

**blindspot** HERWIG TURK / PAULO PEREIRA

# blindspot

A PROJECT BY  
**HERWIG TURK**  
**PAULO PEREIRA**

IN COOPERATION WITH  
**GÜNTER STÖGER**  
**BEATRIZ CANTINHO**  
**PATRÍCIA ALMEIDA**

*One cannot say where the organ ends and the processing begins!*

OSWALD WIENER

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# blindspot

## PROJECT TEAM

2003–2004	HERWIG TURK / PAULO PEREIRA / PATRÍCIA ALMEIDA
2005–2006	HERWIG TURK / PAULO PEREIRA / GÜNTER STÖGER / BEATRIZ CANTINHO
2007	HERWIG TURK / PAULO PEREIRA / BEATRIZ CANTINHO

## BLINDSPOT SUB-PROJECTS

### referenceless photography

2004	• <i>Der Himmel ist nicht blau, er ist violett</i> , Medienwerkstatt Wien, Vienna
2001	• <i>can you see it?</i> , Ex Essiccatoio Bozzoli, St.Vito Al Tagliamento

### blinddate

2007	• <i>This is happening</i> , Georg Kargl Fine Arts, Vienna
2006	• TESLA media art laboratory, Berlin
	• <i>Kunst &amp; Medizin. Schnittstellen zum Körper</i> , Gesundheitszentrum Bruck an der Mur and Kunstverein Medienturm, Graz
	• MAK Museum of Applied Arts / Contemporary Art, Vienna
2003	• LUX Lisboa, Videolisboa—International Videofestival, Lisbon

### agglomeration

2004	• <i>Contemporary Austrian Photography</i> , House of Photography, Poprad
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### paradise–paradox

2006	• <i>I still love the 20th Century</i> , Georg Kargl Fine Arts, Vienna
	• <i>Landscape in Your Mind</i> , ACF Austrian Cultural Forum, New York
	• Austrian Filmfestival Diagonale 2006, Graz
	• Número Festival, Lisbon
2005	• Felsenhalle KreuzbergI, produced by UNIKUM, Klagenfurt

### setting04\_0006

2007	• <i>unfinish!</i> , Transmediale.07, Berlin
	• <i>Say it isn't so</i> , Neues Museum Weserburg, Bremen

### agents

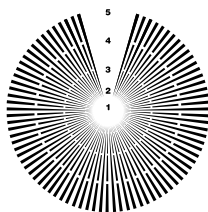
2007	• F/STOP, 1 <sup>st</sup> International Photography Festival, Leipzig
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### labscapes

2007	
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### uncertainty

2007	
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## INTRODUCTION

*Blindspot* is an interdisciplinary research project about perception, developed by Herwig Turk and Dr. Paulo Pereira, in cooperation with Günter Stöger, Beatriz Cantinho and Patrícia Almeida. The project aims at investigating perception in a broad and global sense, as well as its circumstances, its determinants, and its contingencies. The proceedings in the laboratories for vision sciences research are translated into different settings, thereby creating a meta-language that crosses the traditional boundaries between science and art. At the same time, a new heterotopic space for experimentation is created where objects, gestures, and language acquire new dimensions having been separated from their supporting contexts. The approach used by the authors of *Blindspot* adopts the formal structure of a research project. The starting point is a hypothesis: Science represents an imperfect means whereby perception is used as a privileged means to assess reality («improved means to an unimproved end» Thoreau).

The project's approach is based on the long-term exchange of scientific and artistic knowledge, and methodology. «Perception is the process whereby sensory stimulation is translated into organized experience» (*Encyclopaedia Britannica*). Vision sciences tend to focus on the process of sensory stimulation: from the eye to the brain or from the photon to the image. Anatomical, physiological, neurological, and biochemical approaches can supply the means to gather great amounts of information that agglomerate in large volumes and treaties. However precise, a vast amount of information is neglected or is actively translocated to a place outside of the laboratory by the application of scientific procedures. What remains is contamination from the outside world, largely the subject matter of this interdisciplinary project. What remains outside of the controlled laboratory environment questions the cultural context of visual perception as it includes social and cultural components.

Within the project we define perception as a proposition that includes the «organized experience» within and among various human and non-

human elements. These elements connect and communicate through incidents and create a reality that can only be understood within a very limited time frame.

The method the research team uses relies on strong interaction and interference between the organic part and the instances that contextualize the information that has been received. *One cannot say where the organ ends and the processing begins!* (Oswald Wiener).

These interactions are highly dependent on individual disposition and environment, and following this logic the «real world» exists merely as a helpful construct to interpret individual, ephemeral perceptions.

Individual perceptions cannot be considered, or observed as isolated, but as something that is distributed within group structures (persons, objects, environments). One perceives oneself and our everyday environment through the reflections and reactions of others. Each and every single person is connected to a floating system of information and a clear line cannot be drawn separating one individual from others, nor from their own surroundings.

Science aims at a universal language supported by inertia referentials. Scientific language is highly coded and the distinction between words, concepts, and the corresponding entities in the «real world» is often blurred by the complex system of references that are used. Scientific systems of reference include necessarily established conventions comparable to GMT (Greenwich Mean Time) or the null meridian, in an attempt to identify standards that make measurement possible and universal.

One of the main goals in this project is to identify calibration standards and points of reference that are critical in influencing individual perception. Once such points of reference are identified they can be easily manipulated by deconstructing their own foundations and by displacing them into a different context / setting. This approach questions the fallibility of scientific conventions and highlights the importance and contribution of social and individual constructs (constellations) to what is perceived as a scientific truth or a scientific fact. More importantly, the founding principles and corner stone of the scientific method are man-made and become less abstract as the project emphasizes and brings to center-stage such structural elements that are both invisible and—thought of as—infalible in daily scientific routines.

This goal can be accomplished through a variety of procedures, including the dislocation of both the observer and the object of observation to different scenarios where common references are no longer obvious and the elements that support perception are often absent. Experimentally, this creates a field where different categories of knowledge meet, revealing the interdisciplinary nature of the project.

## referenceless photography

«2.141 A picture is a fact»

Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, 1921

*referenceless* is about the impossibility of withdrawing meaning from an image. The photographs created by Herwig Turk on an empty computer screen appear to fulfill this primordial function with scientific precision. The pictures were created artificially to look like something meaningful yet unknown. They translate a subtle attempt to question the symbolic value of legitimacy as a means of ascribing authority and the power of discourse in ascribing meaning to an image. The need to understand what we see, which translates the anguish of our need to understand the world, deforms objects to the point where they can be identified with a memory remotely recognised by our own experience.

It could be said, although one probably should not, that Turk's pictures represent nothing. Or, even, that the pictures do not represent anything.

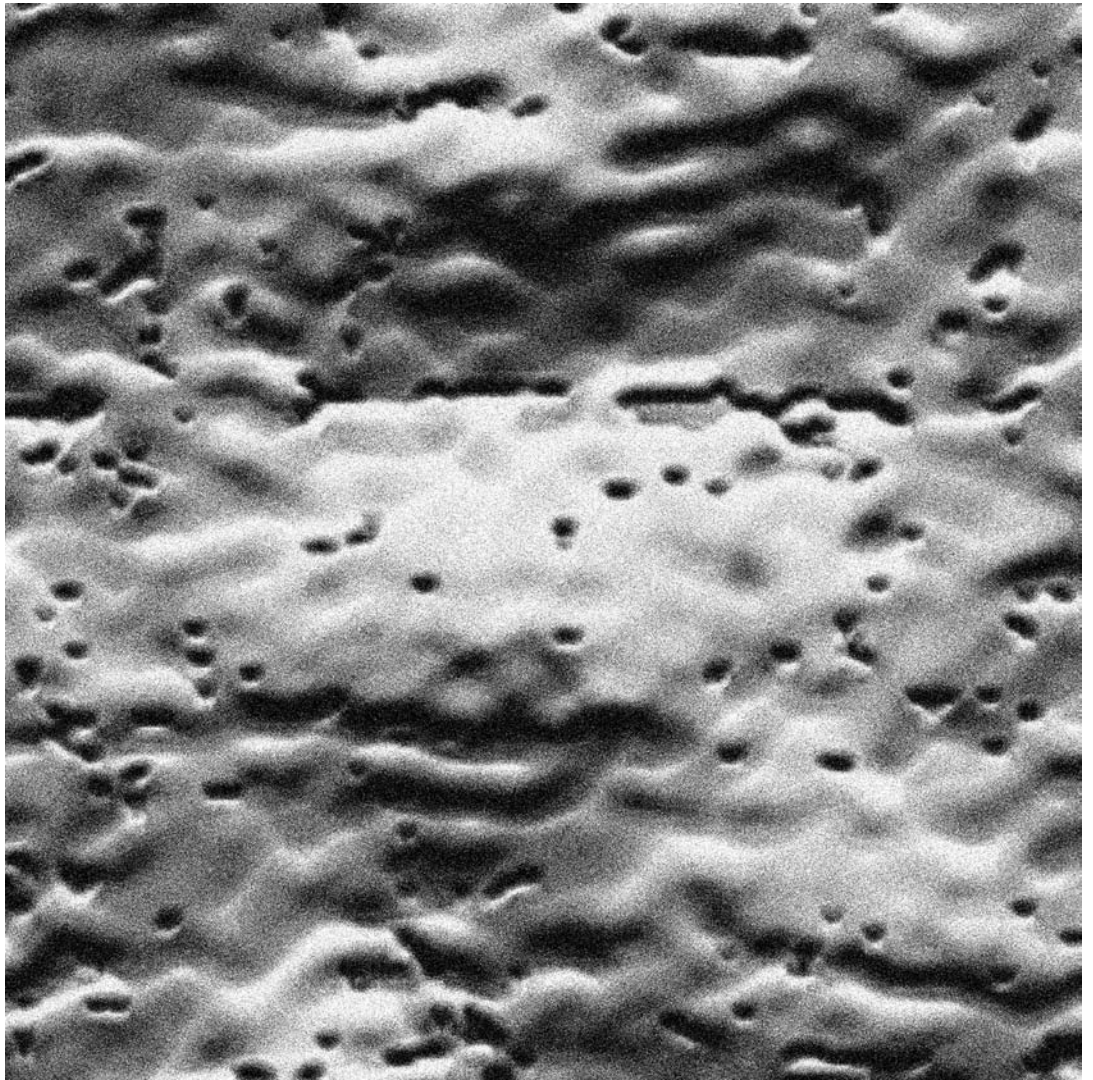
Turk's photographs presented here seem to be expropriated by the arts and appropriated by science. These are «scientific» pictures that, in their own context, would represent trivial elements of registering an informational processing. There is, however, rigorous discipline in the production of these images. The pictures represent abstract paradigms of knowledge, suprematic forms of portraying scientific knowledge, opening new avenues that allows for the questioning of its proceedings.

Very much like the arid and geometric purity of Malevich's canvases, these photographs are, to the viewer's surprise, amazingly rigid and dehumanised.

There is a clear deliberation to exclude the author from the creative process. Nonetheless, and unlike suprematic language, Turk's photographs require the observer to confirm their meaning. The intrinsic intervention of the observer, which in science is an instrumental part of the scientific process, is required to certify that paradigm.

The pictures, which are flooded with visual information, are illegible for the majority of viewers that do not question the authority of the few to decode and interpret the information contained in them. The information must be decoded through complex means and by applying highly specialised scientific and technical knowledge, which is, of course, assured by certificates, diplomas and academic titles.

Wittgenstein once suggested that when one cannot see anything it's always helpful to take a closer look. Many of the highly reputed scientists that viewed these pictures, looked really close and saw various things. Interestingly, a lot of them saw many things which differed from



*High power micrograph of the same membrane as given in NADA 3 (referenceless photography 003–98). Note the uniformity and smoothness of the membrane due to the presence of a thin and uniform basal lamina which probably also masks the full demarcation of the individual LECs indicated by the linear grooves seen in the micrograph. note that sometimes the caveolae coalesce.*

G. Vrensen, Electron Microscopist, University of Amsterdam, NL.



what others saw. Conversely and not surprisingly, there are a number of common elements that are described by most of the scientists, and that ensure the unity and cohesion to the communication codes that are characteristic of the scientific process. For example, all of the biologists agreed that the images represent microphotographs of biological tissues or cells magnified through microscopy techniques.

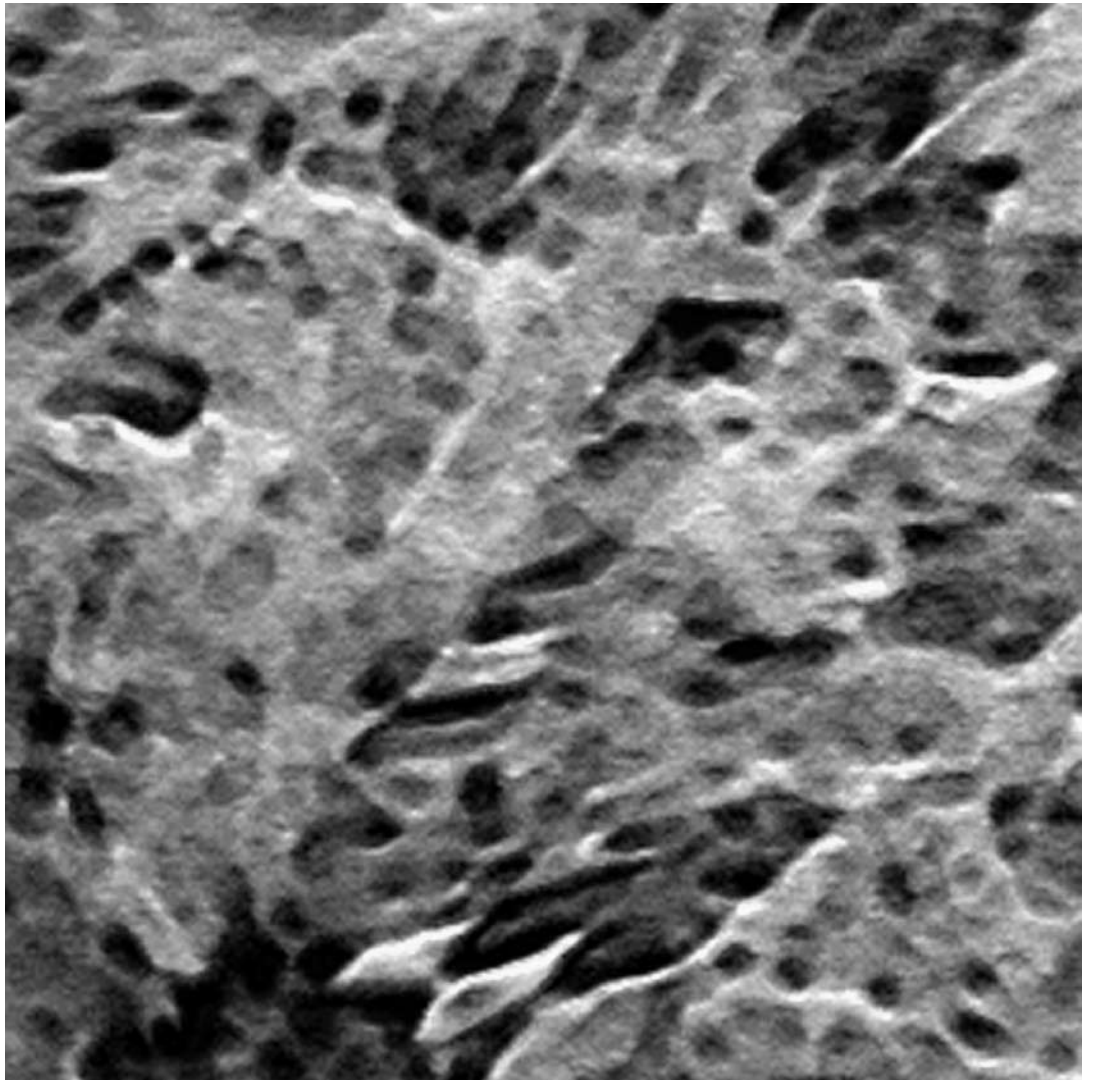
It is only through the scale of magnification that details susceptible of interpretation are revealed. It is not particularly important if these photographs are a calibration standard for a laser confocal microscope, an electric signal modulated by the neuronal cells of a zebrafish, if they represent the cornea of a monkey, or the lens of a whale. What seems to be important is the rigour and precision in the identification of details in subcellular structures. However precarious, the idea that the closer you get the more you see, and that the more you see, the more you know is well illustrated in the descriptions and legends accompanying these pictures.

There is also a playful component to this incursion into the hybrid territories of science and art. There is an invitation. There is a game of seduction between the artist, the image, and the viewer. It is a game where the artist allows the viewer, in a strictly contained way, to create, for his own use, his own image. Ultimately, this represents one possible translation of the postulates of quantic physics: the act of observing modifies the object. If the object only exists when observed, then things are hardly ever more than what they appear.

For a scientist, gaze is immediately turned into observation. It is a highly restricted, self-contained and disciplined gaze. Our gaze does not change objects according to our individual history, our impressions, or emotional state. Theirs is a different kind of gaze. More standardised, highly trained and disciplined by the rigorous proceedings of the scientific method. Perhaps because of that, different scientists see «similar things» in images of objects that do not exist. Scientists use a common language with reference to shared codes, symbols, standardised semantic formulas, and well identified hierarchies of knowledge. The scientific language is, in this respect, a meta-code. A functional, but minimal telegraphy with no excesses or redundancies, as is revealed by the legends to these images.

Turk's photographs, which portray objects or landscapes that do not exist are associated here with a hyper-real legend written by a scientist. The unsettling and disturbing unity created by the set formed by the photography and its legend creates a heterotopia «a place of impossibilities, a place without a place, a non-place, on the level of language» (Foucault), where all contradictions co-exist in a real space.

The author that is, enigmatically, absent from the work by ascribing it a meaning that he does not know, the deliberation to withdraw all meaning to a representation by flooding it with visual information; the Other, the skilled observer who sees what is not there, and all the others that see nothing other than what they are told.



*Medium to high power SEM micrograph of the same area as given in NADA 3 (referenceless photography 003-98) and NADA 2 (referenceless photography 002-98) after postfixation with OsO<sub>4</sub> and viewed in the backscatter mode. It is clear that the caveolae and the demarcations of the epithelial cells have lower backscattering properties than the basal lamina and the underlying cell membrane. This might indicate that the caveolae consists of phospholipids of a more saturated character and thus less binding to Os.*

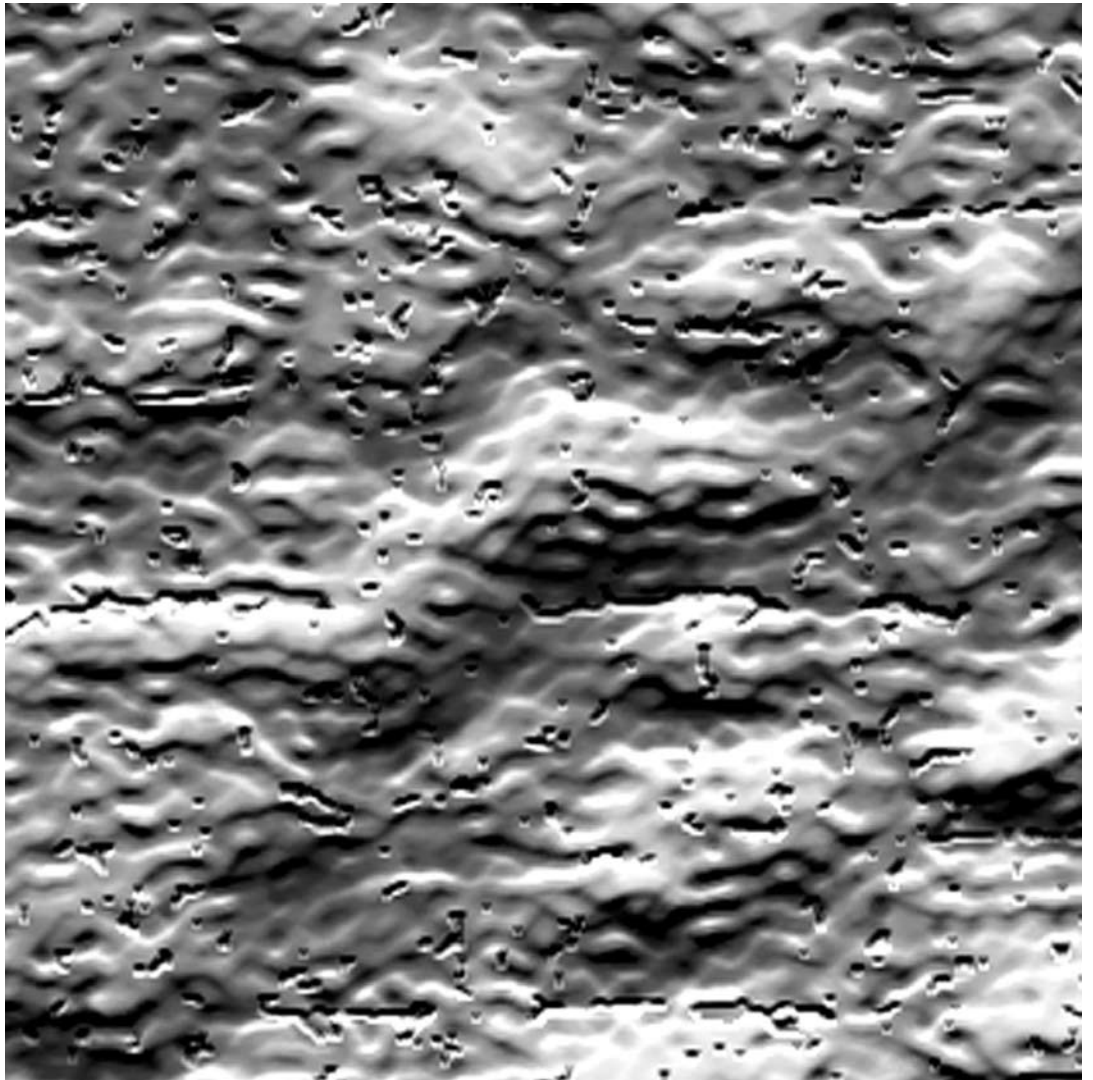
G. Vrensen, Electron Microscopist, University of Amsterdam, NL.

The representation of this non-place, can perhaps be compared to the fantastic Chinese Encyclopaedia of Jorge Luis Borges with its incongruent, but rigorous, classification systems that inspired others like Foucault to question the contingencies of our classification systems. The legends to these pictures further illustrate the paradox of such a system, where the information is required for the description and where the description itself generates the information required for the representation of the image. When we look at these pictures we only see what we can. Very often, we indeed see a lot and nearly always we see less than there is to be seen. The image is the surprising result of the overlapping of the object's representation and the projection of meanings, textures and forms, that are borrowed from our gaze.

We all know something about the experiences that question the fallibility of the senses and, for these and other more prosaic reasons, we know that we cannot believe all that we see. We are, however, less familiar with ascribing meaning and value to what we see. The total absence of meaning on over-invested images cannot be accepted without endangering hierarchies and social cohesion. The image is invested with dense, but unknown, visual information, the meaning of which is inaccessible to the vast majority of viewers. Because the image conveys a message which escapes and eludes our common references, it acquires a new value. It is the value of encrypted and coded information that can only be accessed by the other. The other, therefore, assumes the symbolic figure of authority to which a position in the social hierarchy of knowledge confers legitimacy. By exerting that authority the other confirms the image, ascribes it a meaning that ensures or restores social order.

One can imagine that the images presented here have meaning only to those who do not understand them. We look and see so very little that it is only too easy to believe that others should see more. The important thing is that there should be someone who knows and the one who knows is the one who can explain. Like in the novel by Miguel de Cervantes, Sancho Panza ends up tilting at windmills because it is Don Quixote who, from the back of his horse, sees giants.

Paulo Pereira, Coimbra / Portugal, 2006



*Medium power secondary emission sem micrograph of the basal epithelial membrane at the interface between anterior lens epithelium cells (LEC's) and lens fiber cells (LFC's) in the eye lens of a whale fish. The micrograph shows the numerous caveolae involved in the transport of nutrients from the LEC's to the underlying LFC's. Note that the individual LEC's are not well demarcated.*

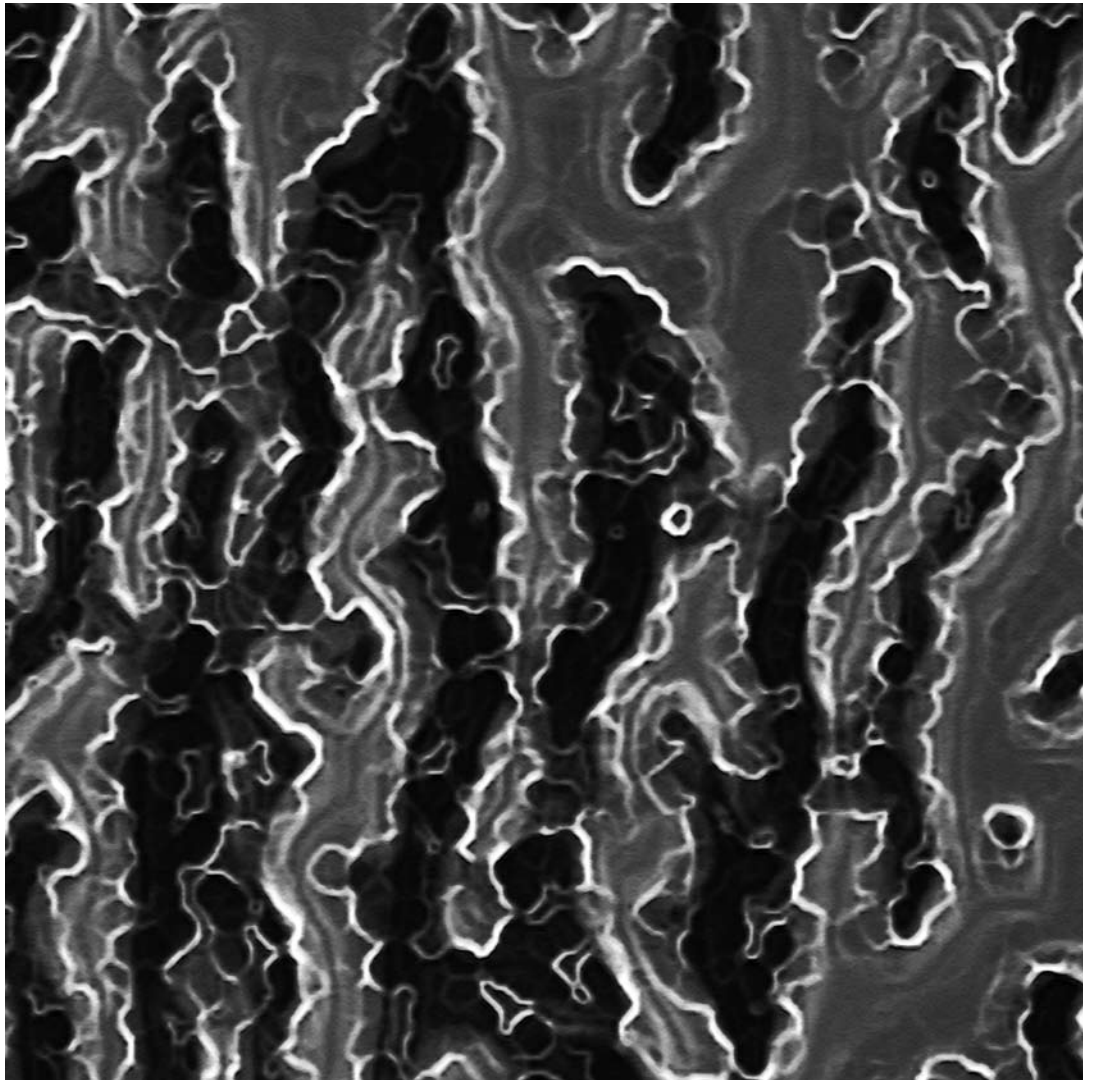
G. Vrensen, Electron Microscopist, University of Amsterdam, NL.

## MATERIAL AND METHODS

The whale fish eyes were extracted and immediately immersed in a para-formaldehyde solution. After one hour the lens was dissected and further fixed in the same solution for three days. The lens was divided into four parts. Of one of the pieces the anterior epithelium was peeled off and with the capsule side down pinned on a flat surface. The tissue was dehydrated in a series of ethanols and finally immersed in hexamethyldisilazane and than air dried. The specimen was glued on an aluminum stab, coated with a thin layer (7–10nm) of platinum and inspected in the secondary emission mode of a SEM.

Another piece was carefully rinsed in buffer, postfixed with OsO<sub>4</sub> for four hours. From this piece the anterior epithelium was peeled off and subsequently treated in a similar way as described above. In addition the remaining material was fractured along the fiber course and as described above dehydrated and dried. These specimens were glued on a stub and covered with a thin layer (7–10nm) of carbon. They were inspected in the back scatter mode of the SEM thus reflecting the distribution of Os in the upper part of the specimen.

G. Vrensen, Electron Microscopist, University of Amsterdam, Netherlands



*Medium power SEM view of lens fibers in the deep cortex viewed at the backscatter mode. Since the dark and light areas reflect the presence of Os it can be concluded that the distribution of highly saturated phospholipids and cholesterol (low binding of Os) and unsaturated phospholipids is not equal along the fiber membranes. This might represent the cholesterol rich and cholesterol poor domains of the fiber membranes as depicted on account of freeze fracture and raman studies using filipin as a marker for cholesterol (Van Marle et al. ,1991 and Duindam et al., 1998).*

G. Vrensen, Electron Microscopist, University of Amsterdam, NL

# THE ART OF MAKING SCIENCE

INGEBORG REICHLÉ

## I Art and Science

Up until the eighteenth century, art and science were hardly ever thought of as two worlds apart. It was only when the academies, which had been oriented towards universal science, came to be replaced by research institutions by and large organized according to a system of disciplinary compartmentalization, a big gap opened up between the two fields in the nineteenth century. The requirements of scientific research, which called for more technology and specialization, increasingly excluded the «fine arts», a development which was further aggravated by the industrialization of research practices and the emergence of *big science* in the twentieth century. Although science and art occasionally converged on each other in the twentieth century, art invariably continued to remain «the Other»—diametrically opposed to «objective» science.

Walter Benjamin was already quite polemic, speaking out against the «border guards» of the arts and scientific disciplines, calling for an interpenetration of art and sciences as he conceived the boundaries between these two realms of knowledge production as an artificially constructed demarcation line. Benjamin was definitely right: when we look at the production and working methods of art and science from close up, we identify many common features: collecting, archiving, structuring, observing, speculating, experimental examination or use of analogies and metaphor. In spite of the apparent proximity between artistic and scientific practice, it has been common currency since the eighteenth century to consider the ideal of knowledge in the natural sciences as empirical and «objective» whereas knowledge in art is usually denigrated as speculative and «subjective». As the disciplines took shape and specialized in the nineteenth century, the artistic cultures of knowledge and research were dismissed as pseudo-sciences or variants of theology. During that period numerous major governmental and private research institutions came into being, which subsequently led to a merger and systematization of technology, science and state to a hitherto unprecedented extent. In the twentieth century, state and science started co-operating even more closely when some American universities began to collaborate with industrial enterprises. The new form of co-operation opened up entire new opportunities for researchers and the dimensions of research grew enormously due to the funding available, resulting in far-reaching changes in both the organization of scientific work and in the practice of research. After World War II the *exponential* growth of sciences, the indispensable use of ever more

costly infrastructure and budding global networking in research led to dramatic changes and dependencies in the natural sciences. As a result, the boundaries between the individual spheres, such as science and technology, started to blur, causing the natural sciences to be transformed into technosciences.

Years ago, theorists such as Bruno Latour and Donna Haraway were far-sighted enough to reflect on the transformation of natural sciences into technosciences, describing the consequences of increasing standardization and industrialization in the production of knowledge for the natural sciences as something so dramatic that both Latour and Haraway no longer considered the term *natural* science adequate, which is why it came to be replaced by the notion *technoscience*. In the past few years, not only the natural sciences were subject to enormous change—art, too, underwent fast and furious changes in terms of technology and media. The expansion of the notion of art, the production of images in the mass media and the increasing aesthetization of commodities cause the distinguishing criteria of the art world to become blurred. In much the same vein, science progressively interlaces with society, thus being perceived as part of a «seamless Web» of political and economic institutions today—this concept was coined by Thomas P. Huges in view of the amalgamation of sciences and political-societal establishments.

## 2 Art from the Lab

The fact that the laboratories of life sciences have increasingly attracted the attention of artists is certainly due to the growing interpretational power of the related fields of science which promise no less than triggering a second Genesis. In the past decades, the life sciences were praised as *the* new key technologies which would bring health and prosperity to the people. The option to see this brave new world to become true raised enormous amounts of research funds and led to the emergence of big science projects such as the Human Genome Project, which called much public attention as it set out to decipher the human genome. Fast progress in the life sciences always also came with discussions on ethics since some critics could see nothing less than the status of human beings in nature at stake.

The scientific laboratory—as Bruno Latour once wrote—has today expanded its walls to include nature and even the whole world. So it seems obvious that artists, too, would begin to expand the realm of art to include elements from laboratory life. In the last few years we have seen a number of artists leaving the traditional artistic playground to work instead in scientific contexts such as the laboratories of molecular biologists. In recent contemporary art we see approaches that reveal the complex relationship between art and science, especially in the use of controversial technologies such as genetic engineering or tissue engineering. New art forms like ‘Transgenic Art’ and ‘Bio-Art’ have emerged from the laboratory.



These new crossover projects straddling art and life sciences were an especially well-known phenomenon of the 90's, when Petri dishes, laboratory mice and Skinner boxes or other laboratory equipment popped up at media art festivals and in galleries. Frequently, exhibition catalogues and the media celebrated the new movement in art as a reunion of art and science unheard of since the days of Leonardo. Artists such as Eduardo Kac promoted a continuation of evolution in art when he displayed a bioluminescent rabbit as a work of art, and Joe Davis brought to the art world Petri dishes which were to testify to his two decades of research work at the MIT Biology Department. In the wake of Kac and Davis, many artists now work with materials and methods from the laboratory sciences and collaborate with biotechnologists. Artists today use transgenic organisms in their works, addressing the perpetuation of evolution by humans through the creation of novel organisms according to aesthetic criteria, processes which the advent of recombinant DNA technology has made possible. By co-operating with laboratory researchers and using laboratory equipment and living organisms, artists hope to meet science on a par, and to open up new vistas for art and science.

### 3 The Art of Making Science

At first sight, Herwig Turk's works could also be considered as being part of this art movement. A number of his works, such as the multi-part series *blindspot*, consisting of *settingo4\_0006* (2006) *referenceless* (1998–2003), *blinddate* (2005), *uncertainty* (2007) and the two series of photographs *agents* (2007) and *labscales* (2007) were created in a lab in collaboration with scientists. For many years, Herwig Turk, who lives in Lisbon, has cooperated with the Portuguese cell biologist Dr. Paulo Pereira, a researcher at the Centre for Ophthalmology at IBILI (Institute for Biomedical Research in Light and Image), University of Coimbra. Many works by Herwig Turk were created in his laboratory. An overview of these works makes it clear that this is not one of the well-known types of artist-scientist collaboration which occurred so frequently in the Bio-Art context of the past few years. Rather, artist and scientist have joined forces to jointly approach issues of «perception» or «knowledge production» from different angles. Herwig Turk's works are located on the boundary between art and science, and due to their aesthetics they create a third space which challenges the perception of what is art and what is science.

In his work *settingo4\_0006*, which Herwig Turk carried out in co-operation with the artist and filmmaker Günter Stöger, the spectator is taken to a science lab which forms the sterile backdrop for the staging of various experimental acts. Although the video installation only shows a marginal section of a laboratory workbench, the reduction of the action to a few scenic elements gives rise to an unusually dense statement about the lab as a location where scientific methodologies and protocols are applied via acts. The movements of the scientist's hands, clad in protec-

tive gloves and the obligatory white laboratory coat, have a staged look to them. The rigid grid of shining white tiles and blackish-grey joints opens up the space where the action takes place, and the choreography of the hands carefully starts unfolding in its lower left-hand corner. The soundtrack to the arrangement consists of lab noises, and the hands are the only actors. Gestures in rapid succession describe in mime style what the scientist does according to a protocol. By refraining from showing lab equipment, attention focuses on the researcher's knowledge reflected in the acts. The cross-fading and constant repetition of the gestures demonstrate how precisely routine processes are carried out. However, although the researcher is trying hard to be exact in the way she handles the experimental setting, deviations and small differences identified due to the constant repetition and visual superimposition of gestures raise some doubt as to whether day-to-day laboratory practice can indeed always meet the requirements of scientific claims.

A similar artistic approach can be found in the video installation *uncertainty* (2007), which Herwig Turk and Paulo Pereira complement with a quote by the Austrian physicist Manfred Drosig: «A model can never be a perfect description of reality, and there can never be a part of reality perfectly mirroring a model». Again, a section of a workbench in a laboratory is set like a stage but this time the action centres on a piece of lab equipment. Centre-space, there is a shaker with a glass vessel containing a fluorescent solution in motion. At the start, it is hardly noticeable that the glass vessel is not the only thing moving as the projection starts shaking, so that the movement of the camera is superimposed on the movement of the equipment. In this installation Herwig Turk placed the camera on a second shaker, which moved in synchronised fashion whilst the movement of the first shaker was recorded. In a precisely controlled experiment the solution would not move. This, however, is impossible since the movement of both shakers can never be perfectly synchronized. This impossibility is represented on one of the screens, whereas on the second screen the movement has been artificially synchronized in post-production, so that the solution no longer moves. Manfred Drosig's statement makes the visual irritation which the observer is confronted with clearer: models are indispensable instruments when it comes to the formation of scientific hypotheses and communication. They concretize and illustrate complex knowledge structures. Models are not only simplifying copies of a reality preceding them but legitimate parts of scientific theories in their own right. In the process of translation from theory to concretization in the laboratory experiment, uncertainties may arise due to a degree of resistance in a sense inherent in the materiality of the lab equipment.

The work *blinddate* (2005), the two series of photographs entitled *agents* (2007) and *labscales* (2007) as well as *agglomeration* (2004) depict science lab instruments as well as experiments in different media without, however, showing materials, model organisms or scientists.

The installation *blinddate* (2005) consists of a tripartite video projection showing various instruments magnified to a degree that borders on the lofty. By concentrating on the equipment and their displays, which are part of a scientific experiment, these become living actors. The video seeks to overcome the lifeless character of the instruments by filming and showing them in real time. The larger-than-life projection of processes which are part of every-day life in practical research, open up a subtle approach to the laboratory as a site of knowledge generation without alluding to the Frankenstein myth.

The works *agents* (2007) and *labscapes* (2007), which look like a collection of conceptual still life evidence, afford an ethnographer's view of laboratory instruments. As the works focus on depicting the materiality of the lab objects, the statement they make about the processes of knowledge construction at the laboratory is filled with tension.

The laboratories which Herwig Turk pictures are detailed documentary-like presentations of labs as sites of real empirical research—however, it is precisely the seemingly uncommented depiction of the instruments themselves which gives the objects more expressive power and makes them look like actors rather than passive objects.

The still lives show the lab as an environment with condensed and heightened atmosphere where natural and social orders with occasionally ambivalent relations are reconfigured. In laboratory practice, just like in art practice, objects are taken out of their «natural» environment and installed in a new field of phenomena, defined by social players and always subject to re-negotiation. Natural objects can be modelled and transformed under specific laboratory conditions so that they turn into epistemic objects the emergence of which is inseparably linked with technical or instrumental requirements.

The way in which reality is dissected or a new reality is created in the lab by using instruments and carrying out experiments, and how this process then becomes part of scientific cognition and practices is by no means a trivial matter. Research on the history of science has only lately started to pay more attention to this interaction of material culture and scientific insights. The interest in the related evidence of material culture in the sciences is due to the fast developments which caused sustained transformation of the natural sciences. For a long time, instruments in the sciences went almost unheeded as people tended to believe that the natural sciences were only about ideas and instruments would merely be aids for the purpose of measuring and observing. The interaction between instrument, experimental practice, insight and theory formation was not perceived for a long time and only came to be investigated thoroughly in the past three decades.

The way in which Herwig Turk's works—created in co-operation with Paulo Pereira of the Centre for Ophthalmology at IBILI (Institute for Biomedical Research in Light and Image), University of Coimbra—thematize the construction of knowledge in the laboratory sciences is different

from Bio-Art works and projects, different in a positive sense. Moving images, sophisticated editing, inserted sequences of abstract imagery and a fine-tuned choreography of sounds and noises confront the viewer with artefacts from the scientific lab.

He shows instruments and gauges which can visualize the invisible whilst at the same time making the viewer aware by way of the artistic staging that there exists a higher-order problem of visualization and perception as such, and he does so in a highly diverse way. Unlike the art projects of Bio-Art, which seek to act outside the mechanisms of representation by using laboratory processes, Herwig Turk's installations deliberately operate with a variety of facets of representation so as to make art and science comprehensible as part of a structure of medialized translation processes. Although numerous bio-artists try to expose the Frankstein myth of modern life sciences, they adopt it at the same time by showing it as such—in the form of transgenic animals or other transgenic organisms. However, only when the perception of the science lab is refracted through the artists lens, the lab as a system of bestowing cultural meaning will be visualized at all—because the distance required for reflection is created that way.

Berlin / Germany, 2007



TURK  
PEREIRA

## agents

*agent MC*, 2007, lambda print 100 × 80 cm mounted on aluminium

*agent ML*, 2007, lambda print 100 × 80 cm mounted on aluminium

*agent MR*, 2007, lambda print 100 × 80 cm mounted on aluminium





*agent LC*, 2007, lambda print 100 × 80 cm mounted on aluminium  
*agent LL*, 2007, lambda print 100 × 80 cm mounted on aluminium  
*agent LR*, 2007, lambda print 100 × 80 cm mounted on aluminium



*agent PC*, 2007, lambda print 100 × 80cm mounted on aluminium  
*agent PL*, 2007, lambda print 100 × 80cm mounted on aluminium  
*agent PR*, 2007, lambda print 100 × 80cm mounted on aluminium



## blinddate

*blinddate* is a large-scale, high-resolution, video performance that is part of an ongoing project entitled *blindspot*.

Formal support for the *blinddate* performance is provided through three simultaneous high-definition video projections that are synchronized and combined with sound collected from the laboratories. Although at times the three sequences show the exact same image, each has its own independent structure.

*blinddate* explores the meta-language of laboratory life, through an approach where objects are dissociated from their usual context. This approach further explores the paradox that objects, that are generally viewed as practical tools in the hands of the scientist, may become anthropomorphic representations by posing as autonomous entities in a series of portraits.

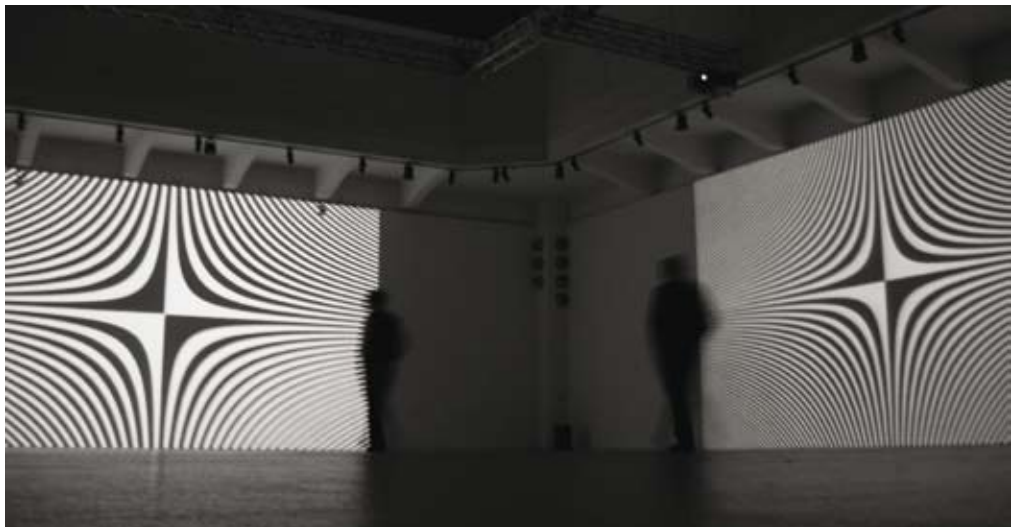
There are only brief glimpses of an organ, as viewed and imaged through a machine, thus adding to its alien character. This is a performance where objects are the only «true» characters. The organ remains an organic object that is being calibrated and assessed for its physical properties. The machine «looks» at the organ which becomes the object of calibration.

*blinddate* also comprises a subtle questioning of the fallibility of scientific procedures that rely on the calibration of machine-made measurements (movement, position, temperature, light, absorption, etc). Useless scientific information, taken from experiments that went wrong, is shown and confronted with the apparent precision of the instruments' calibration.

The sound is based on recordings done in the lab which are partly filtered and recycled. The sound occasionally synchronizes itself with the image eventually losing them again. By using this approach, the soundtrack is deliberately used to alter and modulate perception of the image.

As a whole, *blinddate* is an ongoing research project about portraits of laboratory life and representations of scientific language, exposing its limits and crossing the traditional boundaries of life-outside-of-the-laboratory. The project is certainly not a documentary on laboratory events but rather a real-time experiment that is directed in the space of the laboratory with its occupants.

Paulo Pereira, Coimbra / Portugal, 2006

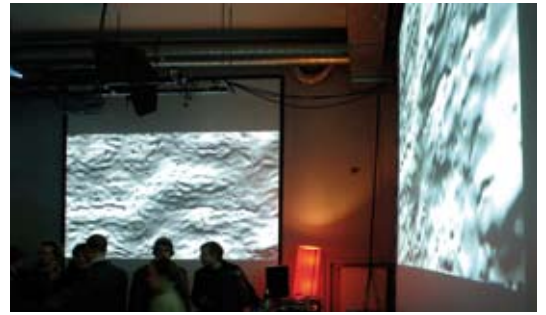
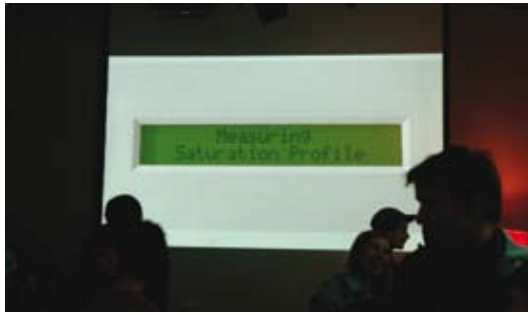


## THIS IS HAPPENING

FIONA LIEWEHR

Herwig Turk and Günther Stöger do not limit their artistic interests to neighboring disciplines. Together with natural scientists and physicians, they work on interdisciplinary research projects involving perception, whereby they attempt to transcend traditional boundaries between science and art. In large-scale high-definition video installations they show everyday life in the laboratory, with its precision devices and scientific experimentation processes. Close-ups of mechanical measurements alternate with microscope images, and these visuals are accompanied by a partially synchronized soundtrack created directly in the laboratory. Translated into monumental video projections, which run simultaneously on three walls and are combined with heavily amplified laboratory noises, the scientific devices take on an outlandish life of their own. Microscopes become threatening objects, while the images of organic structures seen through them appear as abstract patterns. The accompanying audio track transforms the recipient's relationships to the object by stimulating attempts to bring the audio and visual components into accord and relate them to each other directly. Because the soundtrack often runs contrary to the images shown, these attempts are doomed to fail and give rise to an irritation of accustomed perceptual habits. The projection arrangement is of crucial significance. It surrounds the viewer fully and embeds him in an environmental situation where he is in danger of losing himself. By transferring the world of scientific knowledge production, which otherwise operates behind closed doors, into the exhibition space or—as in this case—into a club, Turk and Stöger allow empirically obtained knowledge to become a temporary group experience, bringing spheres that normally seem fully incommensurable into a direct relationship. Not only the space between science and art, but also that between science and life, is subjected to a critical inquiry. What are the pieces of knowledge produced by scientific procedures, and how fallible are they, even though they are supported by seemingly dependable mechanical measurements? Would it not make sense for the world of science to open itself to the field of art, for it to make use of artistic processes and approaches in the development of new methods, as conversely art has in the last years turned its attention to science?

Vienna / Austria, 2007



[top four images] *This Is Happening*, Installation Schikaneder, 2007, Georg Kargl Fine Arts Vienna. Photos: © Lisa Rastl, Vienna  
 TESLA media art laboratory, Berlin, 2006, Photo: © Herwig Turk

## setting04\_0006

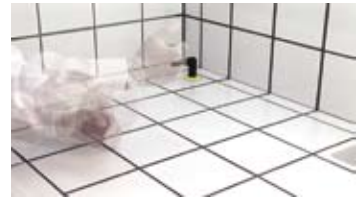
### WHAT'S IN A GESTURE?

Previous installations of *blinddate* have explored, through various means, the intrinsic value and the social representations of scientific language. Hierarchical systems of communication and objects of representation in science have been approached as far as they pertain to perception.

By exploring and crossing traditional boundaries between science and art, it is possible to denunciate the structure of scientific proceedings. Moreover, it is possible to isolate and highlight the symbolic nature of science and its means of social representation, emphasizing its strong dependence on perception. According to Bruno Latour, the permeability between the site of experiments and its surroundings creates the possibility of producing symmetric analysis. The *setting04\_0006*, as well as the *blindspot* Project as a whole, explores the non-linear interface between humans and non-humans in the ecotone created by the transitional boundary between laboratory space and the space outside-of-the-laboratory.

Gestures are part of laboratory life, as are objects and scientists. In previous projects *blindspot* examined the perception of spaces when humans were removed and objects assumed centre-stage. The object created an unambiguous and sharp language conveying new meaning and an alien identity to the laboratory space. In *setting04\_0006* both the human entities and the objects were eliminated. Only gestures remained, creating a continuous and complex sequence of movement. The repetition of a complex sequence of movement creates a primordial pantomime. However, at closer look, there is an intrinsic complexity in the movement. Due to the absence of external references and structural principles one observes in gestures accompanying language, the whole sequence is rapidly lost acquiring a rather crude and unsettling character of expression. They are little more than stochastic short sequences of movement. Ultimately meaningless. Yet, minimal contextual elements are still present: gloves, a white coat. Traces and clues that remind the viewer that this is part of a bigger picture, that was deliberately left out of each frame.

The creation of sign language appears to be a primordial instinct in humans and other primates and begins with the development of protosigns, a combinatorially open repertoire of manual gestures. Human beings have an innate ability to create new languages and give language its fundamental structure (Senghas 2004, *Science* 305). Conversely, the need to ascribe meaning to a gesture appears to be an equally «natural» necessity. As the viewer attempts to follow the movement of the hands, it is perceived



as an incongruent narrative, leading to a dead end or a circular labyrinth. Like *paradise-paradox*, *settingo4\_0006* represents an empty landscape devoid of references. The customary references that confer meaning to representation are absent and the gestures are scaffolding surrounding an empty space. There is no support and there is nothing to be supported.

A second and third layer of information is added through superimposed supplementary footage. An attempt to reproduce the same gestures, the same movement of precision. An attempt to manipulate objects that are no longer there. As seen from the inside-of-the-laboratory perspective, the scientist has lost her tools. The objects are no longer present, but a trained memory is still able to reconstitute a series of movements. Because of its highly functional nature—this is not a symbolic language—the movements lacks objects, or rather, the objects act as extensions of the scientist's hands.

Paulo Pereira, Coimbra / Portugal, 2006

Installation *settingo4\_0006* at the exhibition *Say it isn't so*, Neues Museum Weserburg, Bremen  
*settingo4\_0006*, 2006, stills from the video

## uncertainty

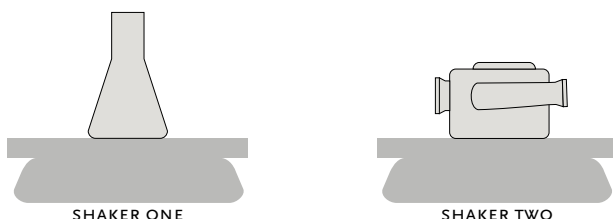
The *uncertainty* installation's motto is a quote from the Austrian physicist Manfred Drosch: «A model can be a perfect portrayal of reality, and there can never be a part of reality perfectly mirrored by a model». This statement emphasizes the impossibility of generating the perfect model, as well as the inability of a model to ever fully represent reality.

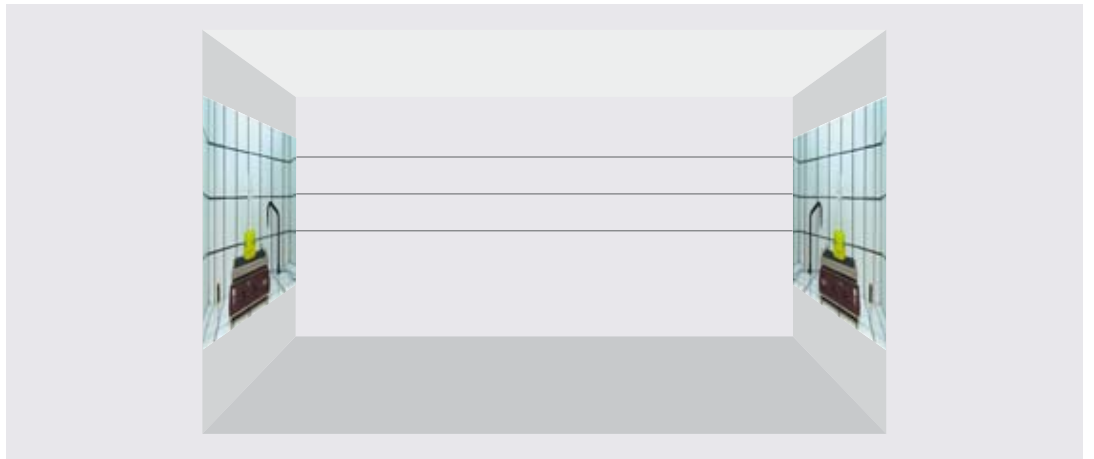
Indeed, the Heisenberg Uncertainty Principle broadly establishes, that the act of «looking» at an object changes the properties of that object.

In this installation the camera «looks» and registers the movement of a fluorescein solution set on top of a shaker. The camera is also supported by a similar shaker, set to move at the same speed, in an attempt to reproduce the solution's exact motion. In a precisely controlled experiment the solution would not move. This, however, is impossible since the movement of both shakers can never be perfectly synchronized. This impossibility is represented on one of the screens, whereas on the second screen the movement has been artificially synchronized through post-production, so that the solution no longer moves. However, on this screen the whole stage begins to move. The artificial immobilization of the fluorescein solution results in an apparent shaking of the white background that acts as the scenario that fully encloses the installation. The stationary stage is no longer stable and the vibrating solution becomes disturbingly still. A small black border occasionally appears on the screen's periphery, dissolving yet another reference: the frame of the screen.

The shaking solution is filmed against a white background of precisely arranged tiles, defining a clean, empty stage. The absence of external references and the symmetry of the setting evoke a virtual space and a heterotopic laboratory space simultaneously.

The structure of the interfolded systems in the installation and the manipulation of the «inertia referentials» challenge the perception of space and velocity, causing a sensation of indisposition or malaise.





*uncertainty*, 2007, two channel video installation, 4 × 6 × 4 m



## THERE IS NOTHING TO SEE...

REINHARD BRAUN

«When the air shimmers, distorting perception, this impacts on our access to reality and thus on our understanding of ‘sense-certainty’, on our understanding of truth in terms of correspondence theory, etc.» (Arthur Roesler referring to Plato) Every question about perception, about a reality of perception or a reality through perception, must be reduced to the question of a medium. «There is no way that we could circumvent language or representation and penetrate into reality, into the unshaped traces of matter behind things or our experience.» (Joel Snyder) What we are able to conceptualize as perception is aimed primarily at giving an order to a «world in constant change and confusion» (Aaron Siskind), at ascribing meaning to it, at giving structure to the «vast disorder of objects» (Roland Barthes), at performing an appropriation, a transformation. «Realistic depiction is conceptually and historically based upon the adoption of a model that permits (...) to demand, and indeed, to find systematic relations between picture and object of depiction. But this ‘object’ is not simply ‘the way the world is,’ ‘the way the world looks,’ nor even ‘the ways we use our vision,’ it is rather a standardized, or characterized, or defined notion of vision itself.» (Joel Snyder) In other words: there is no «natural» perception but rather only a constant comparison with models of perception. Since the seventeenth century at the latest, these models have been primarily models of media, initially of optics, then later—since Goethe—a model of a perception-based body that is also conceived as a kind of medium.

On this premise, we may conceive perception as a specific «order through visibility» that exists solely within the framework of these models—as a systematization between perception, picture and object. But this order produces not only perceptions or pictures, as an arrangement of modelled *physis* it always also produces a power that reveals things—that reveals things in a very specific manner, that shapes the discourses through which things are revealed: hence, perception is not so much a matter of physiology but rather of cultural power relations—the power to ascribe meaning to an appearance or perception. Media, especially, are not found «mediators», nor ingenious or obscure technical inventions, but rather systematic operators that are positioned at very specific places in discourse and produced in complex cultural exchange relations. Media testify to the extent to which perception is encoded in culture, to the extent to which every perception is bound to processes of its discursification and culturalization. Media, in particular, highlight the necessity and unavoidability of mandating perception to a cultural hegemony, a hegemony in which this power of revealing is inscribed. In this sense, media are

potentials of distinction, they allow us to create a meaningful, significant (ideological?) form of processes of representation and communication. Media, then, embody above all and first and foremost possibilities for cultural practices of creating meaning. The object of perception is owed to this subsequent reconstruction through culturally encoded media (language, writing, picture): without a medium there can be no «object», but without an object there can be no perception. And without meaning there can be no «phenomena» of a real world.

And finally, it is not only a matter of constructing seeing, perception or a view, it is equally about constructing a subject as a point of departure for perception, for every view, and for every picture. The «constitutive inclusion of the viewer (...) is not to be seen as a mistake to be overcome, but rather as a condition of observation itself (...)» (Elena Esposito) This condition of observation, in turn, is not only the point of departure for seeing, but also the «place» of an identity: the power ascribes and inscribes a certain subjectivity and identity into every point of departure of perception. Perception as the ascription of such a relation of representation—the definition of a «place» at which perception takes place and is translated into meaning—thus represents a powerful social system of signification that, at the same time as it communicates its ostensible ‘content’ (by constructing a picture, an object), also produces the ideological subject. (Victor Burgin) Every perception, then, in addition to its object also produces a place of making visible, of becoming visible, of perception of a created visibility; perception is the ascription of a cultural ability to act that is not limited to seeing pictures, but which rather culminates in decoding their meanings. Even if the place of perception coincides with the place of production of an identity, this coincidence once again reveals both the artificiality of every conception of perception of phenomena, as it revises every assumption of a «natural» identity. Just as perception does not fall to us as a natural function of our body, but rather may always only be experienced in a cultural construction of visibilities and meanings, identity does not fall to us as the «natural» production of our subject, but equally only becomes imaginable as a construction of cultural contexts of description. In the maelstrom of a general mobilization of the signs and meanings and of an ineluctability of representation, these considerations would appear both obvious and outrageous: obvious, as the profound influence of media-technical processes and apparatuses on everyday life would seem to render any thought of «naturalness» completely obsolete; outrageous, as a criticism of these conditions cannot open up a path to «sense-certainty» or any manner of reality. We must admit that «we are irrecoverably estranged from a supposed ‘origin’ to which we nonetheless continue compulsively to refer.» (Steven Shaviro) But the question is whether this compulsion brings us closer to an understanding of what could be described as a process of perception.



TURK  
ALMEIDA  
PEREIRA

## agglomeration

*agglomeration002*, 2003, lambda print 80 × 80 cm mounted on aluminium

*agglomeration003*, 2003, lambda print 80 × 80 cm mounted on aluminium

*agglomeration004*, 2003, lambda print 80 × 80 cm mounted on aluminium

*agglomeration005*, 2003, lambda print 80 × 80 cm mounted on aluminium



*agglomeration006*, 2003, lambda print 100 × 80 cm mounted on aluminium



TURK  
STÖGER

## paradise\_paradox

FRED TRUNIGER

In their work *paradise\_paradox* Herwig Turk and Günter Stöger present a perfect landscape: a plain, whitish-blue sky and a horizon that separates the two. The plane is vast; we can only surmise the pale outlines of mountains in the distance. We don't actually see them. This is former Lake Bonneville in Utah, a glistening white plateau without contrasts or profile. Total reduction of space: no distances, no speed, no proportions. Actually, it is an impossible space. After all, if there is no incline, what makes the rainwater drain? The gaze wanders around the infinite plain, looking for a place to rest without finding one. Unlike the water, it seems to drain easily. In this landscape of total reduction the only thing left is the thin line of the horizon. However, at some point even that seems to liquefy. Mountains move like passing clouds. A panorama without beginning or end starts circling around the beholder, developing a vortex that draws him or her towards the uncanny. People pass by like specters. The boundaries between inside and outside start to blur. Losing its bearings, perception veers into a crisis...

*paradise\_paradox* ventures into the extremes of human perception. Spaces without reference points and landmarks cause one of the most enigmatic anxieties we know: agoraphobia—giddiness when faced with an infinite expanse of space. Time seems to be extended infinitely too. The salt lake is one of the most geologically stable sites in the world. In view of these dimensions, the only thing left for us is an indefinite feeling of alienness.



*paradise\_paradox*, installation UNIKUM Klagenfurt/Austria, 2005, photos: Gerhard Maurer  
[next two pages] *paradise\_paradox*, 2005, stills from the video











TURK  
PEREIRA

## labscapes



*labscape 01, 2007, lambda print 150 x 120 cm mounted on aluminium*



*labscape 02*, 2007, lambda print 150 × 120 cm mounted on aluminium



*labscape 03, 2007, lambda print 150 × 120 cm mounted on aluminium*

## BIOGRAPHIES

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### HERWIG TURK

Born in 1964 in St. Veit / Glan, Austria.  
Lives and works in Vienna and Lisbon.  
<<http://www.hervigturk.net>>

1982 University for Applied Arts Vienna | Since 2003 Project leader, *blindspot*, interdisciplinary research project on perception | 1996 Founding member, inclination group vergessen© | 1996–2000 Projects with inclination group vergessen© | 1992 Founding member, HILUS Intermediale Projektforschung, Vienna | 1992–1996 HILUS projects

### Selected Exhibitions

2007 *SAY IT ISN'T SO*, Neues Museum Weserburg, Bremen (*settingo4\_0006*) • *This is Happening*, Georg Kargl Fine Arts, Vienna (*blinddate*)  
2006 *paradise\_paradox*, ACF Austrian Cultural Forum, New York • *blinddate*, TESLA Labor für mediale Künste, Berlin • *I still love the 20th Century*, Georg Kargl Fine Arts, Vienna (*paradise\_paradox*) • *Kunst & Medizin. Schnittstellen zum Körper*, Steirische Landesausstellung • Gesundheitszentrum Bruck an der Mur (*blinddate* Installation) • *Kunst & Medizin. Schnittstellen zum Körper*, Gesundheitszentrum Bruck an der Mur and Kunstverein Medienturm, Graz • *Körperchen*, Medienwerkstatt Wien and Italian Cultural Institute, Vienna (*settingo4\_0006* prototype)  
2005 *blinddate*, MAK Museum of Applied Arts / Contemporary Art, Vienna • *paradise\_paradox*, produced by UNIKUM, Felsenhalle Kreuzberg, Klagenfurt • *SIMULTAN. Zwei Sammlungen Österreichischer Fotografie*, Museum der Moderne, Salzburg  
2004 *Der Himmel ist nicht blau, er ist violett*, Medienwerkstatt Wien, Vienna (with Paulo Pereira) • *Contemporary Austrian Photography*, House of Photography, Poprad (*agglomeration*)  
2003 *Operation Figurini*, public space project in Vienna  
2002 *thanatotronics*, Galerie mini, Dokumentarfilmfestival, Duisburg (with G. Sengmüller and monochrom)  
2001 *can you see it?*, Ex Essiccatoio Bozzoli, St.Vito Al Tagliamento  
2000 *immer ärger mit dem realen*, Galerie 60, Feldkirch • *Körper II*, Fotogalerie, Vienna • *New Austrian Spotlight*, University Marmara, Istanbul • *Der Anagrammatische Körper*, ZKM Center for Art and Media, Karlsruhe  
1999 *Fin de Siècle*, Grazer Stadtmuseum, Graz • *Blood is 95% Emotion*, intracorp, together with Doris Moser, produced by cell.nl, Santa Clara Hospital, Rotterdam  
1997 *never age—never die—never live*, former septic operation room, LKH Wolfsberg • *Jenseits von Kunst*, Ludwig Museum Budapest, Neue Galerie, Graz  
1996 *parallelaktion*, MAK Museum of Applied Arts / Contemporary Art, Vienna • *deep freeze islands*, Ex Essiccatoio Bozzoli, St.Vito Al Tagliamento • *Happy End*, Kunsthalle, Düsseldorf • *HYBRID*, Forum Stadtpark, Graz • *Version 2.2*, Saint Gervais de Geneve, Geneva  
1995 *Transmission from Austria*, Aldrich Museum, Ridgefield, Connecticut  
1994 *suture—Phantasmen der Vollkommenheit*, Salzburger Kunstverein  
1992 *Zeitschnitt*, Messepalast Wien, Vienna

### Festivals

2007 *settingo4\_0006*, transmediale, Berlin  
2006 *paradise\_paradox*, Austrian Filmfestival Diagonale 2006, Graz • *paradise\_paradox*, Número Festival, Lisbon  
2003 *blinddate*, LUX Lisboa, on the occasion of Videolisboa—International Videofestival, Lisbon (*blinddate*, with P. Almeida, D. Robnik, P. Hoermanseder)  
1999 *Anonym*, Erste Fototriennale Hamburg, area of the central meat market, Hamburg

### Selected Projects with HILUS

1999 *translocation (new) media / art*, Generali Foundation, Vienna  
1993 *UNIT<sup>41</sup>*, Projektraum wuk, Vienna  
1992 *Open Circuit*—a round table conference about art and media systems, organized by HILUS

### Selected Projects of Inclination Group vergessen©

1998 two week-long vergessen©Projekt in the city area and FUNDERwerk3, St. Veit / Glan  
1997 Symptoms and Home Remedies, Brno • Down-town Arts Festival, New York (forget / ting Kiosk) • Opening of the vergessen©Shop in Vienna • July—August, 800 vergessen©Posters throughout Vienna (supported by gewista) • Diagonal-vergessen, radio transmission Ö1  
1996 Website start up: <<http://www.vergessen.com>>

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### PAULO DE CARVALHO PEREIRA

Born in 1967.

### Academic degrees, field of study, institution, date

Habilitation / Aggregation, Biomedicine, University of Coimbra,  
2007 • PhD, Cell Biology, University of Coimbra, 1996  
• BSc / MA, Biochemistry, University of Coimbra, 1990

Since 1999 director—Lab. Biology of Ageing, Center of Ophthalmology, IBILI—Faculty of Medicine, University of Coimbra | 1999–2000 Visiting Scientist / Assistant professor, Tufts University, Boston | 1997–1999 Post-Doc research fellow, UCL—London,

### Main scientific area of research

Oxidative damage, diabetes and regulation of the ubiquitin dependent proteolysis in the eye

### Other scientific areas of interest

Mechanisms of cell damage and repair, Science-art interdisciplinary projects

### Teaching [course name / institution / position]

Master in Vision Sciences, Faculty of Medicine, Coordinator • Inter-University PhD Program, University Coimbra, Valladolid and Murcia, Lecturer / Supervisor • Master in Vision Sciences Faculty of Medicine • Lecturer Biology of Ageing • PhD programme in Experimental Biology and Biomedicine CNC- University of Coimbra • Coordinator Advanced Course on Biology of proteolysis • Supervision of post-graduate students (last 4 years)

Master students in Vision Sciences and Cell Biology: 6 students  
PhD Students—Biomedical Science: 7 students

#### Coordination of externally funded research grants (PI)

**1998** CRUP—British Council B3/98 «F2-Isoprostanes as Markers of Oxidative Injury in Human retina» CRUP—British Council B4/98, «Age Related Elimination of Oxidized Proteins as Potential Cause of Cataract»  
**1997–1999** JNICT—PRAXIS XXI «Implications of cholesterol oxidation in Human cataract formation»  
**1999–2001** FCT—PRAXIS XXI «Age, diabetes and cataract related changes in ubiquitin—dependent proteolysis in human lens epithelial cells»  
**2002–2005** FCT-POCTI «Degradation of GLUT1 by ubiquitin proteasome pathway as a novel regulatory mechanism for glucose transport on diabetic retinopathy»  
**2002–2005** FCT-POCTI «Identification and physiological role of deubiquitinating enzymes in the lens: A novel function for ubiquitin»  
**2005–2008** FCT-POCTI «Filling in the GAP: the missing link between intercellular communication and diabetic retinopathy»  
**2005–2008** FCT-POCTI «What HIF? Degradation is better than growth in preventing angiogenesis»  
**2005–2008** RNEM REDE /1510 / RME /2005 «Molecular mechanisms of cell damage and ageing»  
**2005** IA—Institute of Arts «*blindspot*—An interdisciplinary project about perception»  
**2007–2010** FCT-PTDC A new route for endothelial dysfunction on diabetes: From phenotypes to molecules

#### Selected Publications (last 5 years)

FERNANDES A F, GUO W, ZHANG X, GALLAGHER M, IVAN M, TAYLOR A, PEREIRA P and SHANG F. Proteasome-dependent regulation of signal transduction in retinal pigment epithelial cells. *Exp Eye Res.* 2006;83(6):1472–81.  
MARQUES C, GUO W, PEREIRA P, TAYLOR A, PETERSON C, EVANS P and SHANG F. The triage of damaged proteins: Degradation by the ubiquitin-proteasome pathway or repair by molecular chaperones. *FASEB J.* 2006, 20:741–743  
GIRÃO H, PEREIRA P, TAYLOR A and SHANG F. Subcellular Redistribution of Components of the Ubiquitin-Proteasome Pathway during Lens Differentiation and Maturation. *Invest Ophthalmol Vis Sci.* 2005, 46:1386–92.  
FERNANDES R, GIRÃO H and PEREIRA P. High glucose downregulates intercellular communication in retinal endothelial cells by enhancing degradation of connexin 43 by a proteasome-dependent mechanism. *J Biol Chem.* 2004, 279:27219–27224.  
FERNANDES R, CARVALHO A L, KUMAGAI A, SEICA R, HOSoya K, TERASAKI T, MURTA J, PEREIRA P and FARO C. Downregulation of retinal GLUT1 in diabetes by ubiquitinylation. *Mol Vis.* 2004, 10:618–28.  
MARQUES C, PEREIRA P, TAYLOR A, LIANG J, REDDY N, SZWEDA LI and SHANG F. Ubiquitin-Dependent Lysosomal Degradation of the HNE-Modified Proteins in Lens Epithelial Cells. *FASEB J.* 2004, 18:1424–6.  
GIRÃO H, CATARINO S and PEREIRA P. 7-Ketocholesterol modulates intercellular communication through gap-junction in bovine lens epithelial cells. *Cell Communication and Signaling.* 2004, 2:2.  
GIRÃO H, QUINLAN R, PEREIRA P and PRESCOTT A. Cholesterol oxides mediate changes in cytoskeleton organization involves

Rho GTPases. *Exp Cell Res.* 2003, 291:502–13.  
GIRÃO H and PEREIRA P. Phosphorylation of connexin 43 acts as a stimuli for proteasome-dependent degradation of the protein in lens epithelial cells. *Mol Vis.* 2003, 9:24–30.  
PEREIRA P, SHANG F, HOBBS M, GIRÃO H, TAYLOR A. Lens fibers have a fully functional ubiquitin-proteasome pathway. *Exp Eye Res.* 2003, 76:623–31.  
GIRÃO H, SHANG F, PEREIRA P, 7-Ketocholesterol stimulates differentiation of lens epithelial cells. *Mol Vis.* 2003, 9:497–501.  
NOUROOZ-ZADEH J, PEREIRA P: F2-Isoprostanes as potential specific markers for oxidative damage in human retina. *Ophthalmic Res.* 2000, 32:133–7.  
ENGLAND T, BEATTY E, REHMAN A, NOUROOZ-ZADEH J, PEREIRA P, O'REILLY J, WEISEMAN H, GEISSLER C, HALLIWELL B. The steady-state levels of oxidative DNA damage and of lipid peroxidation (F2-isoprostanes) are not correlated in healthy human subjects. *Free Radic Res* 2000; 32: 355–62.

#### GÜNTHER STÖGER

Born in 1970 in Klagenfurt.  
Lives and works in Vienna and Berlin.

1989 School of Audio Engineering (SAE), Vienna | 1991–1997 Editor for Austrian television (ORF) | 1998–1999 Certificate in film New York University | Since 2000 Filmmaker and artist

#### Selected Exhibitions

2007 *This is Happening*, Georg Kargl Fine Arts, Vienna (*blinddate* Installation)  
2006 *paradise\_paradox*, ACF Austrian Cultural Forum, New York • *blinddate* Installation, TESLA media art laboratory, Berlin • *I still love the 20th century*, Georg Kargl Fine Arts, Vienna (*paradise\_paradox*) • *Kunst & Medizin. Schnittstellen zum Körper*, Gesundheitszentrum Bruck an der Mur and Kunstverein Medienturm, Graz • *Körperchen*, Medienwerkstatt Wien and Italian cultural institute, Vienna (*settingo4\_0006* prototype)  
2005 *blinddate*, MAK Museum for Applied Arts / Contemporary Art, Vienna • *paradise\_paradox*, produced by UNIKUM, Felsenhalle Kreuzberg, Klagenfurt 2001 • *panormal panorama kitchen*, Palmenhaus Wien, Vienna (with Hille and Uwe Bressnik)

#### Festivals

2007 *settingo4\_0006*, transmediale, Berlin  
2006 *paradise\_paradox*, Austrian Filmfestival Diagonale 2006, Graz • *paradise\_paradox*, Número Festival, Lisbon  
2004 Jüdische Filmwoche Wien (*Die dritte Minute*, Spielfilm, directed by Christian Mehofer, edited by Günter Stöger) • MAX! —International Film Festival Hong Kong • Jewish Motifs: Warsaw International Film Festival, Warsaw World Jewish Eye Film Festival, Tel Aviv

**BEATRIZ DE OLIVEIRA SEQUEIRA CANTINHO**  
Born in 1969, Portugal.

#### Academic qualifications

Master in Aesthetics: *The singularity in the construction of «body without organs» in dance* supervised by Prof. José Gil, at the Universidade Nova de Lisboa • Graduate of the Superior School of Dance, Instituto Politécnico de Lisboa

#### Artistic background

**2004** Program TTT do Kyoto Art Center—Professional intensive training course in Noh Theatre, with scholarship from the Kyoto Art Center and the Fundação Calouste Gulbenkian, July. Japan.  
**2000** Professional three month intensive training course with the theater company «Royal de Luxe» during the creation of *Les Chasseuses de Girafes* subvention from Fundação Calouste Gulbenkian and with the support of the Portuguese Ministry of Culture. France (Nantes).

**Founder of, and performer with, the «o resto» Theater Group, having presented the following works**

**2000–1999** *Todos Carentes, todos Normais*

**1999** *T5*, awarded in the competition Teatro na Década.

**1999–1998** *Operação cardume rosa*

#### Choreography

**2006** *Singularity*, subvention from Fundação Calouste Gulbenkian and the Ministry of Culture, presented at Blue Elephant Theatre in May, London

**2002–2003** *Peça Veloz corpo Volátil*, subvention from Fundação Calouste Gulbenkian and the Ministry of Culture. Presented in Paris at the Guillotine Gallery in December, and in Lisbon, March, at Box Nova (Centro Cultural de Belém) and at the Teatro da Comuna, June.

**2001** Integrated a project called *Emergencies*, a partnership between the Ministry of Culture and the Portuguese / French Institute, sponsored by Fundação Calouste Gulbenkian and the City council of Lisbon, with presentation of the choreography *Schhhhhh.... an essay on silence* on 5–7 December, at the Portuguese / French Institute, Lisbon

**2000** *Pardez*, subvention from the Ministry of Culture, and presented at the gallery Ler devagar in July, and at Galeria Zé dos bois in December. Lisbon

#### Other professional artistic activities

**2007** *setting04.0006*, Festival transmediale 07, Berlin / G

**2006** *blinddate*, TESLA media art laboratory, Berlin / G.

**2005** Performance supervisor in projects by visual artist Herwig Turk: *blindspot*, *paradise-paradox*, and *blinddate*, in partnership with the University of Coimbra (IBILI), presented at Association UNIKUM, Klagenfurt, *paradise-paradox*, Austria, *blinddate* at MAK (Museum of Applied Arts / Contemporary Art, Vienna • Performance «*Moments of Being*», *Moments of Being-Unfolding life's happening*, performance / installation, with Ricardo Jacinto and Valério Romão Presented at Kunstverein Speziale, Paderborn, Alemanha.

**2004** *Moments of Being-Unfolding Life's Happening*, performance / installation with Ricardo Jacinto and Valério Romão, in *Post-Script* (internationalisation of Portuguese artistic works) at The Space. November, London • Artistic residence with the

project *Moments of Being* at Lugar Comum, Fábrica da Pólvora de Oeiras

**2003** Participation in Festival A8 at Torres Vedras, during the months of September and October, as an observer (written analysis of performances)

**2003–2002** Participation in the CAPITALS 2003 festival, organized by the Center of Modern Art of Fundação Calouste Gulbenkian. A presentation of works of contemporary artists, articulated with seminars and lectures where they presented and questioned each other's creative processes. With presentation of the following performances: *Plano do jogo* (Ligia Soares, Adriana Sá e Ricardo Jacinto) and a version of the play by Thomas Lehmen, *Schreibstück*, Setember, Lisbon..

**PATRÍCIA ALMEIDA**

Born in 1970, Lisbon.  
Lives and works in Lisbon

#### Education

**1999–2000** MA in «Image & Communication», Goldsmiths College, University of London | **1990–1995** BA in History—Faculdade de Ciências Sociais e Humanas—Universidade Nova de Lisboa.

#### Work Experience

**2002–2006** Guest Lecturer on Photography, Escola Superior de Artes e Design (ESAD) in Caldas da Rainha and Escola Universitária de Artes de Coimbra (EUAC)

#### Scholarships

**2001** Three month scholarship from Fundação Oriente for a photography project in Japan

**1999–2000** One year scholarship from FCT—Fundação para a Ciência e Tecnologia and CFP (Centro Português de Fotografia)

#### Group Exhibitions (selection):

**2006** *Alone Together*, Galerie Nouvelles Images, Den Haag

(NL) • *Memórias da Cidade* Encontros da Imagem de Braga (PT)

**2005** *Extensão do Olhar*, Centro de Artes Visuais, Coimbra (PT)

**2004** *POC in Town*, Forum für Fotografie, Köln, (DE)

• *Contemporary Austrian Photography* (with Herwig Turk) NGO House of Photography, Poprad, (SK)

**2003** *blinddate*, Video / Performance, with H. Turk, D. Robnik, P. Hoermanseder. Videolisboa Festival (PT) • *SMS:SOS A nova visualidade de Coimbra*, Pavilhão de Portugal, Coimbra (PT)

**2002** *Piece of Cake Project* (European photography), Pôle Image Haute Normandie, Rouen (FR) • *Índia. Dois olhares*, Museu da Imagem, Braga (PT) • *50 fotografos portugueses dos anos 50 à actualidade* Fundação Serralves, Porto (PT)

**2001** *Modèles / Models*. Casino–Forum d'art Comtemporain (LU)

• *Memories of the City*, Encontros da Imagem de Braga (PT)

• *Inhabiting the Future*, Encontros da Imagem de Braga (PT)

• *The New Discovers*, Internationale Fototage Herten (DE)

**2000** *Scopophilia*, Galery Westland Place, London (UK)

**1998** *Ritmo & Poesia. Os Caminhos do Rap*, ZDB, Lisboa (PT)

**1997** *Jovens Criadores*, Clube Português de Artes e Ideias, Lisboa (PT)



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## Workshops

2007 POC Workshop 05, Antwerp Photomuseum (BE)  
2004 POC Workshop 03, Forum für Fotografie, Köln (DE)  
• POC Workshop 02, PhotoEspaña 04, Madrid (SP)  
2002 POC Workshop 01—Meeting of young European artists  
around contemporary image • Pôle d'Image de Haute Nor-  
mandie, Rouen (FR)  
2001 Modèles / Models, Casino-Forum d'art Contemporain,  
Luxembourg (LU)  
1999 Three months course on «Documentary Film Making»,  
Universidade Lusófona, Lisboa (PT)

<<http://www.pocproject.com>>  
<<http://www.anamnese.pt>>

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## REINHARD BRAUN

Born in 1964 in Linz,  
Lives and works in Graz.

Freelance author and curator for visual / media arts and pho-  
tography | 1992 Founding member of HILUS | 1999 Founding  
member of MiDiHy productions | Currently curator for the  
Steirischer Herbst Festival, Graz

<<http://braun.mur.at>>  
<<http://www.thing.at/hilus>>  
<<http://midihy.org>>  
<<http://www.steirischerherbst.at>>

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## INGEBORG REICHLE

Lives and works in Berlin

Art historian and theorist at the Berlin-Brandenburg Academy  
of Sciences and Humanities, Germany. From 1998 till 2005 she  
was active at the Humboldt-University in Berlin. She has done  
interdisciplinary studies in London and Hamburg and holds  
an MA in Art History from the University of Hamburg and a  
PhD from the Art History Department at Humboldt-University.  
In 2005 Springer published her doctoral dissertation, dealing  
with Art and Biotechnology in the Age of Technoscience: *Kunst  
aus dem Labor. Zum Verhältnis von Kunst und Wissenschaft im  
Zeitalter der Technoscience* Vienna / New York, 2005. From 1998  
to 2003, she lectured on gender studies and new media art  
in the Art History Department of Humboldt-University and  
was involved in the practical application of electronics in the  
deployment of computers and new media in art historical works,  
for example in Distant-learning-projects, developing relevant  
internet resources, and web construction. She is currently a  
research fellow at the Berlin-Brandenburg Academy of Sciences  
and Humanities and lectures at the Hermann von Helmholtz-  
Zentrum für Kulturtechnik at Humboldt-University.  
<<http://www.kunstgeschichte.de/reichle/cv.html>>

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## FRED TRUNIGER

Lives and Works in Zurich

Film scholar and presently a scientific assistant at the Chair  
for Landscape Architecture of the ETH Zurich. He is currently  
writing his PhD about filmic landscapes and their impact on  
landscape theory. He has worked for experimental and docu-  
mentary film festivals and occasionally teaches at the university  
and art school of Zurich.

<<http://www.ila.ethz.ch/ueberuns/video/truniger.php>>

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## FIONA LIEWEHR

Lives and works in Vienna.

## Education

Art History in Vienna, Salzburg and Hamburg (MPhil) |  
Study of Commercial Sciences | Degree in Advertisement and  
Marketing.

## Publications

On classical modern and contemporary art.

1999–2000 Österreichische Galerie Belvedere, Head of the  
Educational Services and Scientific Events Department

2001–2004 Museum of Modern Art, Austrian Ludwig Foun-  
dation, Vienna (MUMOK), Head of the Marketing Department  
Since 2005 Artistic Director at Georg Kargl Fine Arts / box  
• Curator of various exhibitions at Georg Kargl box • Curator of  
the Exhibitions *I Still Love the 20th Century* and *This is Happen-  
ing* (with Martin Guttman) at Georg Kargl Fine Arts  
<<http://www.georgkargl.com>>

2006 Founder of Dreizehnterjanuar, a platform for independ-  
ent interdisciplinary theater and cultural productions (together  
with Fanny Brunner)

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