* another link occurs. It relates some elements of the periodic table—in this particular case, by their boiling points— getting to *Vpoem13* at <vanadio> (vanadium). The little module established as a base of the *vpoem* shoots up with a chain of references—to electronic concepts, non-linguistic elements, and so on—and connections that abruptly spread the primitive structure, generating a complex body of non-linear meanings that can be crossed and circumvented (see Figure 7).



Figure 7. *Vpoem 13*.

Another animation video also shows the evolutions of *Vpoem14* [3], simulating certain characteristic behaviors of the digital domain of works. It is interesting to observe how semantic marks are detaching from the diverse terms involved and how different signic attractions intervene. They drive the composition progressively toward new *zones* of significance. And I say "zones" in total agreement with the concept of semantic non-linearity, in the sense of engendering interconnected zones of free traveling in the associative fields (see Figure 8).



Figure 8. A section of the componential tree of *Vpoem 14*.

The notion of "place" —present in <displacement>— opens and closes practically the composition. From the beginning terms like <deformation>, <wreckage>, <disorder>, etc., appear, suggesting a tendency toward a sense of maximum disarrangement. Conversely, starting from <flowage>, that contains <deformation>, the particle <stock> arises through the block <solid body>. This particle belongs to <stockade>, that means a "progenitor of a family line", from which will come off, later on, the sememe <genetic>. And, simultaneously, that same particle will generate a second path that will drive mainly to <scoriae>, <fragments> and <pulverized>, in order to consolidate a state defined with the detachment of the particles <cor> and <e>, of the anterior <scoriae>, that become <core>, opening up to <seminal>. That is to say, both branches of the evolution of the vpoem head *semantically* to <matrix> in order to finish in <placenta>, what, in turn, have been promoted or attracted *morphologically* by the block <place> (see Figure 9).

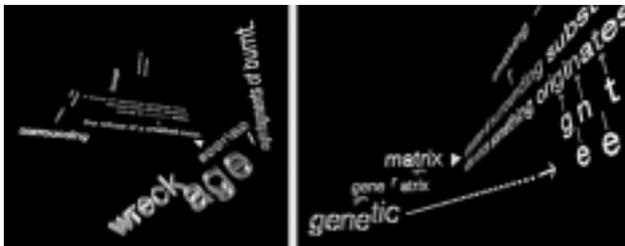


Figure 9. Vpoem 14.

In short, it is really hard to summarize in a linear or sequential text of this kind the alternatives of a process that is neither linear nor sequential, because is compounded by diverse simultaneities and transiencies. This difficulty possibly is not other than a practical demonstration about how limited is the technique of linear writing, inside a fixed format, in order to realize certain phenomena that are developed in a virtual space —multiple and alterable. I should recognize that the same technique of digital animation should overcome significant problems in order to confront this task with scant success.

Of course, this could not be otherwise, since what are showed here plans to be a technique of composition *characteristic* of an environment in which the mechanisms of expression of the work are very different. In the animation diverse events are exhibited successively when they have to happen simultaneously so the immersed subject could observe it by displacing him/herself inside virtual space, and in the way he/she believes more convenient, so as to achieve a multiplicity of perspectives. In this same animation many other probable alternatives for the development of the text were cut. All this happened in this way in order to achieve some degree of intelligibility in the frame of that digital animated demonstration. Digital domain of works emphasizes this problem of intelligibility since there it is much more crucial, for the simple reason that diverse simultaneous events are executed in a multidimensional environment and in an order that is not or should not be that in which our habitual experience is developed.

5. FINAL CONSIDERATIONS

It's likely that global artificiality will bring about, within the system of arts communication, the almost simultaneous accomplishment of the roles of *emission* and *reception* in each human individual, as well as motivate the intervention of artificial intelligent entities with capacities to propose and receive events with aesthetic content, namely, events with high information. In other words, the problem generated by the emission of an artistic event produced by a human creator and the posterior reception by a public also human, will be replaced, in some degree, by a new situation generated through a *bidirectional* exchange, and *under certain conditions of equality*, between a human emitter-receiver and an artificial emitter-receiver. This new communicational process will be consolidated due to the structuring of data managed by these artificial entities which will be quite similar to the reticular disposal that facilitates the human cerebral processing. This means that the communicational process that will flourish in the artistic field (starting from the new human-machine relationship that we are foreseeing here) will be able to activate events that will also be conceived as a consequence of the action of those artificial entities, and starting from phenomena of the most diverse orders: verbal, sonic... in an *imbricated* and *cohered* way, as in fact happens in the human brain. What will have to be complemented with the fact that artwork won't be a closed object or process any longer, but rather, will evolve unceasingly and *on its owns*, endowed with a kind of *artificial life*, regardless of whether a human executioner participates or not. All these considerations allude to an extremely firm linking between the production of texts with poetic function and the digital technologies of simulation, to such a point that today poetic work can expect, in fact due to this linking, to be converted in one of the fundamental instruments for the development of the *original* languages of the very near global artificiality. Also in one of the few basic profiles that are required considering a next implementation of systems endowed with *understanding* and *common sense*, like the *Project GMG* of artificial brain ("the thinking machine") that will be shortly started at the National Technology University (UTN) of Argentina. The fact that poetic production, therefore, should end up relating in such a radical way to the artificial generation of human cognition, and, as a counterpart, that this simulation not only requires but rather could establish a method of simulated poetic production, this mostly implies that in a medium term poetic work will be a shared task between human individuals and artificial entities, always inside that virtual environment or domain that we have sought to discover in these pages. A creative task shared with and aided by these artificial entities in the same cyberspace.

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