PRESENCE IN THE MINDFIELD:
ART, IDENTITY AND THE TECHNOLOGY OF TRANSFORMATION.

The conference looked at art as behaviour of mind, embedded in the physical world, but articulating its immateriality. Just as institutionalized art, with its tired orthodoxies of instruction, production and distribution, is challenged by the new technologies of knowing and perception, so our sense of self - its singularity and authenticity - is open to reconstruction and reinterpretation. In his assault on identity and authorship, the great Portuguese poet Fernando Pessoa created over 70 heteronyms. "His jostling aliases," as John Gray has put it, "expressing his belief that the individual subject - the core of European thought - is an illusion." This exploration of the plurality of self finds is contemporary expression in the proliferation of personas and avatars through which we navigate the actual and virtual universes of our making. Transdisciplinary discourse, the adoption of new technologies, the invisible forces and fields of the sciences, the recuperation of abandoned metaphysical and spiritual models of being, can all find expression within the context of this conference.
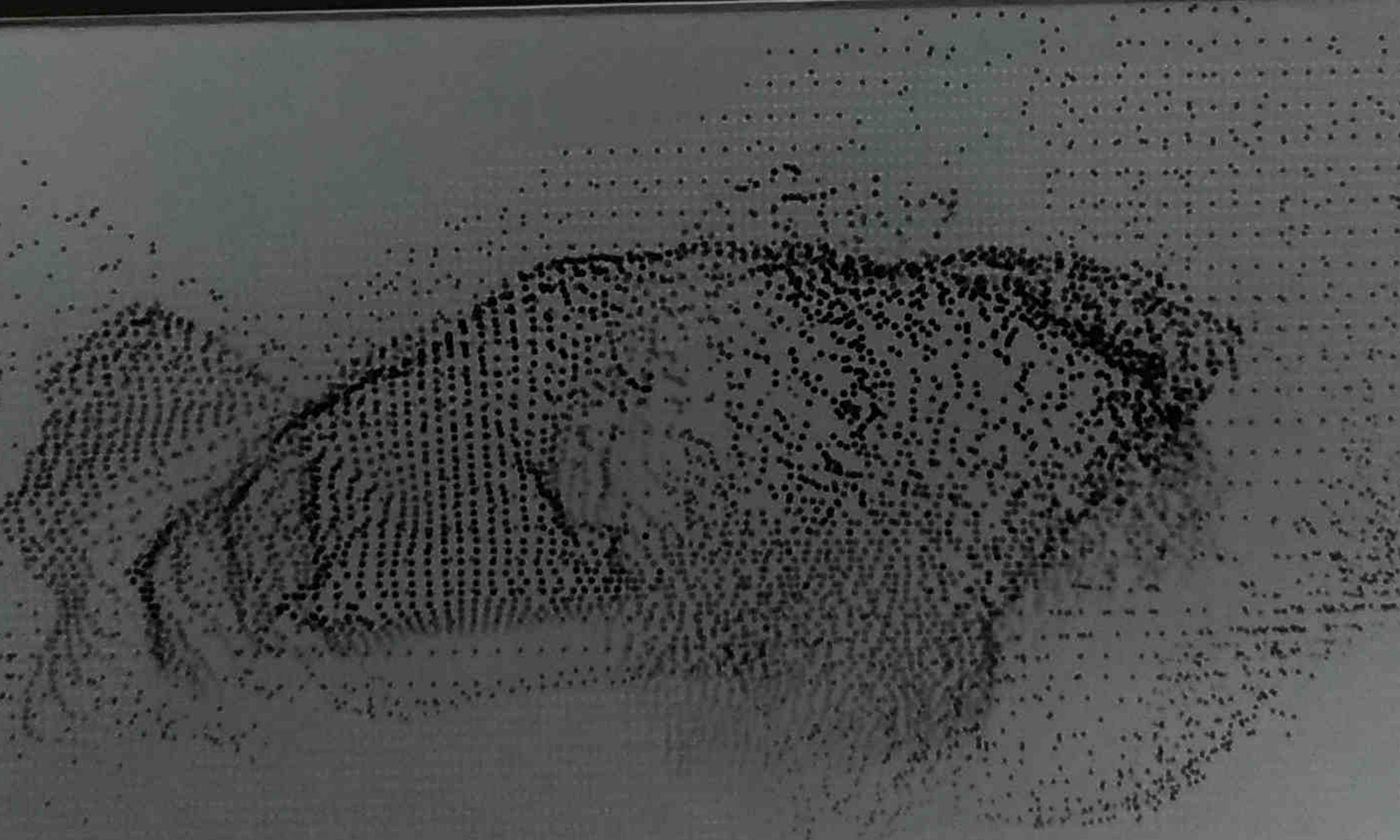
Roy Ascott

CR12 PRESENCE IN THE MINDFIELD
Art, Identity and the Technology of the Transformation

EDITORS: ROY ASCOTT - LUIS MIGUEL GIRÃO

CONTENTS

UUNNIIVVEERRSSEE.NET - ENTRY POINT TO INFINITE STOCHASTIC PLAYABLE VIRTUAL WORLDS

ANDRÉ SIER

s373 net/x (self virtual institution)

ABSTRACT

The uunniivveerrssee is composed of an indefinite amount of hexagonal galleries. this paper explores how several distinct art installations present points of view on universe formation, evolution; infinite stochastic virtual worlds made by simple algorithms; shareable virtual multiuser sonic-visual spaces, where local and remote users err/wander in the randomly and user-spawned virtual worlds in tune with their own seeding time, merged in uumnii-time, a parallel time to our own timestamps which collates all data.

uunniivveerrssee refers to a series of artistic works surrounding a simulation of universal genetic growth, where an abstract universe evolves a single, shared simulated thread, starting from the void to move towards a series of spatial and racial groupings, galactic elements and kinds of autonomous agents, who live, change and expand through the synthesised universe.

uunniivveerrssee proposes the imaginary of the creation of abstract life from water and wind, natural elements in combination with human actions and computer algorithms. the synthesis that is at work involves algorithms of genetic combinations where parameters produced by people generate combinations and evolutionary rules. each element that makes up the uunniivveerrssee presents a formation of genes/seeds, where each gene determines the behaviour of a parameter in the algorithm. the planets, races of autonomous agents, and geometric elements that make up the space possess, as a basic element, seeds, which control the way in which one arm evolves, as well as its maximum moving speed, the targets, number of elements, and their behaviour towards other elements; the form of the planets, their spatial distribution and available resources are the result of the users' interaction with the physical and fluid algorithms developed specifically for this series.

Being a virtual cosmogony that is updated by means of artistic interfaces, uunniivveerrssee is a series that takes in several levels of visualisation and interaction. the families of levels on which the works were conceived are distributed across three regions: meta-levels of observation and metaphor, levels of distributed content generation, and the plane on which the simulation is updated.

Within the first region, in Mathx (2010), the user navigates around a network of symbols generated by planets, races and spatial, algorithmic information; fj (2009) presents a pyramidal meta-space populated by mathematical operations and planes of video feedback and real-time input; 7000 (2011) presents an interactive control panel distributed across several computers and screens, indicating and manipulating the data by which the simulation

is controlled (cellular automata); apex (- pyramid) (2011) and apex (+ pyramid) (2010) are pyramidal sculptures that are sensitive to the touch and to changes made to the network. In Eer (2010-11), the user is invited to wander around the uunniiv-veerrssee in abstract meta-spaces that gather the various online users. Non-Newtonian (8x) (2011) causes the spectator's movements to interact with the emission of frequencies in non-Newtonian liquids, frequencies which are related to the proximity of the user and the distances of eight planets in galaxies created in the uunniivveerrssee.net database. the great wall (2011) projects onto the facade of the museum elements acquired from racial databases generated according to movements observed by cameras located opposite it. in the second region, we find the touch-sensitive and online pieces uunnii-galáxias, uunnii-bichos, autómato universal (all 2010-11), where elements can be created and submitted to the protean database. the region in which the simulation is updated includes, in the central piece uunniivveerrssee, the combination and evolution of all of the database elements. It is a region in which the user, by means of interactive video installations or online applications, can cause the universal time of the simulation to evolve, experimenting with unique and unrepeatable system states, modifying, mutating and evolving the universe.

this is how it all begins. play it online at: http://uunniivveerrssee.net.

More information available in the catalogue of the exhibition uunniivveerrssee.net, andré sier @ museu de são roque, lisboa, 2 jun – 31 jul 2011 (pdf download: http://s373.net/continuum/wp-content/uploads/2011/05/catálogo-uunniiv-veerrssee_net.pdf

"The universe (which others call the Library) is composed of an indefinite and perhaps infinite number of hexagonal galleries"
Jorge Luis Borges, The Library of Babel

On the conception of the uunniivveerrssee. By means of sights, sounds, objects of flows, carving pseudo-infinite browsable configurations out of simple algorithmic machine like procedures.

Cosmogonies and the origins of geometry are two polar guidelines to the uunniivveerrssee.net series of art pieces. If art could be thought of as a prime vehicle of contact with the human spiritual longing, geometry might be considered as the basin of computational algorithmic shapes. Two sides to engendering something out of nothing. In the age of art engaged computers, how would one hear the big bang?, see the birth of space?, inhabit infinite stochastic playable virtual worlds?

These premises were elaborated into experiences, installations, objects, that comprise the uunniivveerrssee.net project. Distinct points of view that weave an abstract cosmogony, evolving with its own simulation time (uunnii-time), where an abstract universe evolves a single, shared simulated thread, starting from the void and moving towards a series of spatial and racial groupings, galactic elements and kinds of autonomous agents, who live, change and expand through the synthesized universe.

410. apex. The Delta (Δ) preface. Light flocking, feedback, pyramids, cellular automata and video difference textures. The geometry basin sheds its core with falling wireframe math operations (the plus, the minus, the times, the divide).
To birth a virtual space, let's first consider the birth of the real space. Simple volumetric space. Begin
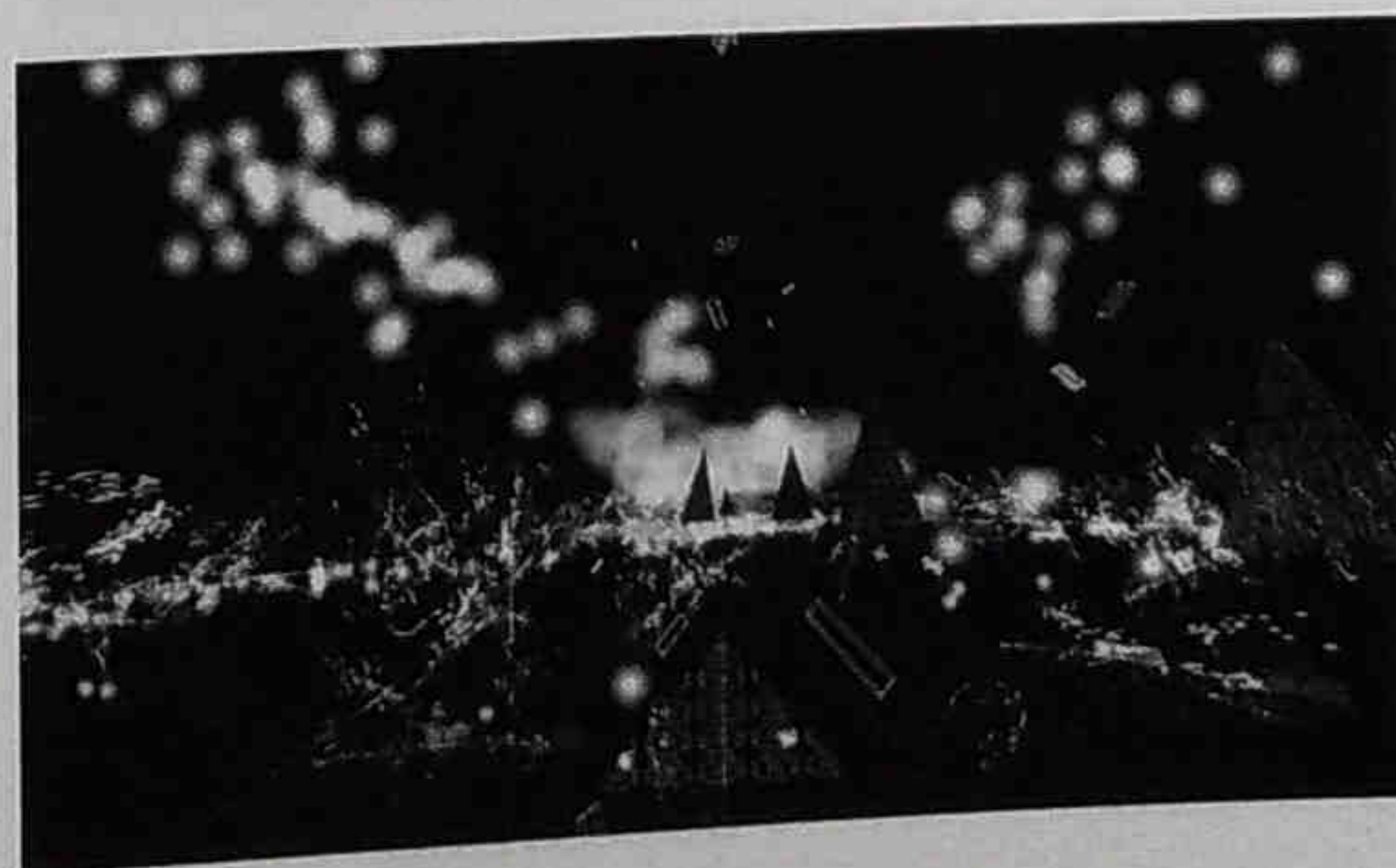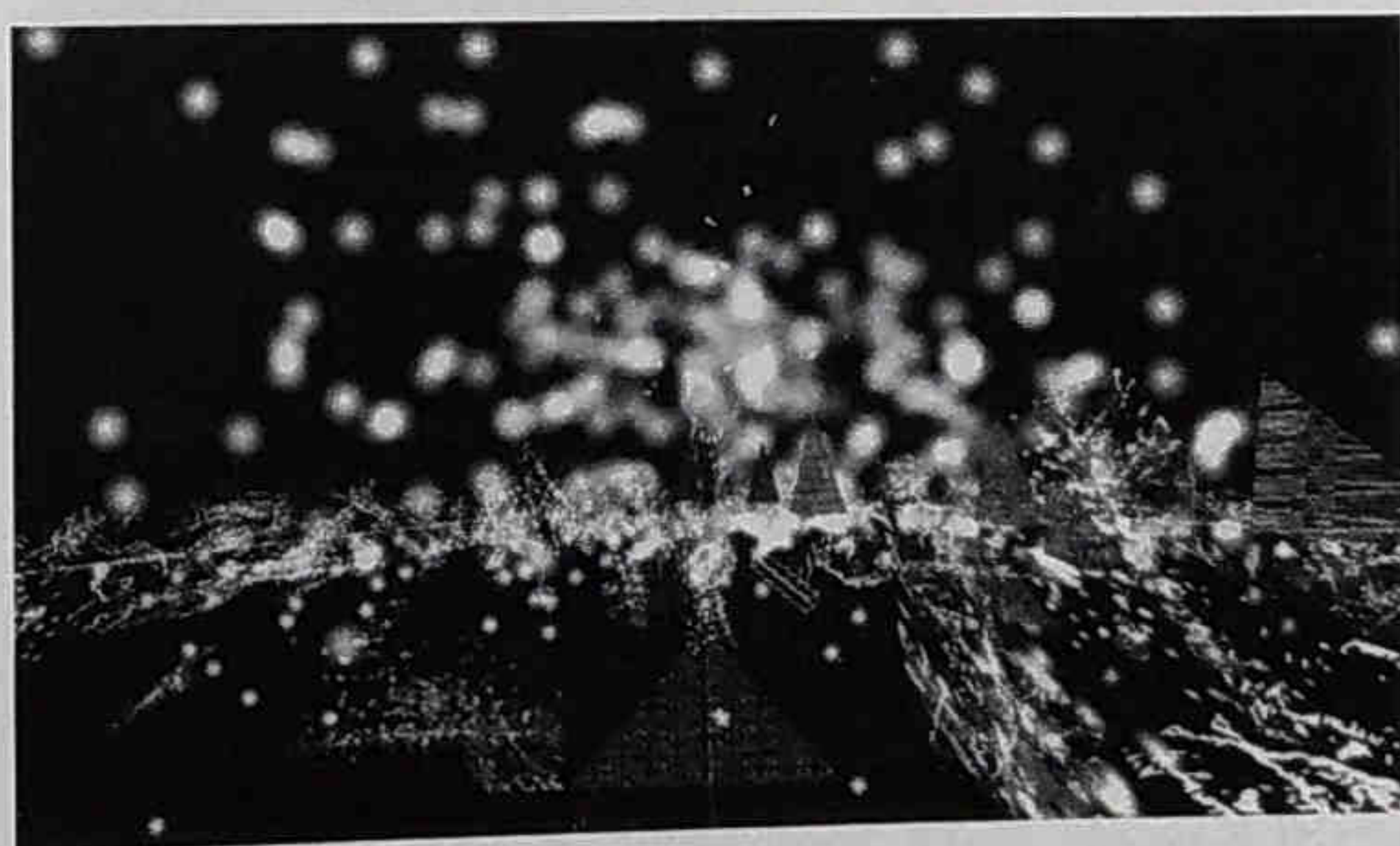

FIGURE 1 - Δ SCREEN STILLS

with a point. Fold it to a line. Add a third point to make an equilateral triangle. Extend a final point as the apex of the tetrahedron. The positive apex.

Now touch it. Make it fractal, condense to a single point, and expand to a suspended negative pyramid. Play sounds of Fibonacci scales and lights at the vertices. The negative apex. apex (- pyramid). As negative space, light and sound structurally feed-forwarding the gears of uunnii-time at the uunnii-server.

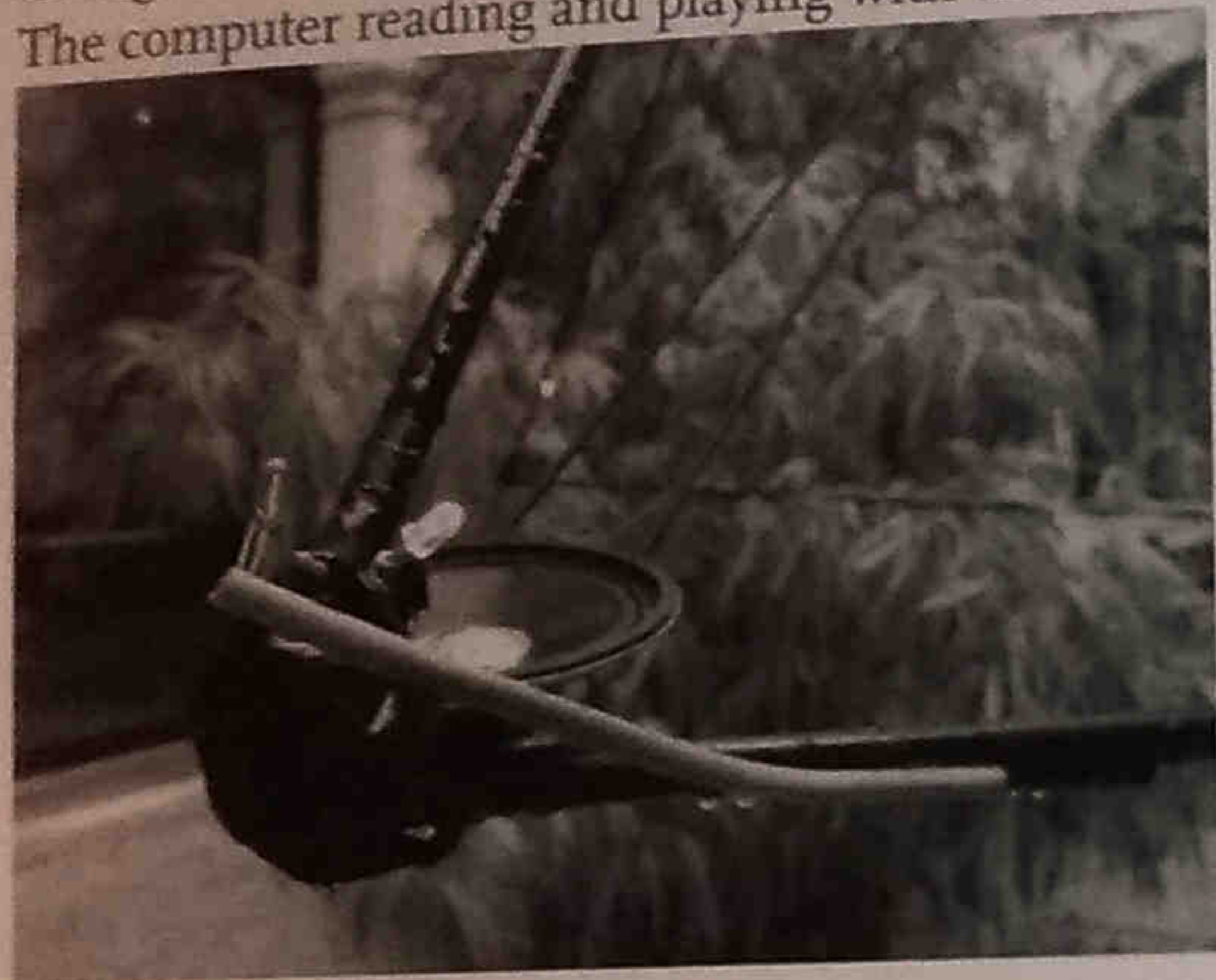Going back to the Math. 32-bit Wind Machine. The computer reading and playing with the wind,
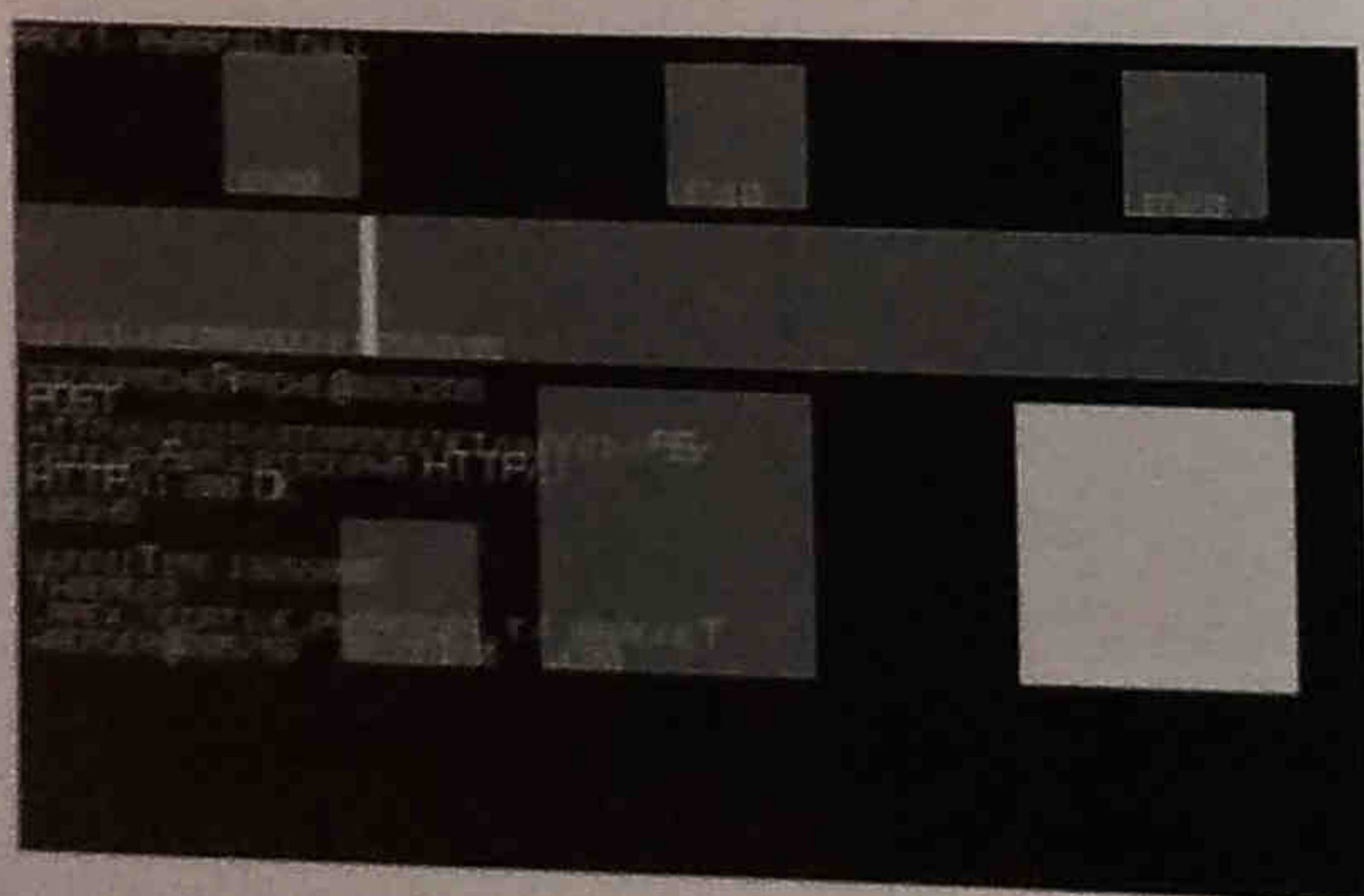
the wind gaming with numbers, the numbers combined with themselves and the math ops until reaching NaN (a number which is not a number, exceeds the precision). Deleuze and Ada say hello; the 32-bit Difference Machine is forged, engineered at s373.net/x studios. A camera and a painting robot. Map paintings are formed, touched by the movement of people. New spaces painted abstractly over white canvases. The difference that accumulates into permanence.

uunniivveerrssee.net proposes the imaginary of the creation of abstract life from water and wind, natural elements in combination with human actions and computer algorithms. The synthesis that is at work involves algorithms of genetic combinations where parameters produced by people generate combinations and evolutionary rules. Each element that makes up the uunniivveerrssee presents a formation of genes/seeds, where each gene determines the behaviour of a parameter in the algorithm. The planets, races of autonomous agents, and geometric elements that make up the space possess, as a basis element, seeds, which control the way in which one arm evolves, as well as its maximum moving speed, the targets, number of elements, and their behaviour towards other elements; the form of the planets, their spatial distribution and available resources are the result of the users' interaction with the physical and fluid algorithms developed specifically for this series.

The big bang approaches. Substance, coming into being, state changing, evolving. One physical state transforming into another. Non-Newtonian fluids are key elements as they solidify when forces are applied to them. Thus Non-Newtonian (8x) was born. The sound of the spheres, the infinite random clusters of planets generating sound, endless unrepeatable compositions, reverbing on the surface of 8 modified woofers. The piece mimics galaxies formation, using sound, modified speakers with non-Newtonian fluids, and interaction from the visitors to the installation space. Each speaker contains a non-Newtonian coloured solution, which evolves from a liquid magmatic state into dry planetary stardust rocks, while the water dries over the exhibition days. The piece produces a continuously differentiating melody across the speakers engineered by the distances of planets to the sun, and comets.

FIGURE 2 AND 3 - APEX (-PYRAMID) AT UUNNIIVVEERRSSEE.NET IN MUSEU DE S. ROQUE, JUN-JUL 2011

FIGURE 4 - UUNNII-SERVER SCREEN AT UUNNIIVVEERRSSEE.NET IN MUSEU DE S. ROQUE, JUN-JUL 2011
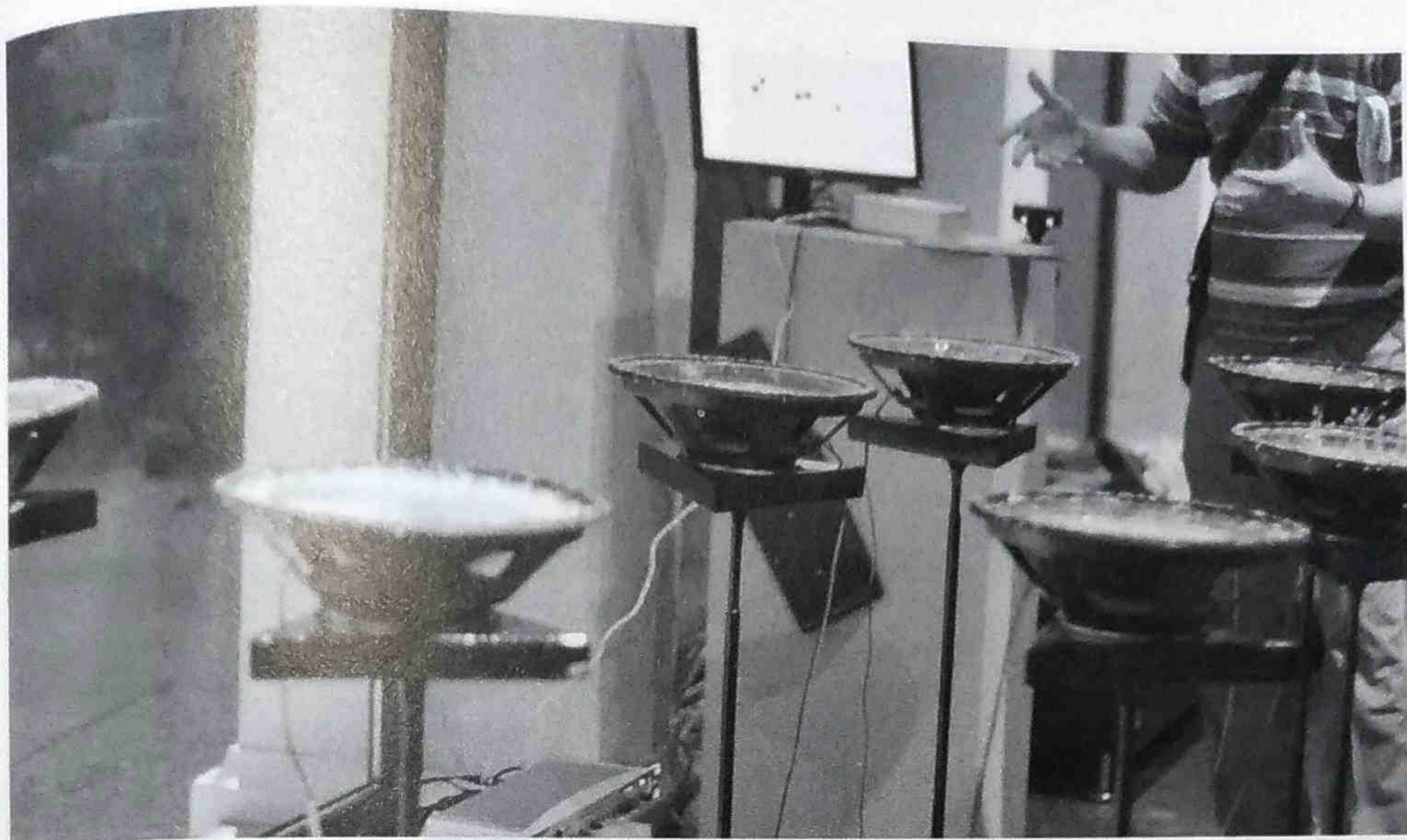
FIGURE 5, 6 AND 7 - NÃO-NEWTONIANA (8x) AT UUNNIIVVEERRSSEE.NET IN MUSEU DE S. ROQUE, JUN-JUL 2011

The rise of space over symbolics. Math is going to state-change in this series from symbolic line-following operations into spatial neighbourhood based ops. Cellular automata algorithms are rule based spatial math ops. Beginning with the piece 7000, a computer grid calculates indefinite two-dimensional cellular patterns across the screens. Then a program, autómato universal (universal automata), computes all possible 3d cellular automata volumetric space with one neighbour, as three dimensional stl models. Some of these models (Autómatos Universais) are printed as physical objects, as hidden patterns of evolution in distinct space time regions of the uunniivveerrssee.

"now i am grid cell 2,5. my state will depend on 1,4, 2,4, 3,4 , 1,5, 3,5, 1,5, 2,5, 3,5. i will add these values, and check the current rule map to know if i am dead or alive. i am alive. now i am grid cell 3,3. my state

will depend on 2,2, 3,2, 4,2 , 2,3, 4,3, 2,4, 3,4, 4,4. i will add these values, and check the current rule map to know if i am dead or alive. i am dead. now i am grid cell 7,3. my state will depend on 6,2, 7,2, 8,2 , 6,3, 8,3, 7,4, 8,4, 9,4. i will add these values, and check the current rule map to know if i am dead or alive. i am alive." André Sier

Being a virtual cosmogony that is updated by means of artistic interfaces, uunniivveerrssee is a series that takes in several levels of visualization and interaction. The families of levels on which the works were conceived are distributed across three regions: meta-levels of observation and metaphor, levels of distributed content generation, and the plane on which the simulation is updated.

Within the first region, in Mathx (2010), the computer navigates around a network of symbols gen-

erated by planets, races and spatial, algorithmic information; fj (2009) presents a pyramidal meta-space populated by mathematical operations and planes of video feedback, real-time input, and cellular textures; 7000 (2011) presents an interactive control panel distributed across several computers and screens, indicating and manipulating the cellular automata data by which the simulation is controlled ; apex (- pyramid) (2011) and apex (+ pyramid) (2010) are pyramidal sculptures that are sensitive to the touch and to changes made to the network. Non-Newtonian (8x) (2011) causes the spectator's movements to interact with the emission of frequencies in non-Newtonian liquids, frequencies which are related to the proximity of the user and the distances of eight planets in galaxies created in the uunniivveerrssee.net database. the great wall (2011) is a video interactive simulation piece for building facade. Virtual humanoids flock upon the great wall, under a revolving sky, influenced by a 3d fluid field of lines. The elements engage with video artefacts detected from the motion in the space near the projection on the building facade. Passersby, cars, other moving visual elements captured by the camera, influence the simulation, creating attraction/repulsion points in the humanoids flock, swirling vortexes in the fluid field and the sky revolution speed.

In the second region, we find the touch-sensitive and online pieces uunnii-galáxias, uunnii-bichos, autómato universal (all 2010-11), where elements can be created and submitted to the protean database. uunnii-galáxias (uunnii-galaxies) is a software which spawns clusters of galaxies to the http database of the uunniivveerrssee series. In this software, an interactive aquatic vision of the universe moulds fluxes of particles which circulate amidst stochastic 'infinite' planetary formations. It's proposed to use a different algorithm, where a physical model of gravity is replaced by a model of fluids, flipping the physics of the experiences, producing patterns akin to underwater on the outer space experiences. Users may submit their self spawned galaxies to the online data. There are currently 16199 planetary bodies in the known uunniivveerrssee. (timed stamp: 20110731; uunnii-time: 3977.6465).

The region in which the simulation is updated, in the central pieces uunniivveerrssee and Eer, include the combination and evolution of all of the database elements. It is a region in which the
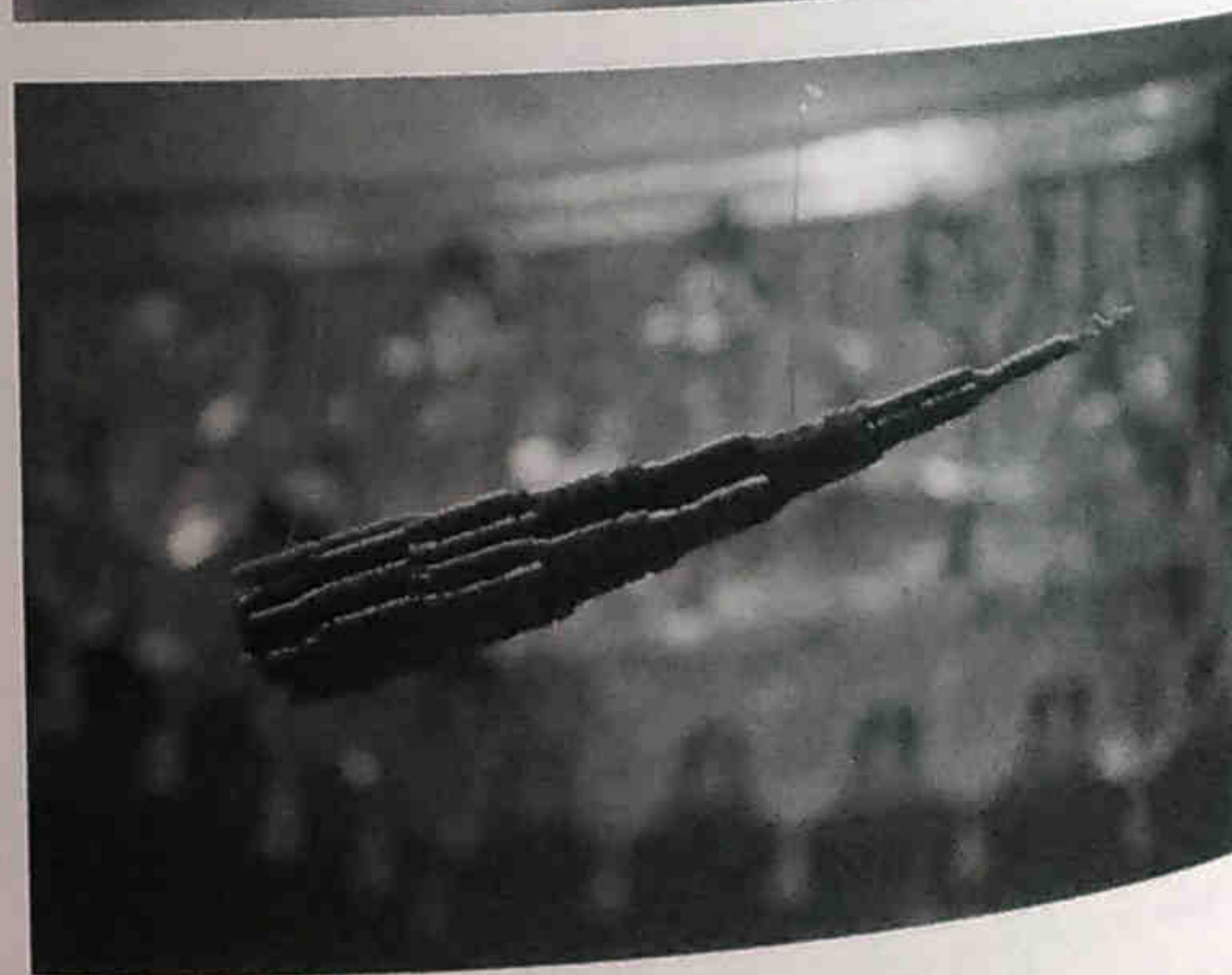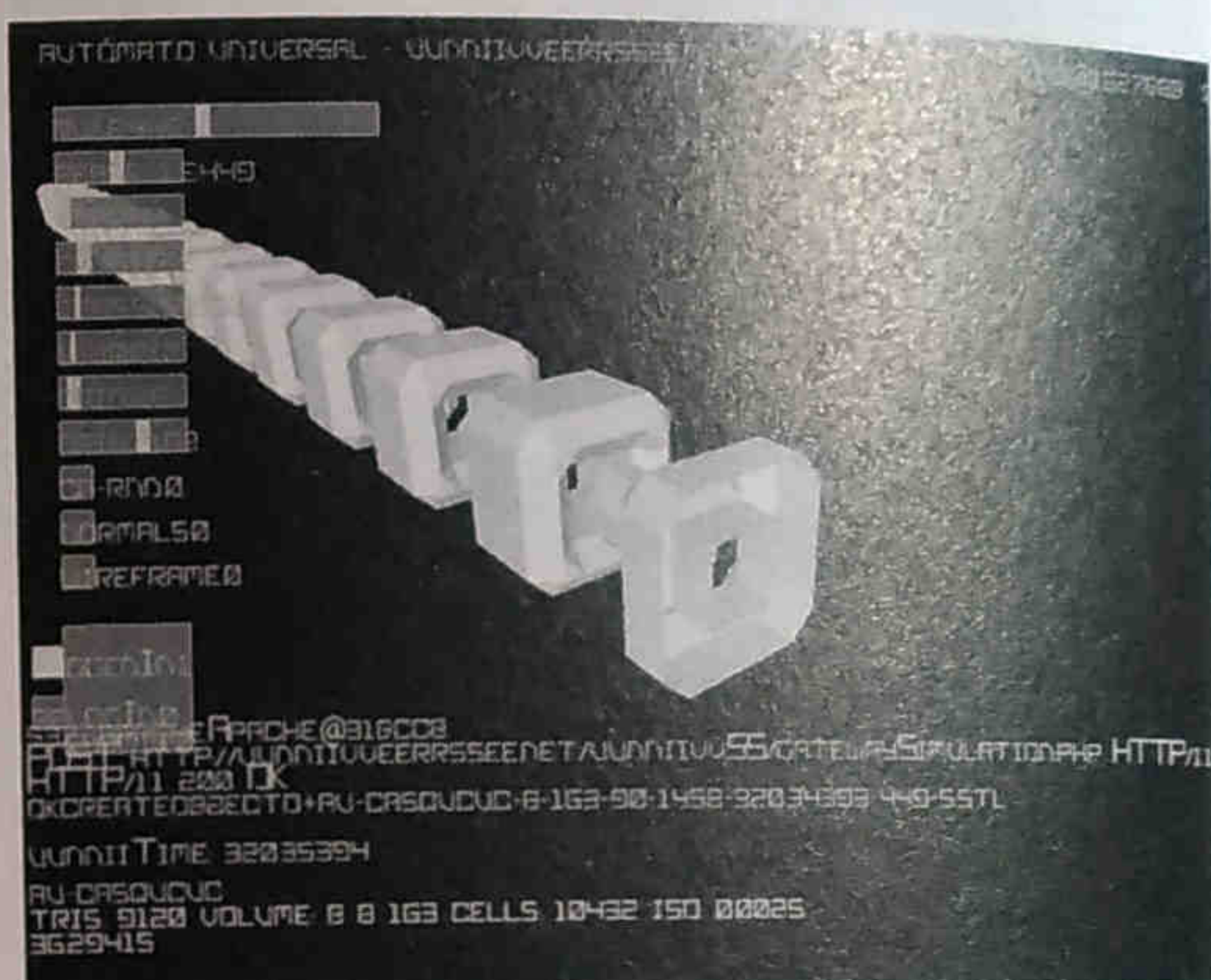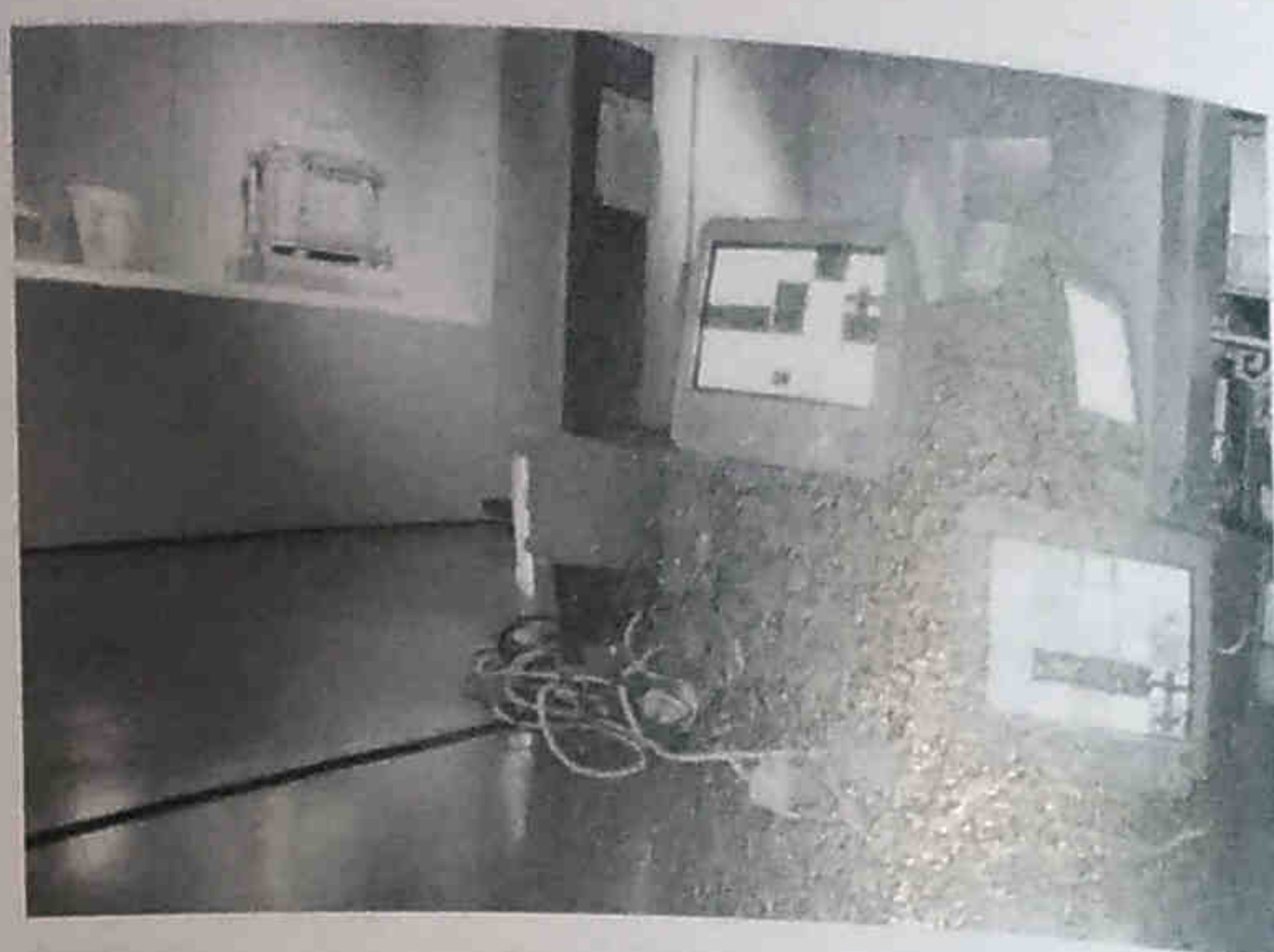

FIGURE 8, 9, 10 AND 11 - IMAGES OF 7000, AUTÓMATO UNIVERSAL, AUTOMATOS UNIVERSAIS AT UUNNIIVVEERRSSEE.NET

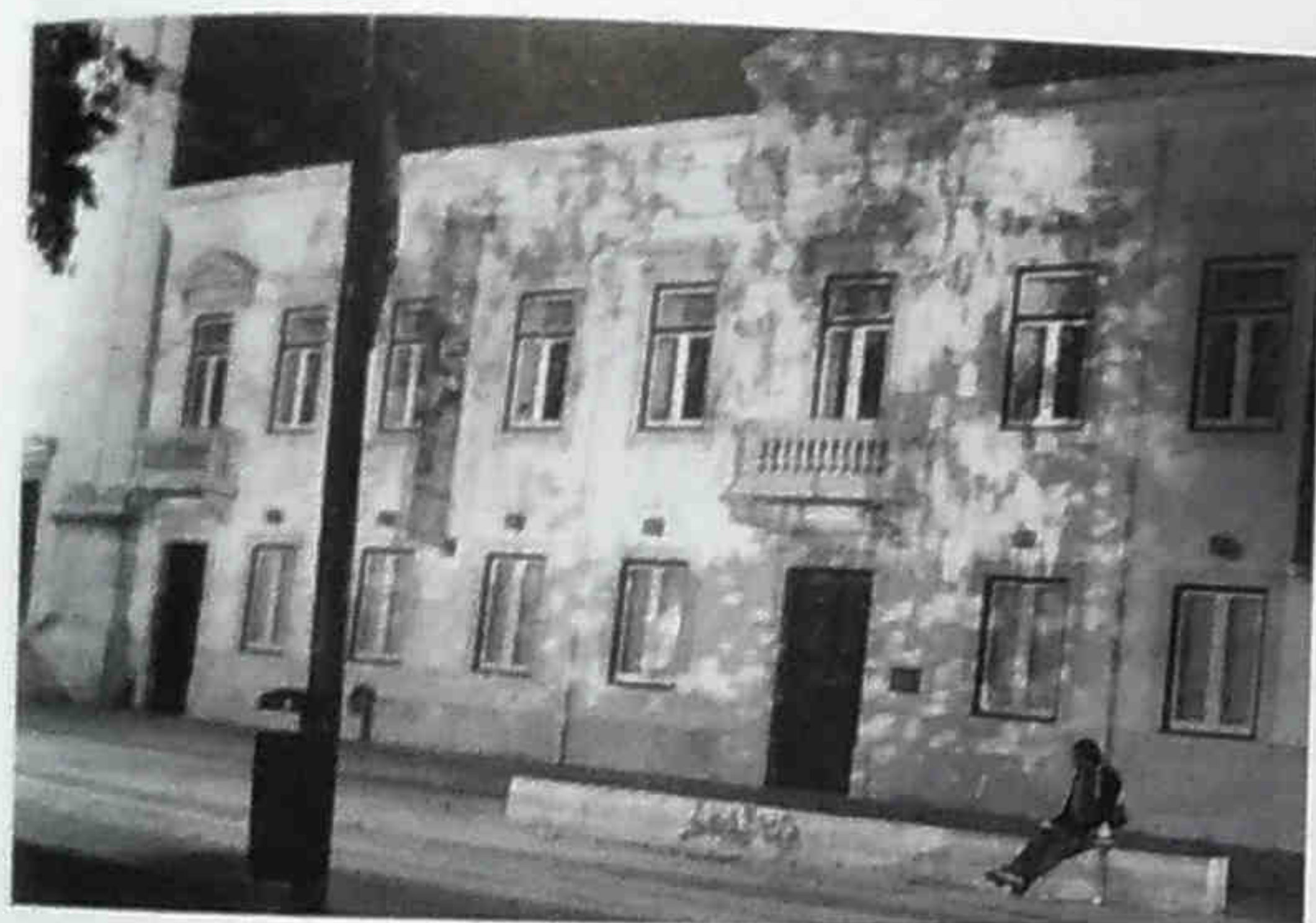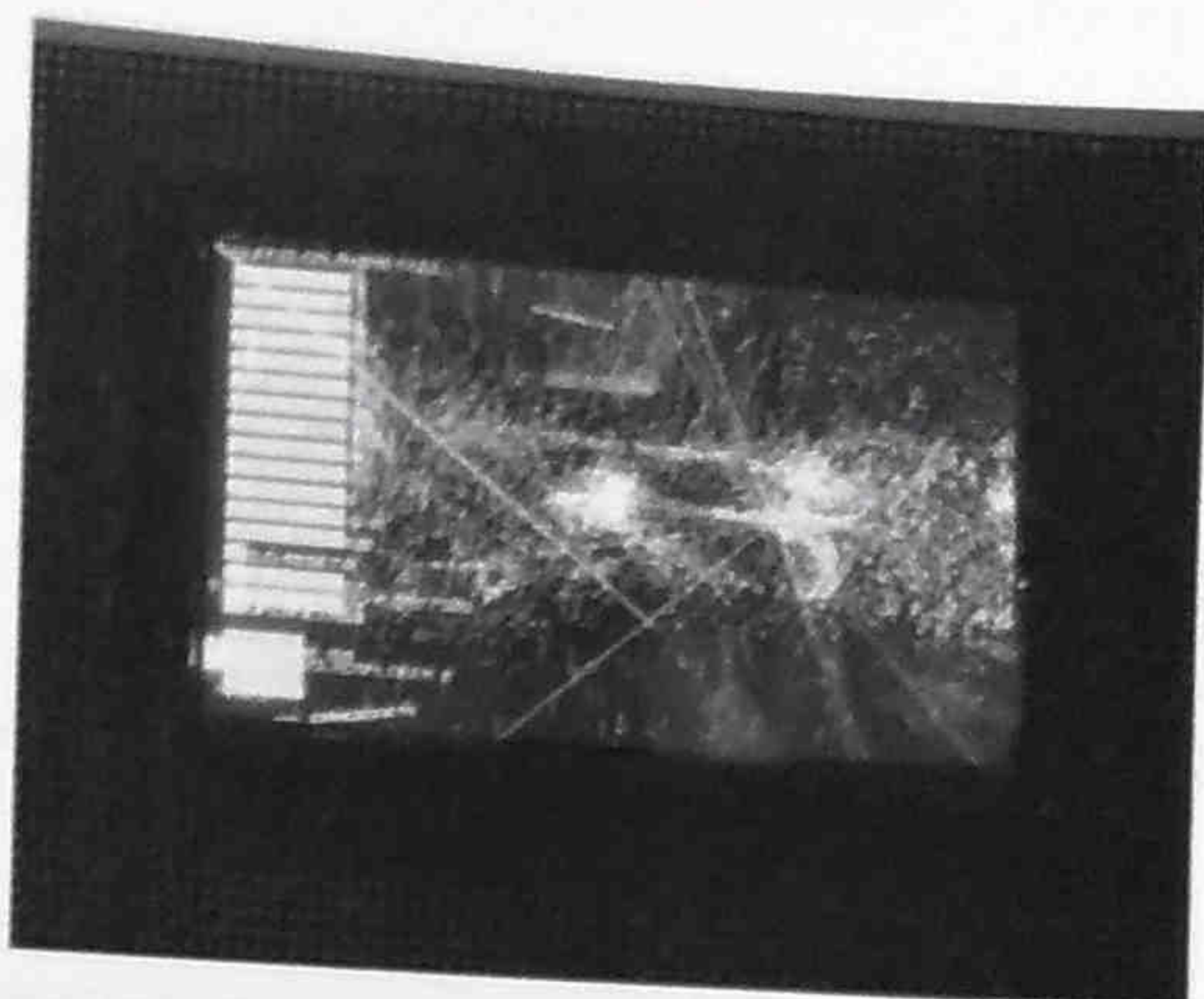FIGURE 12 - MATHX AT APE-X, GALERIA NT, LODZ, MAI-JUN 2010

FIGURE 13 - THE GREAT WALL AT UUNNIIVVEERRSSEE.NET IN MUSEU DE S. ROQUE, JUN-JUL 2011
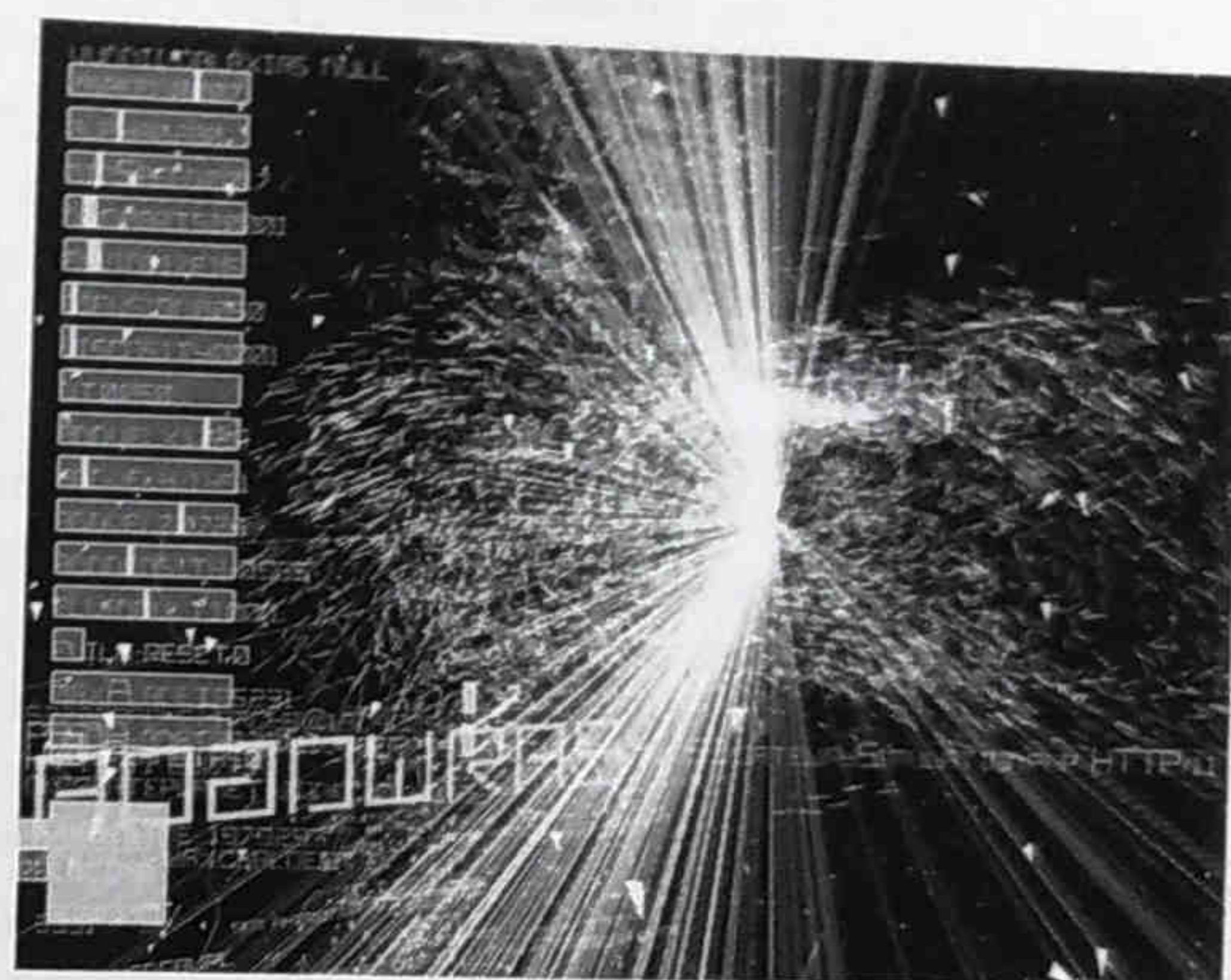
FIGURE 14 AND 15 - UUNNII-GALÁXIAS AT UUNNIIVVEERRSSEE.NET IN MUSEU DE S. ROQUE, JUN-JUL 2011

user, by means of interactive video installations or online applications, can watch the universal time of the simulation to evolve, experimenting with unique and unrepeatable system states, modifying, mutating and evolving the universe. Wander around the planets, watch race interactions, interfere with the events, zap around the planets, meet up fellow wanderers as they also log into the system.

In Eer, the user is invited, using keys or webcam, to wander around the uunniivveerrssee in abstract 3d meta-spaces that gather the various online users, as well as elements of races living virtually inside the code and running in the processor cycles. The space is pseudo-infinite, the terrains are water-like or frozen blocks tinted with cellular automata patterns, and the sounds are synthesized from a red-noise synth emulating sounds captured from astronomical observations. Eer teleports sporadically inside the random clusters of planets generated in the series.

The uunniivveerrssee.net website functions as a server backend where the applications store data into mysql databases, which are then read by the applications, either in the installations, or the code running online. It also holds the blog: a journey into the meta-uunniivveerrssee and how this was conceived. A textual layer, formed by scrambled arrangements of known cosmogonical texts, the library of babel and excerpts of astronautical explorations, made its way to the source of stochastic 'infinite' name generation based on tables seeded by words. These algorithms produce the names of the planets, galaxies and human visitors to the virtual abstract worlds. The virtual humanoids are then unleashed in the infinite space, populating different regions, planetoids, and performing simple actions, using virtual planetary resources. Thus this is the entry point into infinite stochastic playable virtual worlds.

Play it online at:
http://uunniivveerrssee.net

was by were, the made but through mere a the facts. already sink For rhetorical fact thousands incessant. of Library peregrinations tired being, and miles of deplore reasoned) is ceiling, origin how in to can of total world extremely certitude books fall the he Library They Library his glance the incontrovertible pick the at through of and of four before of usurped has repetition. two; Arabian of combine did on He circumference sides can universe, I First: of name species all to filled a another which light volumes, suspect; hexagons the the which are the humble exist after of a all-powerful, by just with vain justified the cyclical their the of hexagon greedy I the affirm, some up, entitled symbols divine and tautology. are of few symbols, the repeated, the value. in through of always five and may of are whose are cult read the eloquent of commentary locate problem Let combinative is I of To surrounded methodical symmetrical. by which of from mysteries lines for suggest century A. precious my of book useless see, my each placed least, is cryptographical indicates absolute about (since in gospel, senseless hell. "treasures" Their no Epidemics, endure: This I disorder the desperate the distribution Library the If over one the meaning. words: be in Vindications formula interpolations the with idealists which leads the shelves searchers, letters all galleries, the position; in it such the up; of smaller Within of is these volumes to form even same sense seemed to some of define happiness and extremely which a prefigure of Library believed Yiddish. an walls; some volumes, the cross said How ago, vestiges contains number or this impenetrable the Others, format centuries with down perversely reasonable two hexagons this leagues produced. deciphered: the ... stairways but of in total the I book conceivably adjective at searches compendium magical.
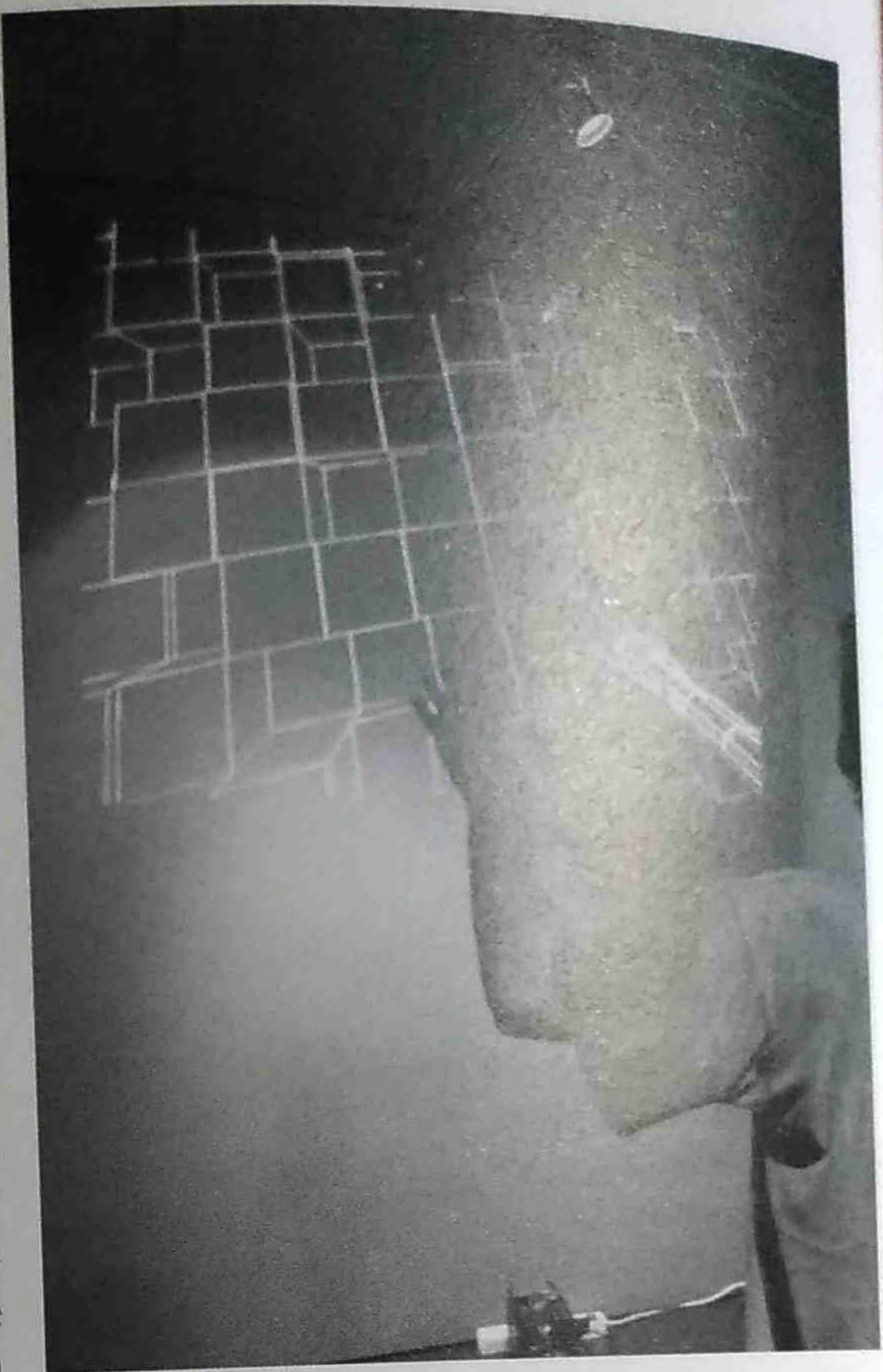

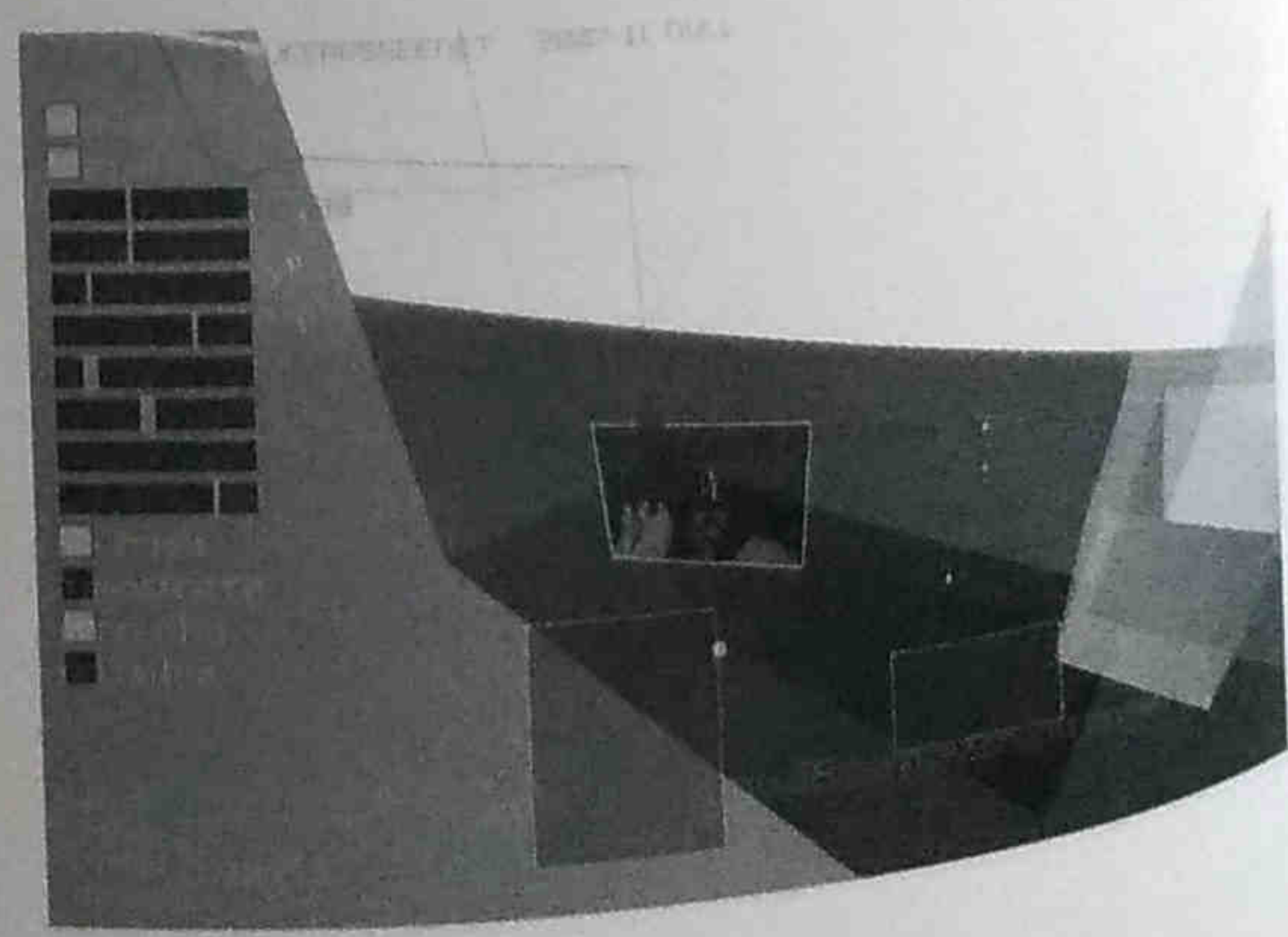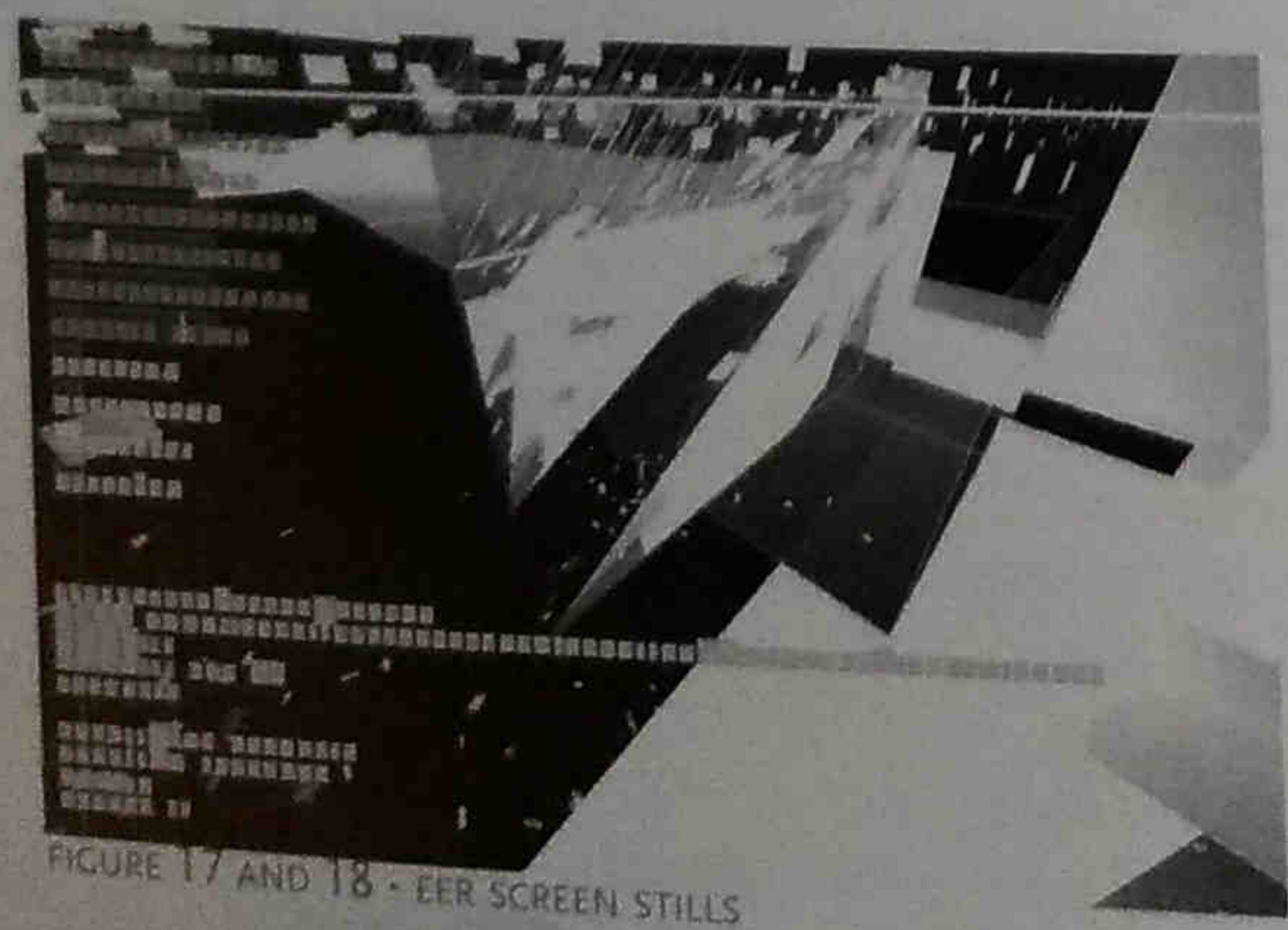FIGURE 16 - UUNNIIVVEERRSSEE AT UUNNIIVVEERRSSEE.NET IN MUSEU DE S. ROQUE, JUN-JUL 2011

FIGURE 17 AND 18 - EER SCREEN STILLS