



MEDIAART HISTORIES

EDITED BY
OLIVER GRAU

MediaArtHistories

edited by Oliver Grau

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Remember the Phantasmagoria! Illusion Politics of the Eighteenth Century and Its Multimedial Afterlife

Oliver Grau

In 1919, a Viennese student of philosophy Natalia A. consulted the psychoanalyst and early Freud-disciple Victor Tausk, complaining that her thoughts were being controlled and manipulated for years by a strange electrical device by doctors in Berlin. An *Influencing Machine*, according to the patient's obsessive idea, operated clandestinely, which forced upon her dreams, repellent smells, and emotions, telepathically and telekinetically.

Influencing Machine, created in 2002 by the Scottish-American artist Zoe Beloff, is a representation of Natalia's ominous medium (fig. 7.1). Stereoscopic floor diagrams viewed through red and green glasses and interactive video draw the visitor into a 3-D environment consisting of performative collages and DVD film (fig. 7.2). Using a pointer, we can interactively influence video sequences from medical teaching aids, home movies, and commercials, which appear as interactive loops on a letter-sized glass display.¹

This is how we enter Natalia's inner world of images. With her *Influencing Machine*, the artist succeeds in presenting us with hallucinatory visions of "the" new medium.

Beloff visualizes the cinematographic as an intimate-interactive dialogue. Sounds of short-wave transmissions, popular songs of the 1930s, as well as recordings of atmospheric and geomagnetic interference expand a strangely oppressive scenario, with which the artist invokes a phantasmagoric presence or immersion into the mental topography of a schizophrenic. That older image media may acquire fresh importance in fields of artistic experimentation is a generally accepted insight in media art history. Beloff compiles her work of



Figure 7.1 Zoe Beloff, *Influencing Machine*, 2002. By kind permission of the artist.

electronic passages from material that, after extraction from lost contexts, emerges as a media-archaeological arrangement inscribed with new meaning. This renders *Influencing Machine* a sensitive reflection on media per se as well as a meditation on an ultimate medium. Beloff, too, demonstrates that machines are not mere tools and emphasizes just how deeply rooted technological media are in the subconscious, in media history, in the space of utopian projections and how they transport magical beliefs. The artist's gaze backward in time transports us to a thinking-space in the sense of Ernst Cassirer—and makes us aware of the evolutionary development of the media through aesthetic means.²

Although it has become a fancy word in modern art debates in other contexts³ on the ideas underpinning the *Influencing Machine*,⁴ we appear to encounter the “uncanny” described by Freud in conjunction with the “survival of primitive ideas,” the resurfacing of infantile conceptions of life that the



Figure 7.2 Zoe Beloff, *Influencing Machine*, 2002. See plate 5. By kind permission of the artist.

rational adult imagines have been overcome. These include belief in the existence of supernatural destructive forces, the return of the dead or contact with them, all of which belong to the doctrine of animism. According to Freud, the uncanny results from the contradiction between what we think we know and what we fear we perceive at a particular moment.⁵

There are also reflections of the phantasmagoria: Brazilian artist Rosângela Rennó's 2004 media-archeology work *Experiencing Cinema* comprises the intermittent projection of photographs onto a volatile screen, made from nontoxic

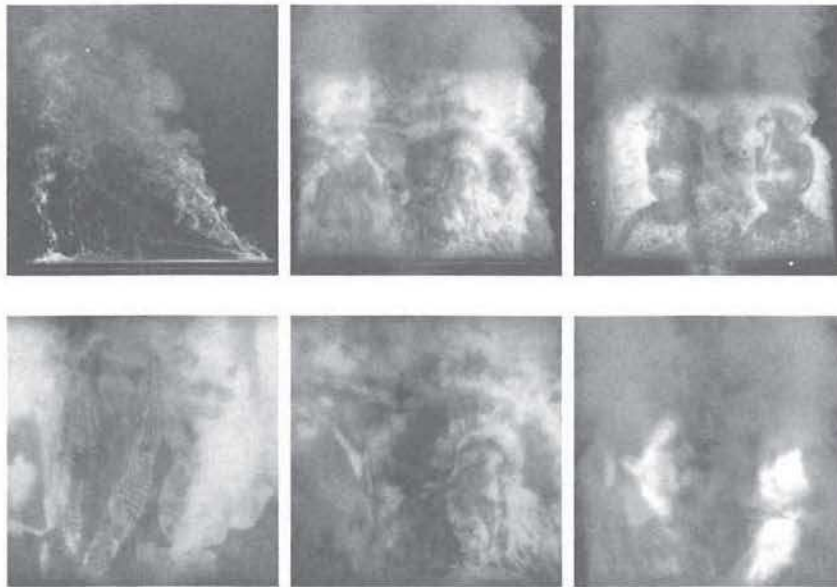


Figure 7.3 Rosangela Rennó, *Experiencing Cinema*, installation, 2005. See plate 6. By kind permission of the artist.

smoke from vegetable oil (fig. 7.3).⁶ Or consider Toni Oursler's *Influence Machine*, a "psycho-landscape" for Soho Square, New York,⁷ which reflects on historic shows that invoked the "spirit" of the site, such as the phantasmagoria. In this context, we could also take a look at Gary Hill, Douglas Gordon, or Laurie Anderson.

Media exerts a general influence on forms of perceiving space, objects, and time, and they are tied inextricably to the evolution of humankind's sense faculties. Currently, we are witnessing the transformation of the image into a computer-generated, virtual, and spatial entity that seemingly is capable of changing "autonomously" and representing a lifelike, visual-sensory realm. For how people see and what they see are not simple physiological questions; they are complex cultural processes. Not least, in this way light can be shed on the genesis of new media, which are frequently encountered for the first time in works of art as utopian or visionary models. Therefore a central problem of current cultural policy stems from a serious lack of knowledge about the origins of audiovisual media. And this is in complete contradiction with the current demands for more media and image competence.

Marginal and fragile, Beloff's cinematographic code seems like a highly expressive visualization of a media-historical phantasm, as brought forth by *laterna magica*, panorama, radio, early television, and the discussion of cyberspace and virtuality. In this way, the artist expands an individual psychosis into a societal and image-political horizon.

Whereas Beloff utilizes set pieces from media history, the almost forgotten play *Lichtenberg*, written by Walter Benjamin in the 1930s, designs a set of new utopian media.⁸ At a productive distance from the conditions that prevail on Earth, the inhabitants of the Moon study our blue planet with the help of utopian media, and so even the famous experimental physicist Lichtenberg becomes the focus of media users' interest. Thus, the Moon knows everything about the Earth, but the Earth knows nothing about the Moon. Those media are: the Spectrophone, which detects and keeps under surveillance everything that happens on Earth—it is both ear and eye of God; the Parlamonium, which transforms human speech (which is irritating to the ears of Moonlings) into the delightful music of the spheres; and the Oneiroscope, which materializes the psychoanalytically motivated desire to visualize dreams.

Although all three devices trigger associations with Beloff's *Influencing Machine*, it is the Oneiroscope that brings us closest to Beloff's work. Benjamin's visions are of media that can hear all, see all, and even read the mind's dreams; but they remain passive, whereas the *Influencing Machine*, in Natalia's magical beliefs, affects the psyche and the sexual organs.

Utopians versus Apocalyptians

Media revolutions have often led to bipolar discourses between utopians and apocalyptians, platonic, or even apocalyptic commentaries. These positions often exhibit an antitechnology thrust and have developed partly from critical theory and poststructuralism. At the other end of the spectrum are the utopian-futurist prophecies. Both poles are either positive or negative teleological models, which follow largely the pattern of discourse surrounding earlier media revolutions. On the utopian side, variations of ideas like *Now we will be able to touch with our bodies into the far distance, and now the illusion will become total*, have collided with fears like *our perception will suffer, our culture will be destroyed*, and even *we will lose our bodies*. Eisenstein,⁹ Minsky,¹⁰ Youngblood,¹¹ and Moravec¹² belong probably to the "utopian" group, while Eberhard,¹³ Postman,¹⁴ Baudrillard,¹⁵ and even Flusser¹⁶ come more from the

“apocalyptic” side. This discourse, provoked by media revolutions, returns again and again: recall the discussion around virtual reality ten years ago, the cinema debate in the early twentieth century, the panorama in the eighteenth century, and so forth. But analogies or fundamental innovations in contemporary phenomena can be discerned only through historical comparison, and that is what this approach is based on.

We know that Marshall McLuhan’s influential materialistic discourse interpreted media as externalizations of bodily organs and sensory perception. In my view, however, new and older image media not only conform to the Extensions of Man, they also expand the sphere of our projections and appear to bring us (so the utopian idea goes) not only into contact with far-off objects telematically, but also virtually, and this is my point here, with the psyche, with death, and with artificial life—with the most extreme moments of our existence. At the same time and in the opposite direction, these phenomena appear to be reaching out to us and to an increasing number of our senses. Pseudo-certainty of these illusions is created by the cultural technique of immersion.

The Magic Lantern and Phantasmagoria

The recurrent hope that is ascribed to the media of “bringing back what is absent” finds its most impressive expression in the attempt to communicate with the dead. We know that Athanasius Kircher and Gaspar Schott pressed the *laterna magica* into the service of the Jesuits’ *propagatio fidei* in order to put the fear of God into their audiences by illuminating the devil (fig. 7.4).¹⁷ Unfortunately, today there are very few opportunities for experiencing the visual media of the nineteenth century. This is in total contrast to the situation regarding the painting and sculpture, theater, and music of this period. Without actual experience of performances, access to the origins of modern audiovisual media is blocked for interested observers. Imagine what it would mean for our appreciation of modern art if the paintings by Matisse or Monet were available only as postcards or book illustrations!

The rise to fame of this optical wonder began with the projection of the image of a corpse by its first mediator, the traveler Rasmussen Walgenstein (1609–1670), at the court of King Frederik III in Copenhagen.¹⁸ As of the mid-seventeenth century, the *laterna magica*, or magic lantern, provided the means to tell stories in projected images;¹⁹ however, from the outset when

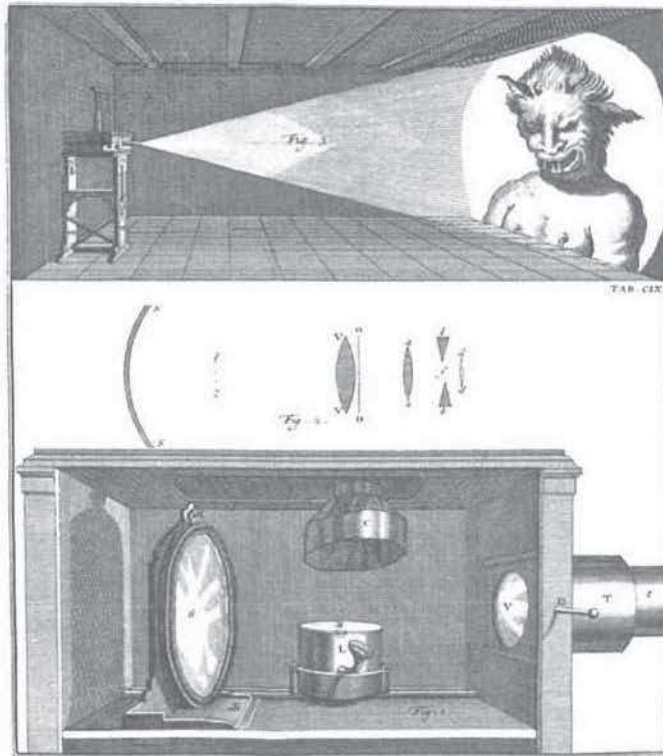


Figure 7.4 *Projection of the Devil*, in Guliemo Jacobo sGravesande, *Physices Elementa Mathematica*, ill. 109 (Genf: 1748), p. 878.

the device was in less scrupulous hands, it was employed to deceive, terrify, and manipulate naive spectators. The courtiers in attendance in Copenhagen were frightened out of their wits to such a degree that the king, who could not abide timidity, commanded the performance to be repeated three times, that is, until the spectators had become accustomed to the new visuality, which annulled the effect.²⁰ Although eye-witnesses did not record any actual details concerning the content of these first magic lantern shows, they are unanimous in their verdict that Walgenstein was a “showman,” who was out to produce shock effects and deceptions, and to play on his audience’s superstitions using a new optical instrument. It was apparent that for him, the main attraction of the magic lantern was its ability to make supernatural apparitions and ghosts appear as if by magic. These objections raised against the magicians operating

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the lanterns express a general deep-seated suspicion, which continues to be leveled today at the suggestive power of images, particularly by writers.²¹

During the following decades, use of the *laterna magica* spread and its tiny light made a great impression in the dark nights of those days, which we have difficulties imagining today. Contemporary accounts testify to the magical and spiritualistic nature of the magic lantern performances: After some minutes, the likeness of a person, who was familiar to the assembled company, in the form of the generally accepted notion of a spirit seemed to rise slowly from out of the floor, quite recognizable and clear to see. From February 1790, such shows were institutionalized in a special theater in Vienna's Josefstadt. This establishment was entirely draped in black and decorated with skulls and a white "magic circle." The evening's entertainment began with a simulated storm complete with thunderclaps, wind, hail, and rain. The dramatic climax was the conjuration of spirits. At each performance, three so-called spirits appeared. Each apparition took some steps toward the audience, and then disappeared in the manner in which it had appeared. Ghosts and terrifying apparitions made a spectacular comeback in the 1790s. In the mid-1780s showmen like Paul Philidor had begun to put on shows in Germany for curious and fascinated audiences, which were modeled on the performances by Johann Georg Schröpfer, a freemason and magic lantern illusionist, whose occult powers were legendary.²² The *pièce de resistance* of Schröpfer's later shows was the projection of ghostly apparitions onto smoke using a concealed magic lantern.²³ The images produced by this technique were flickering and ephemeral, and the effect was apparently very frightening. Schröpfer used a whole suite of tricks including projection with mirrors, hollow voices spoken through concealed tubes, assistants dressed as ghosts, and thunder sound effects. To this arsenal of illusions Paul Philidor added the recently invented Argand lamp, which produced a much stronger light and thus enabled larger audiences to see the images—this was the birth of the phantasmagoria (fig. 7.5).

Another pioneer of this early illusion industry was the master of illusion Johann Carl Enslin, who was well known all over Europe for his "Hunts in the Sky," his flying sculptures, and many other meticulously organized illusions. His phantasmagoria shows in Berlin expanded the repertoire of subjects that Philidor had presented in his ghostly presentations.²⁴

It was in Berlin too that the phantasmagoria cast its spell over the most famous protagonist of the genre, the Belgian painter, physicist, brilliant orga-

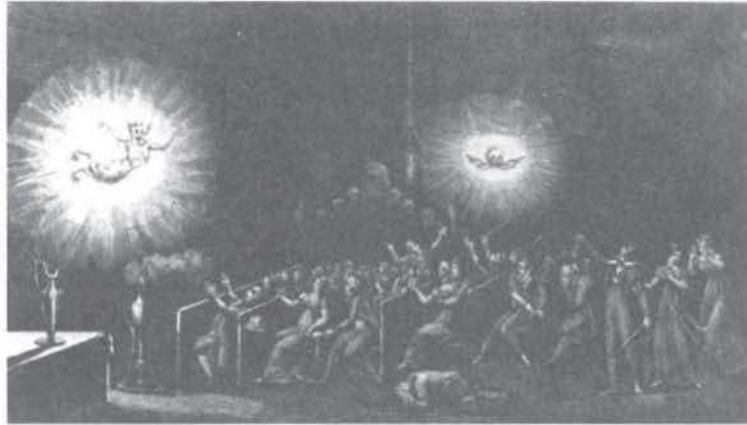


Figure 7.5 *Phantasmagoria*, in Etienne Gaspard Robertson, *Mémoires récréatives scientifiques et anecdotiques*, frontispiece (Paris: 1831).

nizer, balloonist, and priest Etienne Gaspard Robertson (fig. 7.6). In 1798, he exported the immersive medium to postrevolutionary Paris, and, starting in 1802, he presented it all over Europe, from Lisbon to Moscow.²⁵ The nineteenth century saw the success of the medium all over the West.²⁶

Laterna magica projections continued to evolve further from the eighteenth-century traditions and became more differentiated. Projection apparatuses like the fantoscope achieved mobility and moved silently on polished brass wheels behind a semitransparent screen (both screen and apparatus were invisible to the audience) so that the projections appeared to move closer and further away. Moreover, a dissolver in front of the lens made it possible to shift dramatically from one scene to another so that a sophisticated impression of movement and different moods was created. The phantasmagoria opened up the virtual depth of the image space as a sphere of dynamic changes for the first time. This was all made possible by the use of a screen.²⁷

As with “illusionism” or “immersion,” however, phantasmagoria is by no means a simple term. Toward the mid-nineteenth century, phantasmagoria had also become a key political concept. Even Marx used the term in 1867 in *Das Kapital* where he refers to the origination of surplus value as “phantasmagorical.”²⁸

Robertson had spectacular success in Paris with his shows, especially after he moved them to the atmospheric venue of an abandoned Capuchin monastery,



Figure 7.6 Etienne Gaspard Robertson. From Françoise Levie, ed., *Lanterne magique et fantasmagorie*, Musée national des techniques (Paris: CNAM, 1990), p. 6.

which the audience could enter only via a cemetery. He refined Philidor's technical innovations and improved on Enslin's atmospheric repertoire, offering his audiences Voltairesque visions, the temptation of St. Anthony, and the three witches from *Macbeth*.²⁹

In the evening twilight the spectators made their way through the courtyard, proceeded down a long dim corridor hung with dark paintings to the Salon de Physique, a *Wunderkammer*—a cabinet of wonder—with optical and aural attractions such as peep shows, distorting mirrors, and tableaux of miniature landscapes. Robertson produced electrical sparks, which he called *fluidum novum*, that “for a time could make dead bodies move.” Thus, “the other side,” the new medium of electricity with its utopian connotations was linked with sensory illusions so that the audience was in the right scientific

and magical frame of mind as they entered the projection room. Here, Robertson announced, the “dead and absent ones” would appear.³⁰

The viewers were surrounded by utter blackness, there was no foreground, no background, no surface, no distance, only overwhelming, impenetrable darkness—“sublime darkness,” as Burke has put it. This innovation distinguished the phantasmagoria from all other image machines of the period. The awareness of being in a room was progressively negated by the absolute darkness, haunting music, and particularly the image projections. Together these elements served to constrain, control, and focus perception.

Once seated, the audience heard the voice of a commentator, who spoke of “religious silence”; this was then immediately broken by sounds of rain, thunder, and a glass harmonica. This instrument, which all famous composers of the time, from Mozart to Beethoven, wrote pieces for, was invented by Benjamin Franklin, a representative of the new scientific age and master of electricity. It provided an eerie soundtrack for this visual spectacle and heightened the audience’s immersion in the staged images even more. Then, out of the darkness, glowing apparitions approached the audience.

Today, the illusions of these image caverns may appear amusing; but contemporaries’ media competence was at an entirely different level. Robertson describes guests striking out at the misty images, and the journal *Ami des Lois* advised pregnant women to stay away from the phantasmagoria to avoid having a miscarriage.³¹ It could be argued that this was, in fact, merely good publicity. This is certainly true in part, yet a medium that differed radically from its advertising would certainly not have achieved such lasting success. In 1800, the well-known Parisian writer Grimod de la Rynière wrote: “Herewith it is established that the illusion is complete. The total darkness of the room, the selection of pictures, the astounding magic of their truly monstrous growth, the magic that accompanies them—everything is arranged to impress the imagination and conquer all your senses.”³²

Certainly Robertson could not allow himself to be put on the same level as charlatans like Cagliostro, nor be associated with representatives of Catholic image magic, such as della Porta, Kircher, Schott, and Zahn.³³ He referred to himself as a producer of “scientific effects,” although, naturally, he did not give away his tricks. Robertson’s iconography also included the recently executed contemporaries, such as Marat, Danton, and Robespierre. In a variation of the doctrine of transubstantiation, he made them come alive again with

his magic medium in the swirling sulphurous smoke. Louis XVI, however, he hesitated to resurrect in postrevolutionary Paris. And when a paid extra in the audience stood up and shouted "My wife! It's my departed wife!" then panic would break out. Typically, the shows ended with skeletons, and with Robertson warning, "Look well at the fate that awaits you all one day: Remember the phantasmagoria!"

In the figure of Robertson and the phantasmagoria the ambivalence of the era is concentrated as in a burning glass. The yoke of the Church's authority had just been shrugged off and the phantasmagoria established itself in its former architectural territory. However, the brightness of the Age of Enlightenment was already beginning to darken with eerie testimonies of superstition, pseudoscientific experiments, and the horror of the mass executions during the Terror, which appeared in front of the audience during the phantasmagoria séances. The fresh suggestive potential of a hitherto unknown medium transformed the perception of magical tricks into what appeared to be scientific.³⁴

The medium of the phantasmagoria is part of the history of immersion, a recently recognized phenomenon that can be traced through almost the entire history of art in the West, as documented in my latest book.³⁵ Immersion is produced when works of art and image apparatus converge, or when the message and the medium form an almost inseparable unit, so that the medium becomes invisible.

In the phantasmagoria, phenomena come together that we are again experiencing in today's art and visual representation. It is a model for the "manipulation of the senses," the functioning of illusionism, the convergence of realism and fantasy, the very material basis of an art that appears immaterial, as well as the associated issues pertaining to epistemology and the work of art itself. In contrast to the panorama (fig. 7.7), which made wide vistas of landscapes available, the phantasmagoria connected with the old magic of shamanism to overcome the separation from one's ancestors through the medium.

The image worlds of the terrifying magic lantern thus tapped into notions that already existed in the populace and amplified them through powerfully suggestive new media. Although Beloff does not present her images as a supernatural presence we perceive a simulacrum of implausible beliefs. Therefore, the phantasmagoric fascination remains. But phantasmagorical spaces play an important role in connection with utopian media also in other fields of media art, like telepresence and genetic art.



Figure 7.7 Interior of the Panorama rotunda Altötting. Panorama by Gebhard Fugl, 1903. Photo by Erika Drave, Munich, SPA Foundation Panorama Altötting. By kind permission.

Remember the Phantasmagoria!



Figure 7.8 Paul Sermon and Andrea Zapp, *A Body of Water*, telematic installation, 1999. By kind permission of the artists.

Telepresence

A new, data-mediated epistemology has opened up with the new parameter telepresence and its global exchange of images—a paradox.³⁶ Digital images appear on HMDs, CAVEs, walls, or in the case of Paul Sermon's *Telematic Dreaming* on a simple bed sheet, or in *A Body of Water* on a wall of water. The installation *A Body of Water* (1999) visualizes in a ghostly way the social power of Paul Sermon's and Andrea Zapp's art (fig. 7.8). In a chroma-key room, visitors to the Wilhelm-Lehmbruck-Museum established contact with visitors in a disused mine, the Waschkaue Herten at a second location of the installation. Projected onto gauzy pyramids of water spray from showers in the mine, images of the museum visitors themselves gain phantasmagorical intimacy. In this ruin of the industrial age, Paul Sermon and Andrea Zapp created an experience that was both uncanny and vivid. Quantum physics teaches us that reality is a product of observation; here, however, near and far come together in real time to create a paradox: *I am there where I am not and experience sensory proof against my better judgment.*

Formulating an imaginary space evoking the generations of miners who washed the ubiquitous coal dust from their sweating bodies, Sermon expands

telematics to include social critique that is disturbing in its phantasmagorical intimacy. While *Influencing Machine* makes contact with the psyche, the use of telepresence throughout media history again and again attempts to make contact with transcendence, as shown in previous literature. Paul Sermon's installations must also be understood in this context.

Digital Evolution: A-Life

Recently, within the evolution of art genres, digital art media have begun to change the traditional tableaux of art in the direction of a processual model of art.³⁷ The new parameters, such as interaction, telematics, and genetic image processes, have not only encouraged and intensified the crossing of boundaries, as the theory of media archaeology has often argued. The trend is toward a fusion of the observers' perception with an image medium that is moving increasingly toward the inclusion of all human senses; this is becoming prevalent in media art. Whereas the phantasmagoria connects with death via immersion and spiritualism, *A-Volve*, the icon of genetic art by Christa Sommerer and Laurent Mignonneau, visualizes luminous artificial life in a semidarkened space.³⁸

Artworks are being created that integrate as simulations the genres of architecture, sculpture, painting, and scenography, or even historical image media such as theater, cinema, and photography. All these elements are absorbed into a space that exists only by virtue of its effects.

Digital images open up an interactive image space that is fed information from sensors and data banks. This enables it to change its visuality in a processual and "intelligent" way. These are images whose physicality approaches the function of a display or screen; images that serve as surfaces for projecting networked information, which can telematically bring distant actions up close and, conversely, allow us to perform actions in distant places. Digital images thus blur the distinctions between hitherto separate genres. Through the use of genetic algorithms, an image space can appear to be biologically populated and undergo evolutionary processes and changes, thereby amalgamating artificial nature and art.

The idea of letting objects float almost magically in front of an audience as in phantasmagoria and the magic lantern is currently encountered—apart from, obviously, in IMAX cinemas—particularly in computer art. Artist-scientists such as Thomas Ray, Christa Sommerer, and Karl Sims simulate

processes of life: evolution and selection have become methods used by media art. With the aid of genetic algorithms, the scenic image worlds of the computer not only have gained new tools for design but also can be endowed with the semblance of being alive. Software agents, which appear to be three-dimensional, transmit their phenomenology to the next “generation” of agents according to patterns of evolutionary reproduction, which is then combined in new variations according to the principles of crossover and mutation. The sole constraint is the selection framework determined by the artist.

A phantasmagoric installation that combines playful combinations with the visualization of complex forms of artificial life, *SonoMorphis* was created in 1999 by Berndt Lintermann. In its dark space, ever-new biomorphic bodies are created on the basis of genetic algorithms (fig. 7.9). Lintermann makes the artificial creatures rotate continually and enhances the spatial effect with stereo sound, which is also generated by random processes. Lintermann's intention was to create a highly flexible interactive structure for his installation, which he would like understood as an instrument consisting of visual and acoustic components. The number of possible forms is 10^{80} —according to Lintermann, analogous to the number of all the atoms in the universe. Be that as it

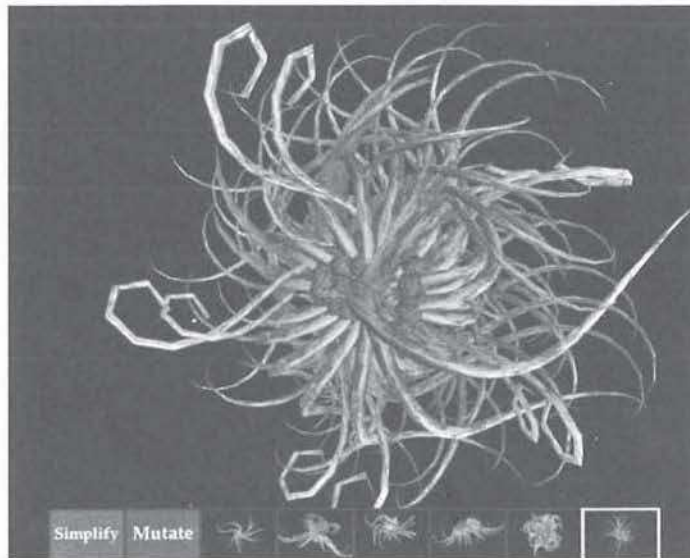


Figure 7.9 Berndt Lintermann, *SonoMorphis*, CAVE installation, 1999. See plate 7. By kind permission of the artist.

may, the number of possible variants in *SonoMorphis* is incredibly high and impossible to explore even in part. And, in the darkness of a CAVE, the lifelike forms appear as a modern phantasmagoria.

The discussion about genetics and artificial life, or a-life,³⁹ that at first was mainly confined to the disciplines of bioinformatics and computer science, was supplemented by models, visions, and images from art that became catalysts in this controversial debate. From a theoretical point of view, evolution represents a groundbreaking process for images: the controlled use of random principles enables the creation of unpredictable, irreproducible, unique, and transitory images. One of the problems with representatives of the hard-core a-life approach, like Langton and Ray, is that they regard computer ecospheres as “alive” in the conventional meaning of the word.⁴⁰ A-lifers claim that the projected creatures are not only *similar* to life, they are life itself, which is, from a theoretical point of view, naive. The pictorialisms of a-life may be labeled images, but they are computations, like all digital images. As far as the functions and program of life processes are concerned, the image is an abstraction based on the biomorphic structure of concretization. The scientific legitimacy of an image is especially the result of an algorithmic analogy to lifelike principles of evolution. Nonetheless, the process succeeds in visualizing facets of scientific theories about life, and the results are images, no more, but also no less.

To use the vocabulary of art, a-life research seeks among other things to break down the divisions between genres and to dissolve the distinction between art and life—in the future, as Ray and Sommerer suggest, in ubiquitous computer networks.⁴¹

Thus phantasmagorically animated artificial life and artificial consciousness remain human projection onto human-made technology in transition, a symbolic space, which above all says something about the reflection of the image of the human within the development of technology—this is reflected by Lintermann too.

This brief excursion into the history of media, which seeks the old in the new, brings us to the question, “What is really new about new media?” and should enable a more penetrating view of current hype regarding media development.

The phantasmagoria stands for a principle, which so far has not been introduced into the discourse about media art: a principle that combines concepts from art and science to generate illusionism and polysensual immersion using

all contemporary means available. In fact, the phantasmagoria represents a turning point in image history, between the suggestive images of Roman Catholicism (Kircher) and self-declared rationalism. In my view, the issue is as follows: Just as it has been possible to demonstrate and establish the history of immersion in conjunction with the panorama, the phantasmagoria can be understood as a media principle that suggests that contact can be made with the psyche, the dead, or artificial life forms. It is therefore necessary to expand McLuhan's theory. Addressing emotions and paranormal human experiences with magical means stems from the insecurity produced by the technological utopia. Benjamin's persiflage moves already in this direction. Considered in this light, a number of contemporary artists can be found working today in the tradition of the phantasmagoria, a hybrid between art, science, and magic.

Coda: Implications for Image Science

If we take a broad look at the history of image media to date, we see that a main force behind the development of new media for creating illusions is the aim to gain greater power of suggestion. This mechanism appears to be the motive behind perennial efforts to renew and maintain power over the observer through developing new potential for suggestion and erecting ever-new regimes of perception. The magic lantern, panoramas, dioramas, phantasmagoria, cinema, computer displays, and technical image media all appear in this perspective as aggregates of continually changing machines, forms of organization, and materials that remain, in spite of all standardizations, seldom stable; we are constantly fascinated by the possibility of heightening the illusion.

Finally, digital images give new meaning to the category of "image" in the history of the media. Differences between inside and outside, near and far, physical and virtual, biological and automatic, image and body are disappearing. We can recognize a sheer endless stream, which on closer scrutiny reveals supposedly established entities, like cinema, to be assemblages of components that are arranged in ever-changing new constellations in the kaleidoscope of evolutionary development of the art media.

Immersion, as we recognize today, is undoubtedly a key element for understanding the development of the media, although the concept remains somewhat opaque and contradictory. Obviously, the relation between critical distance and immersion is not a simple matter of "either-or"; the many and

diverse connections are interwoven, dialectic, in part contradictory, and most certainly dependent upon the individual dispositions of the observers and their historically acquired media competence. Immersion can be a mentally active process; in the majority of cases, however, both in earlier and more recent art history, immersion is mental absorption initiated for the purpose of triggering a process, a change, a transition. Its characteristics are a diminished critical distance to what is represented and an emotional involvement in the same.⁴²

An increase in the power of suggestion appears to be an important, if not the most important, motive force driving the development of new media of illusion. Image science, or *Bildwissenschaft*, now allows us to attempt to write the history of the evolution of the visual media, from peep show to panorama, myriorama, stereoscope, cyclorama, magic lantern, eidophusikon, diorama, phantasmagoria, silent films, color films, films with scents, IMAX, cinéorama, anamorphosis, television, telematics, and the virtual image spaces generated by computers. It is a history that also includes a host of typical aberrations, contradictions, and dead ends. But image science without art history—particularly without its tools for comparison and critical image analysis—is not capable of developing deeper historical insights. It is in danger of propagating old myths and, lacking a “trained eye,” of succumbing to the power of the images. The rise of media art has added fuel to this debate, for questioning images has acquired not only new intensity but also a new quality.

Image science does not imply that the experimental, reflection, and utopian spaces provided by art are to be abandoned. On the contrary: within these expanded frontiers the underlying, fundamental inspiration that art has provided for technology and media, which is associated with names such as Leonardo, Wallgenstein, Pozzo, Barker, Robertson, Daguerre, Morse, Valery, Eisenstein, and many exponents of the art of our digital present, is revealed with even greater clarity. Image studies is an open field that engages equally with what lies between the images, as in the case of Beloff, and with the new perspectives resulting from interplay with neuroscience, psychology, philosophy, research on emotion, and other scientific disciplines.

Notes

1. See Pascal Beausse, “Zoe Beloff, Christoph Draeger: images rémanentes—After-Images,” *Artpress* 235 (1998): 43–47; Chris Gehman, “A Mechanical Medium. A Conversation with Zoe Beloff and Gen Ken Montgomery,” *Cinema scope* 6 (2001):

32–35; Timothy Druckrey, "Zoe Beloff," in *Nam June Paik Award 2002*, International Media Art Award NRW (Ostfildern-Ruit: Harje Cantz, 2002), 20–21; and Steven Shaviro, "Future Past: Zoe Beloff's Beyond," *Arbyte: Magazine of Digital Arts* 3 (1998): 17–18.

2. More so than perhaps any other thinker, Ernst Cassirer reflected on the power of distance for intellectual productivity and creating awareness. In *Individuum und Kosmos*, he proposes that distance constitutes the subject and is alone responsible for producing the "aesthetic image space" as well as the "space of logical and mathematical thought." See E. Cassirer, *Individuum und Kosmos* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1963 [1927]), 179. Two years later, Aby Warburg stressed the intellectual, awareness-enhancing power of distance and even included this "original act of human civilization" in the introduction to his *Mnemosyne-Atlas (Der Bilderatlas Mnemosyne: Gesammelte Schriften Abteilung 2, Band 2* [Berlin: Akademie Verlag, 2000], 3–6).

3. Anthony Vidler, *Unheimlich: Über das Unbehagen in der modernen Architektur* (Hamburg: Edition Nautilus, 1992).

4. Victor Tausk, "On the Origin of the 'Influencing Machine' in Schizophrenia," *Psychoanalytic Quarterly* 2 (1933): 521–522.

5. Sigmund Freud, "Das Unheimliche," in *Gesammelte Werke*, vol. 12, ed. Anna Freud (Frankfurt am Main: Fischer, 1947), 227–268.

6. The first program comprises thirty-two images extracted from family albums gathered in different countries, presenting couples, groups, or families in formal situations, "bourgeois portraits" of domestic scenes. Other programmes are available: "love movies," "crime scenes," and "pictures of war."

7. *The Influence Machine* was developed with the assistance of the Public Art Fund in New York. It was presented in Madison Square Park from 19–31 October 2000. The "ghosts" of key figures in media history such as television pioneer John Logie Baird and the Fox Sisters, who claimed to have made telegraphic contact with the spirit world in the mid-nineteenth century, roamed the square at night. Just yards from where Logie Baird made his first public experiments in the 1920s (a room above Bar Italia on Frith Street), *The Influence Machine* was a fractured multimedia landscape of spectres, sounds and light. The ghosts escaped the machine ...

8. Walter Benjamin, "Lichtenberg," 1932, in his *Gesammelte Schriften*, IV/2, ed. Rolf Tiedemann (Frankfurt am Main: Suhrkamp, 1991), 696–720.

9. See Sergei Eisenstein, *Das dynamische Quadrat: Schriften zum Film* (Leipzig: Reclam, 1988). (Originally: *Stereokino*, 1947.)
10. See Marvin Minsky, *Society of Mind* (New York: Simon and Schuster, 1988).
11. See Gene Youngblood, *Expanded Cinema* (New York: E. P. Dutton, 1970).
12. See Hans Moravec, *Robot: Mere Machine to Transcendent Mind* (Oxford: Oxford University Press, 2000).
13. See J. A. Eberhard, *Handbuch der Ästhetik*, part 1 (Halle: Hemmerde und Swetschke, 1805).
14. See Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business* (New York: Penguin Books, 1986).
15. Jean Baudrillard, *Symbolic Exchange and Death* (London: Sage Publications, 1993).
16. Vilém Flusser, *Ins Universum der technischen Bilder* (Goettingen: European Photography, 1985).
17. See Ulrike Hick, *Geschichte der optischen Medien* (Munich: Fink, 1999), 115ff. and 129–130; W. A. Wagenaar, "The Origins of the Lantern," *New Magic Lantern Journal* 1, no. 3 (1980): 10–12; Françoise Levie, ed., *Lanterne magique et fantasmagorie*, Musée national des techniques (Paris: CNAM, 1990); Laurent Mannoni, *The Great Art of Light and Shadow: Archaeology of the Cinema* (Exeter: University of Exeter Press, 2000 [1995]).
18. Its name—*laterna magica*—(coined by Charles Francois Millet Dechaies, who saw one of Walgenstein's shows in 1665 in Lyon) reflects faithfully the lantern's miraculous ability to blow up small pictures of spectacular subjects to life-size proportions. Charles Francois Millet Dechaies, *Cursus seu mundus mathematicus* (Lyon: 1674), vol. 2, 665.
19. The three most important players in the early history of the magic lantern were the scientist Christiaan Huygens (1629–1695), who probably invented it and was also its earliest critic, the traveler Thomas Rasmussen Walgenstein (1627–1681), who gave shows all over Europe and probably had a decisive influence on how the device was received by intellectuals and scientists, and Johann Franz Grienel (1631–1687),

Remember the Phantasmagoria!

who began to produce magic lanterns for sale in 1671 in Nürnberg and founded a tradition of manufacture that would last for over two hundred years. Griendel was a former Capuchin friar who converted to protestantism and moved to Nürnberg in 1670. He had extensive knowledge of military architecture, optics, and mathematics. Among the optical instruments that he offered for sale in 1671, and on a list of 25 instruments that he sent to Gottfried Wilhelm Leibniz in Hannover, there was also a magic lantern. Its design, a horizontal cylinder mounted on a funnel-shaped metal base, differed considerably from Dutch and other Western European models with their vertical cylinders or rectangular wooden boxes.

20. Oligerus Jacobeus, *Museum regium, seu catalogus rerum* (Copenhagen: 1710), vol. II, 2.

21. See Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought* (Berkeley: University of California Press, 1993).

22. Baltasar Bekker, *Chr. August Crusius' Bedenken über die Schöpferischen Geisterbeschwürmungen mit antiapocalyptischen Augen betrachtet* (Berlin: 1775).

23. This technique was described for the first time 1769–1770 by Gilles-Edmé Guyot in "Nouvelles récréations physiques et mathématiques."

24. He showed Petrarch at Laura's graveside, told the story of Abelard and Eloise, and presented portraits of Frederick the Great and General Ziethen; see Stephan Oettermann, "Johann Karl Enslens's Flying Sculptures," *Daidalos* 37, 15 (1990): 44–53.

25. J. E. Varey, "Robertson's Phantasmagoria in Madrid 1821," *Theatre Notebook* 9–11 (1954–55 and 1956–57).

26. Shows were also put on in North America, some of them using the phantasmagoria lanterns of the Dumontiez brothers. Instead of the spirits of Voltaire and Frederick the Great, audiences there made acquaintance with George Washington, Benjamin Franklin, and Thomas Jefferson. Theaters in London, New York, Berlin, Philadelphia, Mexico City, Paris, Madrid, Hamburg, and a host of other cities staged phantasmagoria shows and established the magic lantern in the early nineteenth century as a useful device in staging public performances for large audiences. The rapid technical progress in the first half of the nineteenth century was followed by a change in the culture of the magic lantern in the second half. In the early 1820s, the British company Carpenter and Westley produced a sturdy metal model, which used an Argand-type lamp.

This made it possible to use the magic lantern in the classroom, in lectures and seminars. It may not be purely coincidental that magic, spiritualism, and horror were so closely associated with the new medium, for up to the mid-nineteenth century spiritualism developed into a veritable mass movement in the United States. In 1859, it was estimated that there were some eleven million spiritualists. Alan Gauld, *The Founders of Psychical Research* (New York: Schocken, 1968), 29. On the relationship of spiritualism and electricity, see Wolfgang Hagen, "Die entwendete Elektrizität: Zur medialen Genealogie des 'modernen Spiritismus,'" <http://www.whaagen.de/publications/>. Among the spiritualists were many prominent personalities of the era, including, for example, Harriet Beecher Stowe and President Abraham Lincoln. Russel M. Goldfarb and Clara R. Goldfarb, *Spiritualism and Nineteenth-Century Letters* (Rutherford, N.J.: Fairleigh Dickinson University Press, 1978), 43–44.

27. According to the Oxford English Dictionary the word "screen" appeared for the first time around 1810, in connection with the phantasmagoria.

28. Adorno and Benjamin work with his term. The phenomenon of world fairs was analyzed by Benjamin as "phantasmagorical." See Margaret Cohen, "Walter Benjamin's Phantasmagoria," *New German Critique* 43 (1989): 87–108.

29. In addition, he manufactured and sold the so-called fantoscope lantern. The ingenious design of this apparatus allowed both the projection of transparent slides and opaque, 3-D puppets.

30. E. G. Robertson, *Mémoires récréatifs, scientifiques et anecdotiques d'un physicien-aéronaute* (Langres: Clima Editeur, 1985). See also "La Phantasmagorie," *La Fleur Villageoise* 22 (28 February and 23 May 1793).

31. *L'ami des lois*, 955 (28 March 1798), 1.

32. Grimod de la Reynière, in the *Courrier des Spectacles*, 1092, 7 March 1800, 3.

33. Barbara Maria Stafford and Frances Terpak, *Devices of Wonder: From the World in a Box to Images on a Screen* (Los Angeles: Getty Research Institute, 2001).

34. The dissolving technique invented for the magic lantern rendered the expansion or compression of time a special aesthetic visual experience, which was enhanced by the magic and illusionistic effect of the medium. The next logical step—we are getting closer to films—was to combine the large-format panorama with moving effects.

This stage refers to other predecessors of cinematography and is focused on the aesthetic category of the illusion of movement. Although the experience of time elapsing between different images in the mechanical theaters of classical antiquity and the Renaissance became the primary source of fascination with these media, and the magic lantern had anticipated this central innovation of the diorama, it was the moving panoramas as exhibited at the World Exhibitions of the nineteenth century that represented the breakthrough of movement as the core element of the illusion *dispositif*. Simulated journeys on steamships and trains, with images of slowly changing landscapes rolling past, were particularly popular as moving panoramas. Such visual experiences were also introduced into the theater, where long, painted backdrops mounted on rollers, so-called changing panoramas, were pulled past the onlooking audience. See Marie-Louise Plessen, ed., *Sehsucht: Das Panorama als Massenunterhaltung im 19. Jahrhundert*, exhibition catalog, Bundeskunsthalle Bonn (Basel: Stroemfeld/Roter Stern, 1993), 230ff. In the first half of the nineteenth century, the desire to see changing images, whether merely details or as a whole, stationary or moving, led to a great number of popular *mise-en-scènes* of images in which the representation of temporal processes was a constitutive characteristic. Toward the end of the century, panoramas were developed where the audience sat on a rotating platform, and one revolution—to see the entire painting—took twenty minutes.

35. Oliver Grau, *Virtual Art: From Illusion to Immersion* (Cambridge, Mass.: MIT Press, 2003).

36. Generally: Ken Goldberg, ed., *The Robot in the Garden: Telerobotics and Telepistemology on the Internet* (Cambridge, Mass.: MIT Press, 2000), esp. my essay: "The History of Telepresence: Automata, Illusion, and the Rejection of the Body," 226–246.

37. Recently: Martin Rieser and Andrea Zapp, eds., *New Screen Media: Cinema/Art/Narrative* (London: British Film Institute, 2002); Gerd Stocker and Christiane Schöpf, eds., *ARS ELECTRONICA: CODE = The Language of Our Time* (Ostfildern: Hatje Cantz, 2003).

38. Laurent Mignonneau and Christa Sommerer, "Creating Artificial Life for Interactive Art and Entertainment," in *Artificial Life VII. Workshop Proceedings* (Portland: University of Portland 2000), 149–153.

39. See Christopher G. Langton, ed., *Artificial Life* (Cambridge, Mass.: MIT Press, 1995); M. A. Bedau, "Philosophical Content and Method of Artificial Life," in *The Digital Phoenix: How Computers Are Changing Philosophy*, ed. T. W. Bynam and J. H. Moor (Oxford: Blackwell, 1998), 135–152.

40. See Thomas Ray, "An Approach on the Synthesis of Life," in *The Philosophy of Artificial Life*, ed. Margaret Boden (Oxford: Oxford University Press, 1996), 111–145.

41. Laurent Mignonneau and Christa Sommerer, "Modeling Emergence of Complexity: The Application of Complex System and Origin of Life Theory to Interactive Art on the Internet," in *Artificial Life VII: Proceedings of the Seventh International Conference*, ed. M. A. Bedau (Cambridge, Mass.: MIT Press, 2000).

42. This aspect was the focus of two conferences on emotions organized by the Academy of the Berlin-Brandenburg Academy of Sciences in Menaggio, which included interdisciplinary approaches to the effects of emotional stimuli on observers of images generated by various media. A very recent publication in this area from an interdisciplinary perspective is Oliver Grau and Andreas Keil, *Mediale Emotionen* (Frankfurt am Main: Fischer, 2005).

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