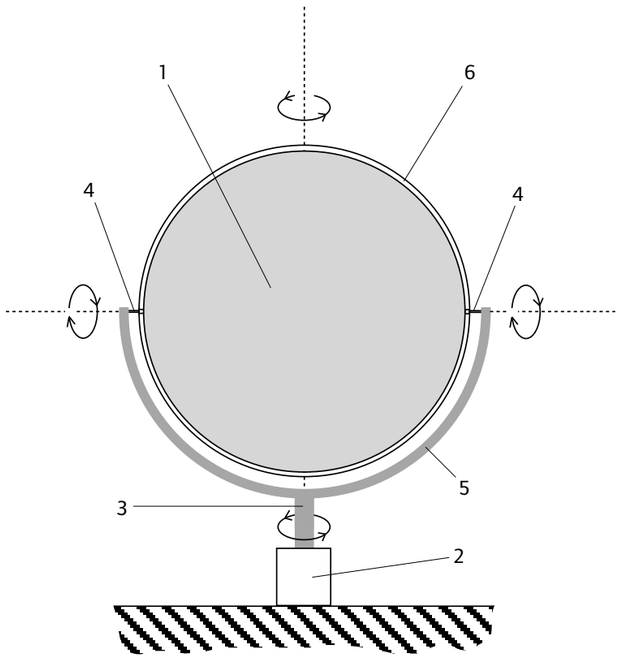
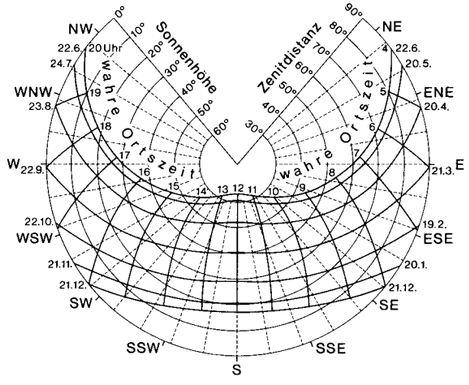
Christoph Keller: Objects

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Is there enough Sun
in your life ?


BUNDESREPUBLIK
DEUTSCHLAND
DEUTSCHES
PATENTAMT
Offenlegungsschrift
DE 44 24 571 A1
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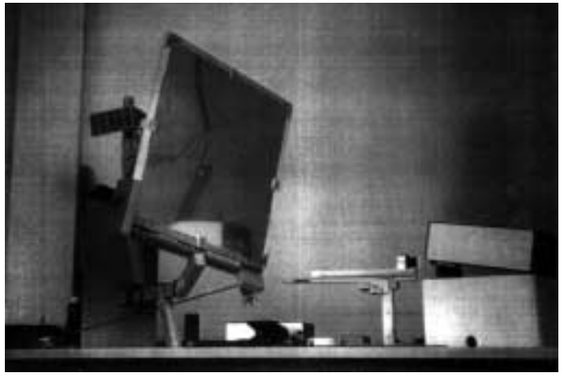
DE 44 24 571 A1


INFORMATION



Ideas

The aim of the project was to transport an idea into reality, and that, despite any obstacles. The idea was simple: to bring light where previously was shadow. A simple apparatus – an automatic mirror – would bypass the existing distribution of light as well as divert the rays of the sun. The mirror should be robust and easy to maintain, it should be simple to install and be so inexpensive to manufacture, that those who live in the darkest of dwellings could also afford it.

There are two ways of looking at light: light from the sun which illuminates things, which in turn reflects an image that impresses itself on the retina; and conversely, light – in the sense of enlightenment – that originates in the eyes, and is the ability to see and to differentiate things. A sun mirror functions in both these directions and is thus a reflecting apparatus in a double sense: it reflects the light of the sun and further, it brings the distribution of light into consciousness.

Inventions

Inventions are not simply found among the plentitude of possibilities, but rather become available as solutions through the process of identifying a problem. The prerequisite for identifying a problem, in turn, is a vision to want to change something. Thus patent offices are actually museums of visions.

At the patent office, independent private inventors can be seen researching alongside employees of major companies. These are perhaps the last utopists, who imagine a world that has been enriched and transformed by their small or large invention. In the reference halls of patent offices they search anxiously for earlier patents that might obstruct their own patent application, and thus their vision. In patent office jargon they are called "artists."

The visions of the "artists," that is, of the private inventors in the patent office, are simultaneously always also personal utopias. The inventors dream of their invention enjoying worldwide distribution, and of the wealth and recognition garnered from the multiplication of royalties. With few exceptions this is not the case. The investment made towards the "invention" of a product is usually much less than the costs of its insertion into the market. Technological development is thus defined more through market demands than through the potential for societal benefit.

SAD – Seasonal Affective Disorder

Melatonin is a hormone of the pineal gland, which drives seasonal rhythms in animals and people. It is secreted at night, and only suppressed through daylight. Scientists assume that the neural pathways involved in the production of melatonin travel through the part of the brain that is responsible for the control of the many bodily functions which, in the case of depression, can get out of balance, such as eating, sleeping, weight control, sexual activity, etc.

It was first in the 1980s that winter depression as a result of light deficiency appeared on the agenda of medical researchers as the illness SAD (Seasonal Affective Disorder). Since then, light therapy has proven itself in the acute treatment of winter depression. SAD is not a rare disorder. In the USA, where the symptoms are more widely acknowledged in medicine than in Europe, one assumes that approximately 5 percent of the population suffers from regularly occurring winter depression.

The influence of light on mood and productivity is perceived to varying extent by those affected. Many of those who suffer from SAD are first inclined to blame themselves for their lethargy or depression, or on external situations, before coming to the realization that it is a lack of sunlight which depletes them of any energy to change their situation. It is has been documented that especially unemployed people, who spend long periods of time inside indoors, have an increased need for sleep.

Not all, but the majority of SAD-stricken are pulled out of their depression by means of light therapy with white light in a matter of three or four days: two hours before a light box with 2,500 lux, especially in the morning, or 40 minutes in front of a brighter lamp of 10,000 lux. If this is done properly, light therapy helps gently and without the side affects of antidepressants. Only a few with SAD go from one extreme at the beginning of the therapy to the other extreme: from depression to a hypermania.

Geographical Situation

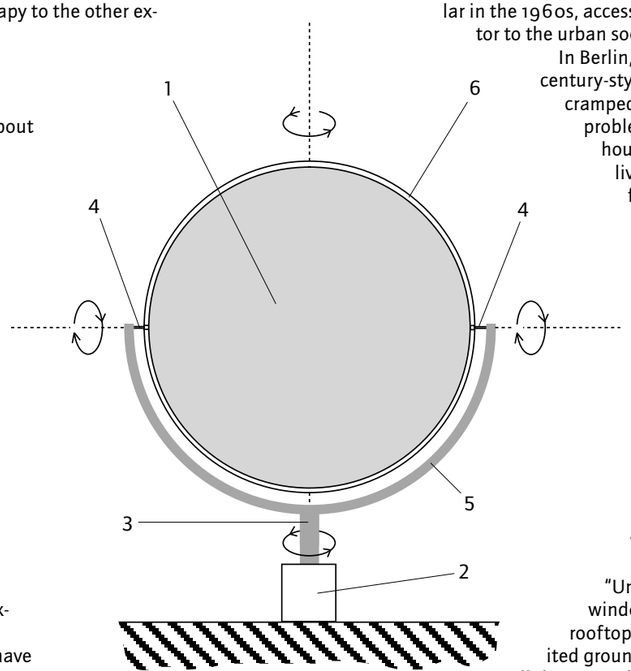
Berlin lies at the 53rd latitude and has about 100 sunny days a year. In comparison, Freiburg in Breisgau, situated at the 48th latitude, has 220. The gray Berlin winter months are infamous for their short days. Already at the turn of the last century, a certain form of rickets, which was traced back to vitamin D insufficiency – that is, lack of sunlight – was christened the "Berlin Disease."

According to a North American study, the occurrence of SAD is contingent upon geographical latitude and thus on the duration of daylight. In Florida, only 4 percent suffer from SAD; in New York, 17 percent; in Alaska, 28. This North-South gradient, however, is not linear. Obviously other factors also play a role, not least of all the intensity with which people in certain cultural circles expose themselves to daylight.

In Scandinavia, several light cafés have opened in the last years, in which people come to "tank up" on light during the dark season. The cafés are furnished with full-spectrum light bulbs, which are also used in light therapy. Scientists believe that in the past, northern ethnic groups such as the Inuit, could only psychologically survive the long winter through regular consumption of fish cod and halibut liver oil, in which vitamin D is stored. Today, arctic dwellers help themselves with the corresponding tablets.

Light and Space

The provision of rooms with sunlight has a large influence on the existential condition of the people who live or work in them. Many biological rhythms are managed through the perception of light and dark, as day turns into night. In its spectral composition, sunlight transfers a cornucopia of information to the body about the atmosphere, air pressure and humidity, amount of dust or smoke. Changes in the sky's brightness, when clouds pass by, are also subconsciously perceived and processed.



Sunlight is thus a unifying medium between the inner world of a room and its surroundings. Artificial light sources can never completely replace direct sunlight. Dark or artificially lit office spaces reduce the motivation and the creativity of the employees working in them. Work efficiency sinks. In many urban spaces the amount of solar irradiation per square meter would theoretically suffice, even in winter. Unfortunately, sunlight does not reach the level of the streets, where public life actually occurs. Vertical building blocks the path of the low-angled winter sun.

Solar Architecture

Long before luxurious penthouse apartments became popular in the 1960s, access to light has been a contributing factor to the urban social gradient.

In Berlin, the boom in densely built late 19th century-style architecture, with its hallmark cramped courtyards introduced shadow as problematic. Most desirable in the front houses, where the upper middle class lived, was the "Belle Étage" on the first floor, with its large windows, open to the broad sunny street. In the cramped back courtyards where the worker families lived, people were drawn to the uppermost floors, towards the light.

In the garden cities of the 1920s, a social reform concept was realized to increase worker productivity through sunny living spaces in an artificial village-like environment. This was also supposed to increase the birth rate. It was assumed that lack of light in the cramped city dwellings drove the workers into the bars at night.

Le Corbusier planned in the "Unité d'Habitation," in addition to huge windows and balconies, a communal rooftop for all apartment dwellers. The limited ground area, and thus the exposure to sunlight, was to be used collectively. In New York, whoever wants to build a high-rise must "purchase" the sun from those who will as a result be left in the dark. And mirrored high-rise facades in the narrow downtown streets are not merely supposed to be representative, but actually do reflect and disperse the precious light.

Today, ambitious architects develop complex technical light systems for prestigious construction projects. The largest percent of urban buildings is still comprised of old apartment buildings.

Technology

Sunflower seedlings make so-called nutational movements, such that the later emerging petal surface of the flower stands in a right angle to the rays of the sun; only at night do they for a short time stand horizontally. The young blossoms thus follow the passage of the sun (heliotropism). With time, the nutations stop, and the mature sunflowers rest pointing in the same direction: to the south.

The sun mirror must serve a technology that just as simply and confidently follows the path of the sun, like the heliotropic plants.

Realization

A sun mirror that rotates on two axes is mounted to a wall of the building, or mast, which is exposed to the sun. Now there are two decisive directions: the one is the direction from which the sun comes, and is variable; and the second is that in which the light is to be reflected – this always remains the same. According to the Law of Reflection, that "the angle of incidence equals the angle of reflection," the mirror must, in order to meet its target, remain so that the vertical axis of the mirror surface equals the spatial angle bisecting the direction of the sun and of the target direction.

The bisecting angle of a rotating axis in relation to its support allows itself, technically seen, to be realized through a gear with a reduction of 2:1. Heliostats are common in photovoltaic technology. In the simplest case they are equipped with two light sensitive sensors and a shadow-making "nose" in between them. If the sensor pointing towards the sun measures a light beam stronger than the sensor in the shade, then the motor receives an impulse to turn the apparatus in the direction of the sun beam, until the amount of light perceived is equalized on both sides again. The device follows thus the path of the sun.

This is the rudimentary concept for a sun mirror, as an automatic self-correcting system that is simple and sufficient for sustained continuous operation. It must be adjusted only once upon installation, and then accommodates itself to the sun path automatically. On the other hand, computer-driven systems must be programmed with all necessary cosmological data, with the geographical position and the time of day; and then execute the calculated necessary angle to the target surface with an extravagant and costly mechanism.

Satellite Dishes

The beginning of the 1990s witnessed the introduction of a new architectonic element: the satellite dish. It was a grassroots technology, popularized through the individual desire for access to the multitude of available television channels, rather than through the usual advertising campaigns. As an architectonic element, the satellite dish is a symbol for the common orientation of people living next to one another in their living units: the television. The satellite dishes are all directed towards the same point in space, where the satellite hovers invisibly above the earth. It is possible to orient oneself in the city according to them: they all point south.

tunnel+lightbox

Exhibition, Schipper & Krome, Berlin, 1998.
40 hardboard planes bound together result in a ca. 75 meter-long strip, which when wrapped in a spiral yields a hermetic tunnel large enough to walk through. The tunnel begins at the foyer, then bridges – or better – tunnels through the actual exhibition space – that is no longer accessible – and opens into the office of the gallery. Here, there is a second work on display: "lightbox".

Rundum-Fotografie

The camera records movements, movements of the apparatus, or moving objects in front of the camera lens. When posed before a stationary background, the camera records pure time as even, horizontal lines on the film. A picture ensues only through the relative movement of an object: a photographic diagram of the movements. Fast objects are compressed, slow ones elongated. The images may seem to be very much like a panoramic photographic, but the principle is different. It is as if the observer would perceive the world through a crack in a door, along which things pass by. On the Rundum picture he sees in an instant the movements of an interval of time and experiences himself in that moment in motion. The self is thereby extended, spatially and temporally. The vertical axis of the Rundum picture corresponds to a realistic reproduction of the space. The horizontal axis of the picture, on the other hand, represents time and space, that is, motion.

medfilm – An Archive of Medical Films of the Berlin Charité 1900–1990

Year	Title
1900	Lower Leg Amputation by Professor Bergmann
1923	Dog Without Cerebrum or Striatum
1924	Amputatio Mamae Due to a Carcinoma
1934	Manipulation of Clubfoot in a 10 Year-Old Boy with the Phelps-Gocht Apparatus
	Operative Treatment of Advanced Congenital Clubfoot
	Treatment of So-Called Congenital Hip Displacement
1935	Sterilization of Women (Parts 1-3)
1940	Slauk Phenomenon of the Metatarsus
	Hereditary Cerebral Ataxie (Siblings)
1941	Surgical Treatment of Out-Standing Ears
	Doll's Head Eye Phenomenon
1942	Partial Resection of the Tibia to Eliminate Spastic Equinovarus Foot
1943	Ferdinand Sauerbruch at the Sugical University Clinic of the Charité
1959	Hormonally Conditioned Homosexuality
1964	Experimental Shot Wounds to the Eye
1969	Tomography
1974	Severe Speech Development Retardation, Part 1
	Operative Possibilities in the Treatment of Left-to-Right Shunt in Infancy and Childhood
1976	Severe Speech Development Retardation, Part 2
	Fabrication of a Front Dental Bridge According to the Berlin Mineral Compound System
1978	Sun and Climate Therapy for Skin Diseases
1980	Severe Speech Development Retardation, Part 3
1981	Standardized X-Ray Diagnosis of the Skull
1982	Dentures, for Geriatricians and other Medical Specialists
1983	External Fixation of the Cervical Spine According to the Halo-Yoke System
1984	Fabrication of a Function Regulator for the Treatment of Mandibular Retrognathy
1985	Cerebral Catheterangiography
	Computer Tomography, Part 1
	Electric Shock Treatment
	Development and Growth at the Berlin Charité
1986	Special Care of At-Risk Premature Infants
1987	The Hard of Hearing Child
1990	Computer Tomography, Parts 2 and 3

In 1994, the Film Institute of the Berlin Charité was dismantled within three days, a result of institutional restructuring following German Reunification. The majority of the material landed unsorted in sacks in an attic space of the hospital. When I learned of this, I began to engage myself in the preservation of the films, foremost with the intention of providing public access to the local medical film history of the Charité in the form of an archive. No other clinic in Germany could boast such an uninterrupted medical film history as this famous Berlin hospital. It soon became apparent that numerous older films were no longer stored at the Charité itself, but rather, in the course of history, had long been dispersed among diverse archives. There is thus no actual archive of the Charité medical films. The digital film archive medfilm, which is now accessible on the Internet (www.medfilm.de), provides an overview of the film production of the Charité. medfilm was arranged through a neutral, almost scientific approach: the films are catalogued chronologically by year. The film titles included offer a cross section of the ca. 1,000 films that were produced in the course of this century.

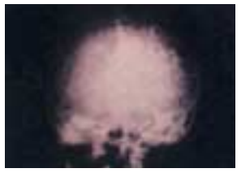












Encyclopaedia Cinematographica

The international scientific film project Encyclopaedia Cinematographica was founded in the 1950s by the Institute for Scientific Film (IWF), Göttingen/Germany, under the auspices of Gotthard Wolf and the behaviorist Konrad Lorenz, among others. The archive comprises several thousand films, mostly of 2 minutes' duration and organized in a kind of matrix, which were intended to document the entire moving world. The moving world is subdivided into species and their specific spectrum of movements and systematically recorded. Here, film has been reduced to its very essence: the depiction of movement.

Reich (Mitte) und Silvert (rechts) bei einer Cloudbuster-Operation, 1956

Interview with Hans Ulrich Obrist

(First published by Ars Viva Katalog 2000)

Christoph Keller
The non-linear, open discussion has already become a myth in art and science. I think of John Cage at Black Mountain College as well as the Beuys class or the legendary country-home weekends at Niels Bohr's that produced the Copenhagen interpretation of quantum physics. These events challenged the hierarchical order of the academic disciplines. That was over a half-century ago. In the meantime many advertising agencies work according to such principles. I find it obvious that the conditions of art and science have radically changed in the past years, even when parts of the structures and institutions continue to spin along old orbits.

Hans Ulrich Obrist
Does the medium of a dialogue play an important role for you?

Absolutely. When I came to East Berlin after reunification, the situation seemed to be far from being capable of formulation, either verbally, aesthetically or otherwise. „To search for formulations" was therefore one of the main reasons for linking up with others („Botschaft e.V.", „Museum für Zukunft", „jazzclub", among other temporary projects). The discussion platform of a group can test, throw out and change ideas at a tearing speed, can develop language and then release it. In my work, interviews and discussions repeatedly play a role, e.g., interviews with scientists in my movie on the filmed medical history of the Charité. What increasingly interests me in conversation, however, is more the room for thought it opens up rather than discussions that define polarizing positions. For me pictures and artworks are often more interesting as „open perceptual suggestions" than as academic art positions.

What role for your practice does a dialogue with other artists and other disciplines play?

In art, I have always looked for things that can potentially exist on their own outside the art context, that, for example, can stand on their own before the reality requirements of scientific disciplines and, at the same time, incorporate their own mental framework and are therefore aesthetic. The „disfunctionality criteria" for art has always bored me. I reported the first patent project, the all-around camera, at the same time as my all-around pictures were being shown in art. In both fields in different ways, a „perceptual suggestion" was transmitted. The sun mirror project works better an image the more it functions in practice. It is a kind of manifesto for an intervention into reality that does not exist only as a model in reference to other disciplines, like, e.g., Alteration of a Suburban House by Dan Graham, but - parallel to this - is also real.

Where lie the beginnings of your trans-disciplinary way of working?

My starting point was already an interdisciplinary one. I never saw myself only as an artist, but always - according to the project - simultaneously as a scientist, journalist, etc. That is why I find the idea of a dialogue between science and art often strange, because it polarizes the conventional model even more. In 1988 at the Free University of Berlin, where I had just begun to study physics while enrolled at the Art Academy at the same time, there was a big students' strike to protest the encrusted university structures, which paralyzed the teaching body for a whole semester. Scientific study leaves no room at all for basic considerations. Often no difference is made between the scientific model and the reality under description. With fellow students we therefore organized autonomous seminars in physics, philosophy and politics. Later in „Botschaft e.V" we always described our work as interdisciplinary, which for us meant an enhancement of the autonomy concept.

The Paris urbanist Yona Friedman told me in an interview that he avoids terms like trans- and interdisciplinary because they contain within them the germ of the disciplinary. He replaces these terms with global dealings, global thinking, thinking in global contexts. How do you see the problem of definition?

I see the interdisciplinary as an instruction in ways of acting, as the temporary practice of transmission. As such it is more reformist and less revolutionary. If it is institutionalized, it itself becomes disciplinary and limiting. With the publication on the Internet of a local scientific film history in 1996: „medfilm - an archive of the medical films of the Charité 1900-1990," I produced an archive and, with that, an image, that had never existed until then. This is a scientific method, but the shift lies in the fact that the original scientific material can now be seen in an historical and cultural context.

How do you confront the danger that the trans-disciplinary can lead to a loss of difference in the sense of a leveling of the vocabulary, and how can you avoid simplifying a discipline's complex discourse? Where do you see concrete possibilities of linking centrifugal and centripetal aspects of knowledge in such a way that highly complex questions on the respective limits of a discipline are discussed?

What are centrifugal and centripetal aspects of knowledge? Where is the center? The individual? The world? The concept?

In the context of architecture, unrealized projects play a big role. Often projects once considered impossible are only realized because they were published and thus began to exist. In art unrealized projects by artists are seldom published. It seems important to me that these 'roads not taken' not be forgotten and are discussed (too large projects, too small projects, censured projects, forgotten projects, partially realized projects, etc.). Therefore the question: What are your favorite unrealized projects?

The question interests me especially in that it deals with the transition from utopia to reality. The project that is somewhere on its way between the two is the sun mirror project „helioflex". It will not be completely realized until the utopia has materialized to reality, that is, when on a grand scale the sun-reflections actually bypass the social gradients of light and shadow, or society and urban architecture have been delivered from this problem. Up until then, it is an experiment in reality. In addition, I have wanted for a long time to study Wilhelm Reich's last project and, should the occasion arise, continue it: the cloud buster. Reich tried to produce rain by

sucking up the universe's orgone energy by means of pipes grounded in water. As to the results, there are varying reports. The cloud buster marks the boundary between science and esoterica. My „favorite unrealized project" would be to research the conditions under which the cloud buster could function.

How do you view the transition from your work in „Botschaft e.V." to your present solo position? Have the modalities of collaboration changed?

One of the essential features that characterizes the work in „Botschaft e.V." was, I think, that it made a powerful form of group work possible without leveling the single member down to the group label. Parallel to this, everyone also pursued his own agenda and brought parts of it into „Botschaft e.V." This, in my opinion, is desirable in group work, in order to avoid an internalized discourse. Naturally there were other general conditions that promoted certain forms of collaboration. Banal economic factors like rent, etc., come in here, but, above all, also an atmosphere of change that, alongside the centers and institutions, allows the development of oppositional peri-centers. The atmosphere in Berlin has changed, as everyone knows. In fact, many people still work together within various contexts. That the artist is now perceived more strongly as a solo position has to do with the filter through which one is viewed by the art system.

You describe your position as artist/inventor who can change roles, whereby it seems interesting to me that this role-playing is not a fictive game to you but an „intervention in reality". What role does the art context play in your work? Is there another economy as an alternative to the art context? Must works still be protected?

It is known that some of the so-called Beuys students have carried the thinking they developed within an art environment into other fields. I always thought that interesting, because it gives art a legitimation that lies beyond an (anti-)bourgeois „surplus". I find it more exciting to actually carry out the role-playing than to simulate it. Perhaps a work will come out of it that has something to do with reality and is not just a metaphor. And you, naturally, double yourself when changing to two parallel roles: the symbolic and the real. I don't think that the most interesting task art has is to provide entertainment; there is enough of that already. Rather the art context offers a social terrain within which quite specific things can be negotiated, perhaps, for instance, because in art the framework always can and must be examined. To the question whether there is another economy as an alternative to the art context - do you mean as an alternative to the art market? Of course, there are a lot. Inventing economies is a bit like inventing meaning; to find a place, for instance, where certain things can take place. Whether works must still be protected? I am against the copyright as prohibition - taking up the ideas, images or music of others - because it more often benefits the exploiter than it does the originators or the producers.

In your work with patents does it ever come to any collaboration with lawyers?

Yes, that is a part of the work, to come to an understanding with lawyers; to understand what is being negotiated; to then inscribe yourself in the actual processes and document them. All culture has to do with rules that can be upheld or broken. For example, patent law forbids patenting things that violate natural laws. There are a lot of interesting things out there.

Credits

Cover:
Wolkenhimmel /Cloud Sky, Berlin 1998.

Image Page Vulkanfotografie:
Shadow of the Oldoinyo Lengai over the Rift Valley Plateau. Tansania, 1999.

Image Page helioflex:
Schipper & Krome, Berlin, permanent installation, 1997.
Technische Universität Berlin, Solares test roof, 1998.
Berlin, Schliemannstraße, apartment building, 1999.
Document of Registration for the helioflex patent, exhibited in "Construction-Drawings," Kunst-Werke Berlin, 1999.
Figure, Length of Day and Height of the Sun for 50° North, in W. Weischet: Introduction to General Climatology, Berlin 2001.
helioflex sun mirror, Artforum Berlin, 1999.

Text Page helioflex:
Technical drawing: helioflex.

Image Page tunnel+lightbox:
"tunnel+lightbox," Exhibition, Schipper & Krome, Berlin, 1998.
40 hardboard planes bound together result in a ca. 75 meter-long strip, which when wrapped in a spiral yields a hermetic tunnel large enough to walk through. The tunnel begins at the foyer, then bridges – or better – tunnels through the actual exhibition space – that is no longer accessible – and opens into the office of the gallery. Here, there is a second work on display: "lightbox." Large: Outer view of the tunnel. Insets: Tunnel interior.

Page Rundum-Fotografie:
Series: Spiral 1-4, 2000.

Page medfilm:
Left: The main building of the Charité in immediate proximity to the Reichstag and new buildings of the governmental quarter, Berlin, 1999.

Right, two columns: Stills from medfilm – an Archive of the Medical Films of the Charité Berlin 1900 – 1990:

1900
Lower Leg Amputation by Professor Bergmann
1923
Dog Without a Cerebrum or Striatum
1924
Amputatio Mamae Due to a Carcinoma
1934
Manipulation of Clubfoot in a 10 Year-Old Boy with the Phelps-Gocht Apparatus
Operative Treatment of Advanced Congenital Clubfoot
1941
Surgical Treatment of Out-Standing Ears
1942
Partial Resection of the Tibia to Eliminate Spastic Equinovarus Foot
1943
Four-and-a-Half Year-Old Microencephalitic Patient
1964
Experimental Shot Wounds to the Eye
1976
Severe Speech Development Retardation, Part 2
1983
External Fixation of the Cervical Vertebrae According to the Halo-Yoke System
1984
Fabrication of a Function Regulator for the Treatment of Mandibular Retrognathy
1985
Cerebral Catheterangiography
Electric Shock Treatment
1987
The Hard of Hearing Child
1990
Computer Tomography, Parts 2 and 3

Last page:
from: USA against Wilhelm Reich, interview with Jerome Greenfield, 1995.

The Cloud Buster is a canonlike device with which Wilhelm Reich tried to influence the weather and stimulate rain, by drawing from clouds what he maintained to be Orgone Energy. In the 1950s, Reich conducted numerous experiments with the Cloud Buster, about whose results there exist contradictory reports.
Following his immigration to the USA in the late 1940s, the US Food and Drug Administration (FDA) spearheaded a reactionary and puritanical campaign against Reich. The list of conspiracy theories surrounding this is long. Reich's books, which include the known standard works "Character Analysis" or "Mass Psychology of Fascism," were banned and burned by court order. After being charged with alleged violation of interstate trading laws, contempt of court and fraud, he was sentenced to prison, where he died in 1957.