

# 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.<sup>1</sup>

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.

tronic 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 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—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.<sup>2</sup>

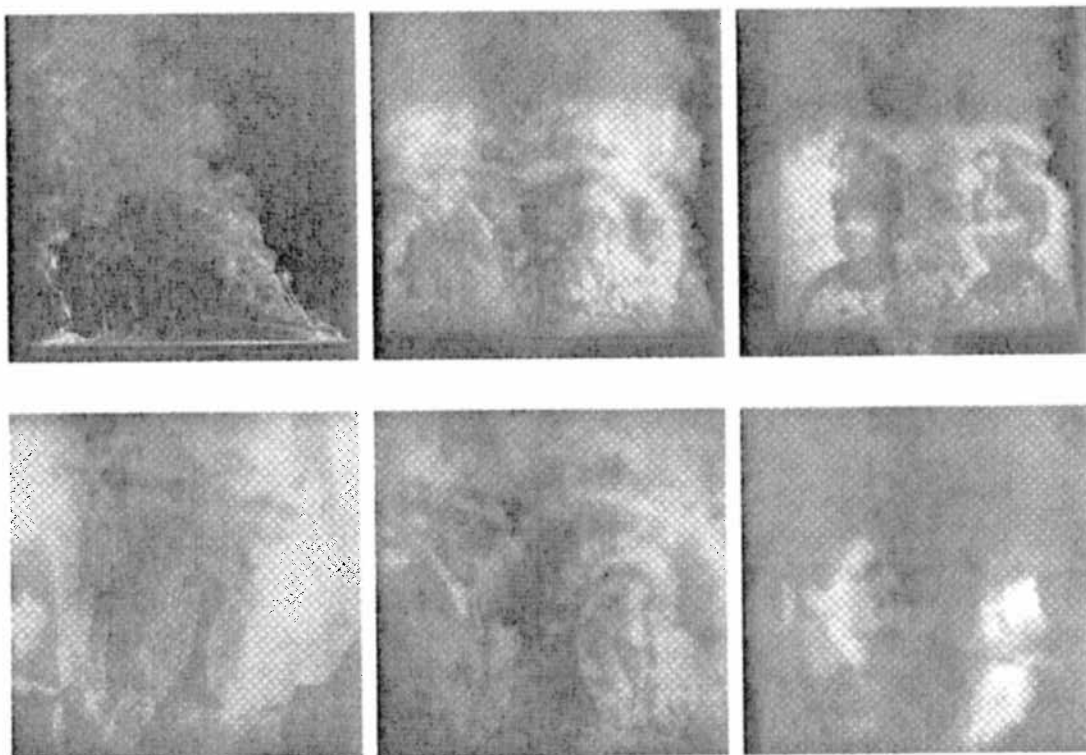
Although it has become a fancy word in modern art debates in other contexts<sup>3</sup> on the ideas underpinning the *Influencing Machine*,<sup>4</sup> we appear to enter the “uncanny” described by Freud in conjunction with the “survival of primitive ideas,” the resurfacing of infantile conceptions 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.<sup>5</sup>

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).<sup>6</sup> Or consider Toni Oursler's *Influence Machine*, a “psycho-landscape” for Soho Square, New York,<sup>7</sup> 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.<sup>8</sup> 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,<sup>9</sup> Minsky,<sup>10</sup> Youngblood,<sup>11</sup> and Moravec<sup>12</sup> belong probably to the "utopian" group, while Eberhard,<sup>13</sup> Postman,<sup>14</sup> Baudrillard,<sup>15</sup> and even Flusser<sup>16</sup> 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.

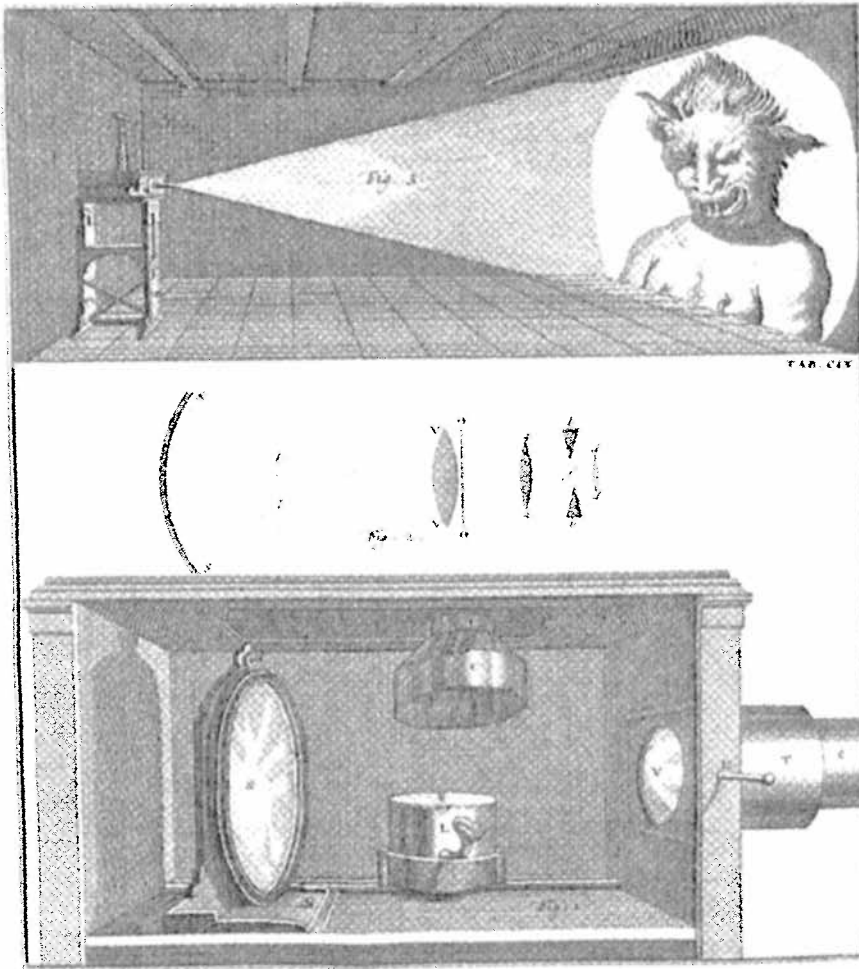
We know that Marshall McLuhan’s influential materialistic discourse interpreted media as externalizations of bodily organs and sensory perception. In my view, however, new and older image media not only conform to the Extensions of Man, they also expand the sphere of our projections and appear to bring 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).<sup>17</sup> 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.<sup>18</sup> As of the mid-seventeenth century, the *laterna magica*, or magic lantern, provided the means to tell stories in projected images;<sup>19</sup> 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.

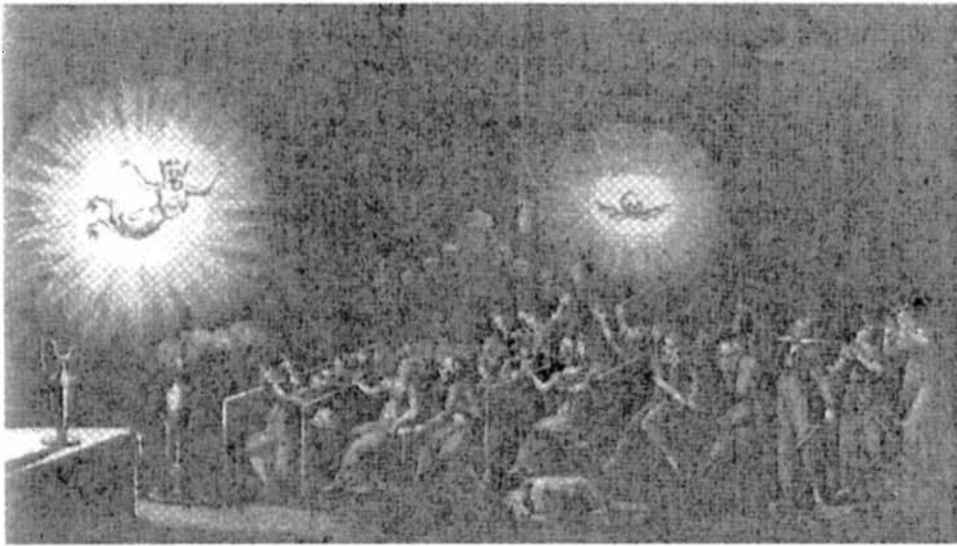
the device was in less scrupulous hands, it was employed to deceive, terrify, and manipulate naive spectators. The courtiers in attendance in Copenhagen were frightened out of their wits to such a degree that the king, who could not abide timidity, commanded the performance to be repeated three times, that is, until the spectators had become accustomed to the new visuality, which annulled the effect.<sup>20</sup> 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

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

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.<sup>22</sup> The pièce de résistance of Schröpfer's later shows was the projection of ghostly apparitions onto smoke using a concealed magic lantern.<sup>23</sup> The images produced by this technique were flickering and phemeral, 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 Enslen, 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.<sup>24</sup>

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.<sup>25</sup> The nineteenth century saw the success of the medium all over the West.<sup>26</sup>

*Laterna magica* projections continued to evolve further from the eighteenth-century traditions and became more differentiated. Projection apparatuses like the fantascopie 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.<sup>27</sup>

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.”<sup>28</sup>

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 Francoise 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 Enslen's atmospheric repertoire, offering his audiences Voltairesque visions, the temptation of St. Anthony, and the three witches from *Macbeth*.<sup>29</sup>

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.<sup>30</sup>

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.<sup>31</sup> 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.”<sup>32</sup>

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.<sup>33</sup> 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

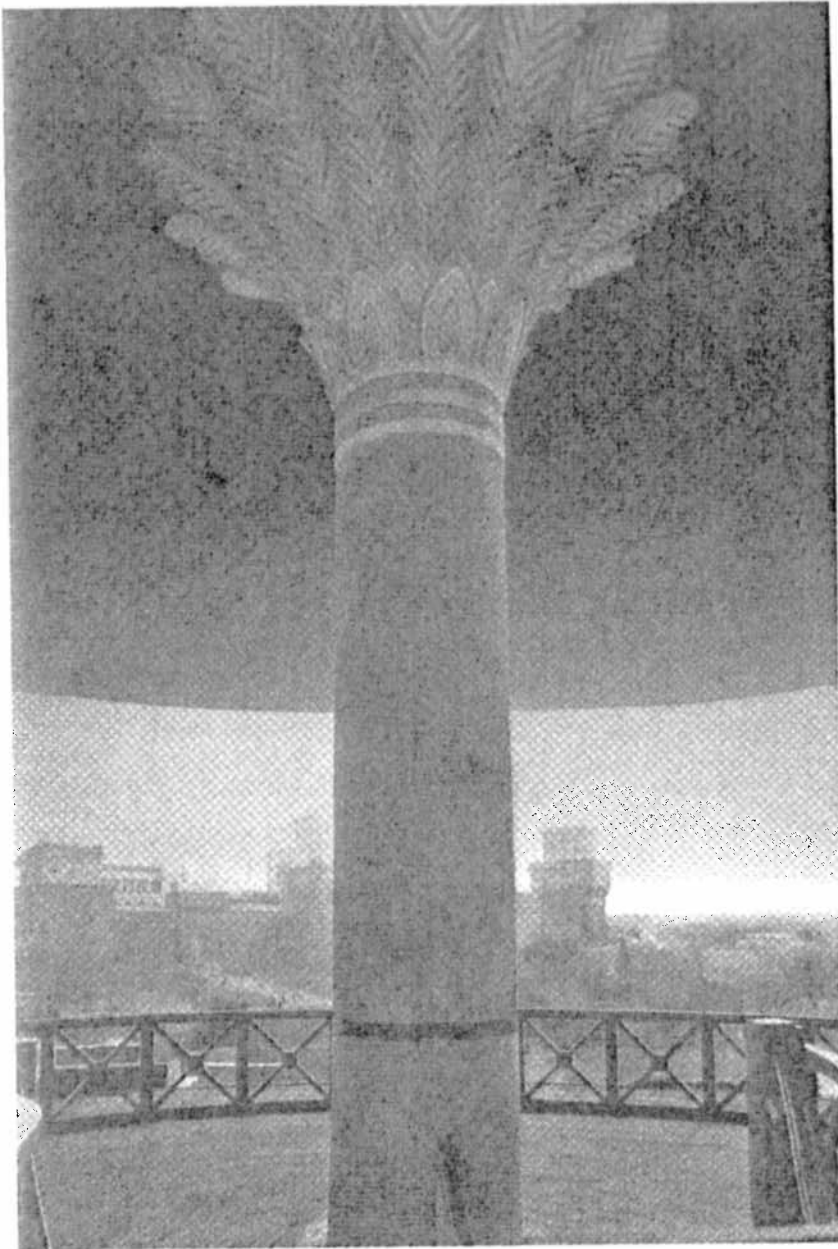
is magic medium in the swirling sulphurous smoke. Louis XVI, however, hesitated to resurrect in postrevolutionary Paris. And when a paid extra in the audience stood up and shouted "My wife! It's my departed wife!" then panic would break out. Typically, the shows ended with skeletons, and with Robertson 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.<sup>34</sup>

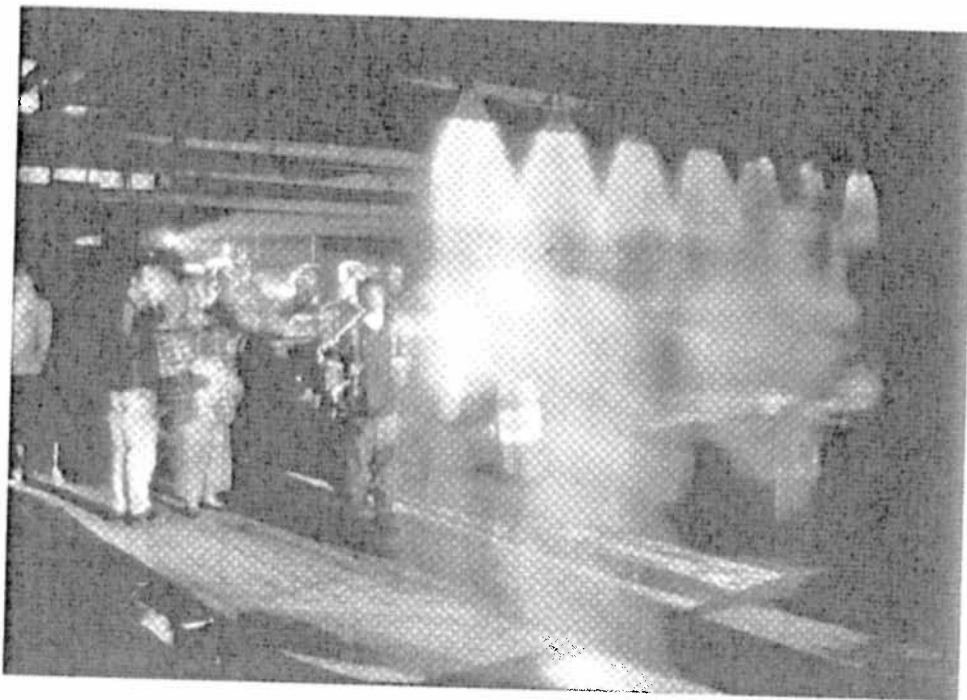
The medium of the phantasmagoria is part of the history of immersion, a recently recognized phenomenon that can be traced through almost the entire history of art in the West, as documented in my latest book.<sup>35</sup> Immersion is produced when works of art and image apparatus converge, or when the 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.



**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.<sup>36</sup> 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 phantasmagoric 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 mode of art.<sup>37</sup> The new parameters, such as interaction, telematics, and genetic information 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 Sommerich and Laurent Mignonneau, visualizes luminous artificial life in a semidarkened space.<sup>38</sup>

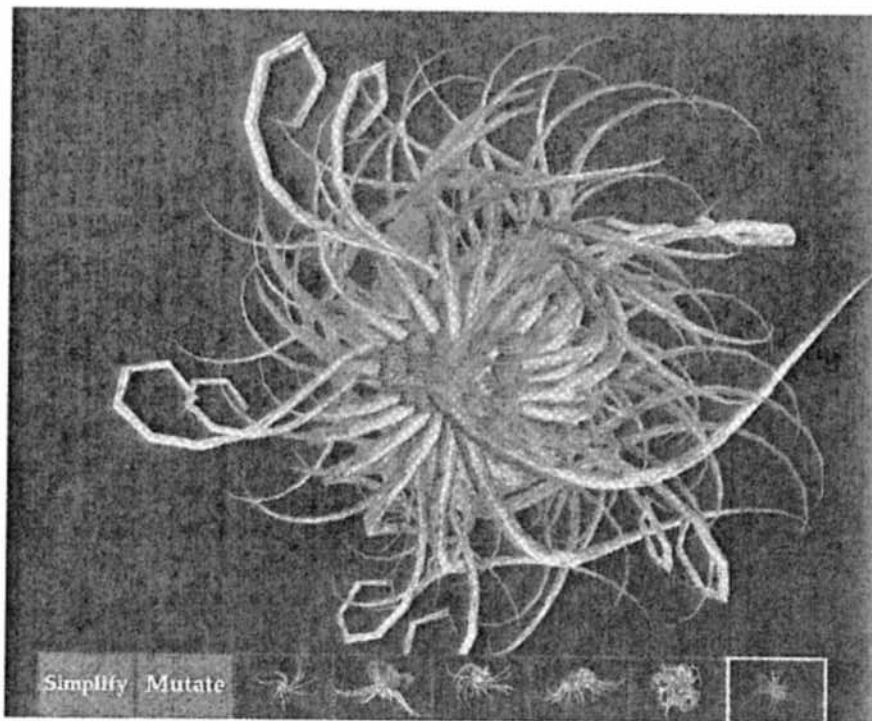
Artworks are being created that integrate as simulations the genres of architecture, sculpture, painting, and scenography, or even historical image media such as theater, cinema, and photography. All these elements are absorbed into a space that exists only by virtue of its effects.

Digital images open up an interactive image space that is fed information from sensors and data banks. This enables it to change its visibility in a processual and "intelligent" way. These are images whose physicality approach 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 in phantasmagoria and the magic lantern is currently encountered—apart from, obviously, in IMAX cinemas—particularly in computer art. Artists/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 lifelik forms appear as a modern phantasmagoria.

The discussion about genetics and artificial life, or a-life,<sup>39</sup> 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 ecosphere as “alive” in the conventional meaning of the word.<sup>40</sup> 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.<sup>41</sup>

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 certainly dependent upon the individual dispositions of the observers and the historically acquired media competence. Immersion can be a mentally active process; in the majority of cases, however, both in earlier and more recent 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.

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 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 panoramic 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 the expanded frontiers the underlying, fundamental inspiration that art has provided for technology and media, which is associated with names such as Leonardo, Wallenstein, Pozzo, Barker, Robertson, Daguerre, Morse, Vale, 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. Conversation with Zoe Beloff and Gen Ken Montgomery,” *Cinéma scope* 6 (200

2–35; Timothy Druckrey, “Zoe Beloff,” in *Nam June Paik Award 2002*, International Media Art Award NRW (Ostfildern-Ruit: Hatje Cantz, 2002), 20–21; and Steven Haviro, “Future Past: Zoe Beloff’s Beyond,” *Artbyte: Magazine of Digital Arts* 3 (1998): 17–18.

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).

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

Victor Tausk, “On the Origin of the ‘Influencing Machine’ in Schizophrenia,” *Psychoanalytic Quarterly* 2 (1933): 521–522.

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

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.”

*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 1 on Frith Street), *The Influence Machine* was a fractured multimedia landscape of images, sounds and light. The ghosts escaped the machine . . .

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 u Swetschke, 1805).
14. See Neil Postman, *Amusing Ourselves to Death: Public Discourse in the Age of St Business* (New York: Penguin Books, 1986).
15. Jean Baudrillard, *Symbolic Exchange and Death* (London: Sage Publications, 199
16. Vilém Flusser, *Ins Universum der technischen Bilder* (Goettingen: European Photography, 1985).
17. See Ulrike Hick, *Geschichte der optischen Medien* (Munich: Fink, 1999), 115ff. a 129–130; W. A. Wagenaar, "The Origins of the Lantern," *New Magic Lantern Jour* 1, no. 3 (1980): 10–12; Francoise Levie, ed., *Lanterne magique et fantasmagorie*, Mus national des techniques (Paris: CNAM, 1990); Laurent Mannoni, *The Great Art Light and Shadow: Archaeology of the Cinema* (Exeter: University of Exeter Press, 20 [1995]).
18. Its name—*laterna magica*—(coined by Charles Francois Millet Dechales, who s one of Walgenstein's shows in 1665 in Lyon) reflects faithfully the lantern's mirac lous ability to blow up small pictures of spectacular subjects to life-size proportion Charles Francois Millet Dechales, *Cursus seu mundus mathematicus* (Lyon: 1674), vol. 665.
19. The three most important players in the early history of the magic lantern we the scientist Christiaan Huygens (1629–1695), who probably invented it and was al its earliest critic, the traveler Thomas Rasmussen Walgenstein (1627–1681), w gave shows all over Europe and probably had a decisive influence on how the devi was received by intellectuals and scientists, and Johann Franz Grienel (1631–168

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 Jacobus, *Museum regium, seu catalogus rerum* (Copenhagen: 1710), vol. I, 2.

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

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

3. This technique was described for the first time 1769–1770 by Gilles-Edmé uyot in “Nouvelles récréations physiques et mathématiques.”

4. 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 Enslen's Flying Sculptures,” *Daidalos* 37, 15 (1990): 44–53.

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

6. Shows were also put on in North America, some of them using the phantasmagor-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 phantasmagoshows 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 Carpenand 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 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, *7 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. Ruth 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* (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 Stöcker 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. Bynum 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), 111–14.

41. Laurent Mignonneau and Christa Sommerer, "Modeling Emergence of Complexity: The Application of Complex System and Origin of Life Theory to Interactive 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/Main: Fischer, 2005).

## **The Myth of Immateriality: Presenting and Preserving New Media**

**Christiane Paul**

The process-oriented nature of the digital medium poses numerous challenges to the traditional art world, ranging from presentation to collection and preservation. The standards for presenting, collecting, and preserving art have been tailored to objects for the longest time and few of them are applicable to new media works, which constitute a shift from object to process and differ substantially from previous process-oriented or dematerialized art forms. New media art in its multiple manifestations has become an important part of contemporary artistic practice that the art world cannot afford to ignore, but accommodating this art form within the institution and "art system" raises numerous conceptual, philosophical, and practical issues. New media art seems to call for a distributed, "living" information space that is open to artistic interference—a space for exchange, collaborative creation, and presentation that is transparent and flexible. The latter certainly does not describe the framework of the average museum today, and in order to make a commitment to new media art, institutions need to develop alternative approaches to presentation, collection, documentation, and preservation. Among the issues that will be discussed in this essay are the inherent challenges that the digital medium poses to the existing art system; the ways in which the roles of artists, audiences, and curators are changed through digital culture and practice; and different models for presenting and preserving new media art.

The challenges posed by new media art are often discussed in the context of the art form's "immateriality"—its basis in software, systems, and networks. From an art historical perspective, new media art has strong connections to the

often instruction-based nature of previous movements such as Dada and fluxus and continues the "dematerialization" of the art object that lies at the core of conceptual art. While immateriality and dematerialization are important aspects of new media art, it would be highly problematic to ignore the art's material components and the hardware that makes it accessible. Many of the issues surrounding the presentation and particularly preservation of new media art are related to its materiality. For example, museums and galleries commonly have to build structures or walls to hide "ugly" computers and need to assign staff to the ongoing maintenance of hardware. Bits and bytes are ultimately more stable than paint or video, and preservation challenges all too often arise from the fact that ever-faster computers and displays with higher resolution are released on the market at short intervals, profoundly changing the experience of artworks that were created for slower computers and lower screen resolutions.

The title of this essay provocatively suggests a "Myth of Immateriality" that admittedly falls into the category of hyperbole: immateriality is not a fiction but an important element of new media that has profound effects on artistic practice, cultural production, and reception, as well as the curatorial process. At the same time, this immateriality cannot be separated from the material components of the digital medium. A more productive approach to understanding this tension may be Tiziana Terranova's definition of immateriality as "links between materialities."<sup>1</sup> Probably more than any other medium for art, the digital is embedded in various layers of commercial systems and technological industry that continuously define standards for the materialities of any kind of hardware components. At the same time, the immaterial systems supported by the digital medium and its network capabilities have opened up new spaces for cultural production and DIY culture. From the macrocosm of cultural practice to the microcosm of an individual artwork, the (immaterial) links between materialities are at the core of digital media. The presentation and preservation of new media art therefore needs to be discussed against the background of the tensions and connections between the material and immaterial.

### **Characteristics of the Digital Medium: Challenges and Opportunities**

New media art is a continuously evolving field and the development of possible taxonomies for the art form has been a much-discussed topic and an elusive

goal. The fact that new media art successfully evades definition is one of its greatest assets and attractions, but at times the art seems more alive than its practitioners want it to be. The characteristics of new media discussed in the following are by no means inclusive and can be considered a preliminary and flexible construct for outlining some of the challenges in presenting the art. Curator and theorist Beryl Graham has compiled a more comprehensive comparison of the taxonomies developed by new media festivals, theorists, and practitioners, such as Lev Manovich and Steve Dietz, which is available online.<sup>2</sup>

A lowest common denominator for defining new media art seems to be its computability, the fact that it is computational and based on algorithms. Other descriptive adjectives commonly used for characterizing new media art are process-oriented, time-based, dynamic, and real-time; participatory, collaborative, and performative; modular, variable, generative, and customizable. Each of these distinguishing features of the digital medium—which do not necessarily all surface in one work and are often used in varying combinations—seems to pose its own set of particular challenges. The time-based and dynamic nature of new media projects is not medium-specific but applies equally to many video works or performances. The latter have been an exception to the mostly object-based art world rather than the rule and even though video seems to have found an established, safe place in the art world after approximately three decades, the relationship of museums to performance, sound art, or other “nonmaterial” art forms remains a problematic one. Artworks that require an extended viewing period are problematic precisely—since museum and gallery visitors tend to spend only a minimal amount of time with a work—but the time-based nature of new media art is far more problematic than that of film or video owing to the inherently nonlinear qualities of the digital medium. The viewer may be looking at a database-driven project that continuously configures itself over time or a visualization that is driven by real-time data flow from the Internet (and will never repeat itself). At any given point in time, the viewer might only see one possible configuration of an essentially nonlinear project. New media works tend to be more context-dependent than many other art forms since they require information about which set of data (in the broadest sense) is being shown, where it is coming from, and according to which logic it is configured. It is essential to a successful presentation of new media art to provide viewers with a sufficient context for understanding the basics of a process-oriented system, even if the viewing time is very short.

The potentially interactive and participatory nature of new media projects—which allow people to navigate, assemble, or contribute to an artwork in a way that goes beyond the interactive, mental event of experiencing it—runs counter to the basic rule of museums: “Please do not touch the art.” For the longest time, visitors of museums and galleries have entered art spaces with the expectation to contemplate objects. Many works of new media art require not only active engagement but a certain familiarity with interfaces and navigation paradigms. While new media art festivals tend to draw a more specialized audience that is largely knowledgeable in “interface culture,” one cannot presume that the broader museum audience consists of new media experts.

Interaction and participation are key elements in transforming new media works into “open systems.” The openness of the system differs substantially from one digital artwork to the next, and one could argue that the degree of openness is directly related to the investment of time the viewer—participant has to make and the amount of expertise necessary to engage with it. Some works are open to navigation but still “informationally closed” (a term I borrow from N. Katherine Hayles<sup>3</sup>) since viewers navigate through a (visual, textual, aural) system that has been configured by an artist, responds to its internal organization, and is not open to reconfiguration. Openness increases in projects where artists have established a framework that allows participants to create a contribution to the system, such as Josh On’s *They Rule*,<sup>4</sup> which allows users to create maps for the interconnectedness of the board of directors of corporations. This type of work is more open on the level of experience and perception than technologically, since it is constantly evolving and is conceptually shaped by the contributions of participants. The type of openness where any contributor can also reconfigure the system and its framework or build on it mostly occurs within the realm of open-source software development, be it in an artistic context or not. An example would be *Processing*, a visual programming environment and electronic sketchbook for developing ideas initiated by Ben Fry and Casey Reas.<sup>5</sup> Reconfigurable and expandable new media projects ask for an involved engagement on the participants’ end and are not easy to integrate into the gallery space unless they are presented mostly as a documentation of concept.”

The presentation of new media art involves the creation of platforms of exchange, between the artwork and audience or the public space of a gallery and the public space of a network, and so on. The practical challenges of creating

these platforms include a need for continuous maintenance and a flexible, technologically equipped exhibition environment, which museum buildings (traditionally based on the "white cube" model) do not necessarily provide. Among the more conceptual challenges are the facilitation of audience engagement and the need for continuing educational programs in order to make the public more familiar with the still emerging art form.

There is no doubt that digital technologies have profoundly shaped the landscape of cultural production. Compared to media such as radio, video, television—which mostly rely on a relatively defined technological superstructure of production, transmission, reception, and a one-to-many broadcasting model—the modularity and variability of the digital medium constitute a far broader and more scattered landscape of production and distribution. The networked environment of the World Wide Web supports content distribution by any individual through numerous channels, ranging from websites to weblogs, or Wikis.<sup>6</sup> Participation and collaboration are inherent to the networked digital medium, which supports and relies on a constant exchange and flow of information, and are an important element in multiuser environments, among them chat rooms, 3-D worlds or massive multiplayer games that allow their inhabitants to extend and "build" the virtual space. Owing to the modularity of the digital medium, the plethora of available technologies and softwares (commercial or open source) can also potentially be manipulated or expanded. As a result, there are numerous potential points of intervention for artistic practice and cultural production in general. Digital technologies and networks have opened up new spaces for autonomous producers and DIY culture—through the process of copying, sharing, and remixing—as well as for the industry of market-driven media. Artistic production oscillates between the poles of openness of systems and strictions imposed by protocols and the technological industry. This changing landscape of cultural exchange has a direct influence on the creation, presentation, and reception of art and affects the role of everyone engaged in these aspects.

### **Collaborative Exchange and the Changing Roles of Artists, Audience and Curators**

Collaborative exchange has become a fundamental part of artistic new media practice and has affected notions of the artwork and authorship, which in turn



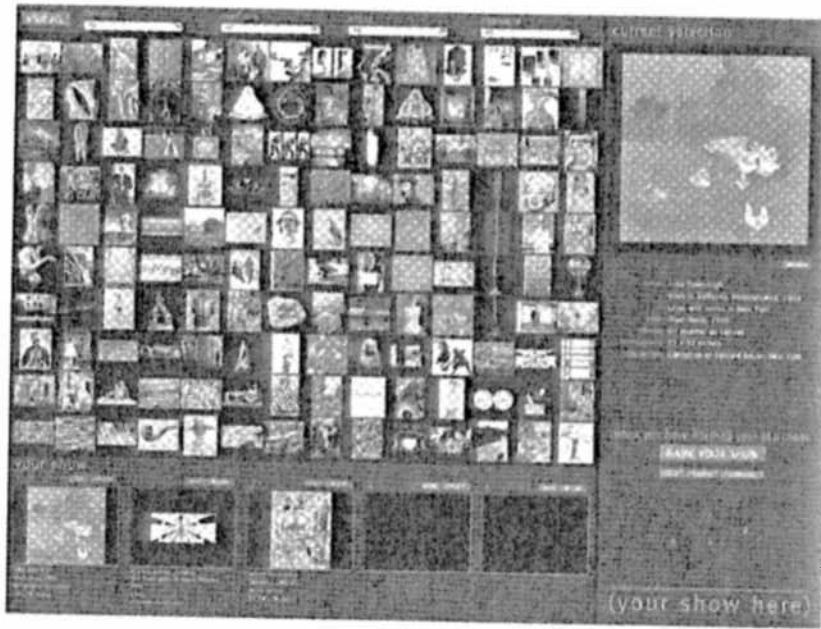
have fundamental consequences for curatorial practice and the presentation of the art. The artistic process in new media creation to a large extent relies on collaborative models, which manifest themselves on various levels. New media works often require a complex collaboration between artists, programmers, researchers, designers, or scientists, whose role may range from that of a consultant to a full collaborator. As opposed to a scenario where artists hire people to build or create components for their work according to instructions, new media practice brings together collaborators who are often very much involved in making aesthetic decisions regarding the work. Another level of cooperation occurs in projects where an artist establishes a framework in which other artists create original works. Lisa Jevbratt's *Mapping the Web Infome*<sup>7</sup> and *Carnivore*<sup>8</sup> by Alex Galloway and the Radical Software Group (RSG) are perfect examples of this approach. In both works, the artists set certain parameters through software or a server and invited other artists to create "clients," which in and of themselves again constitute artworks. In these cases, the artists begin to play a role similar to that of a curator, and the collaborations are usually the result of extensive previous discussions, which sometimes take place on mailing lists specifically established for this purpose. While artists groups and collectives are by no means a new phenomenon that emerged along with digital media, they certainly have not been in the majority when it comes to artistic creation, and the art world in general has traditionally been focused on the model of a single creator and "star." Works that have been created by multiple authors in varying combinations over longer periods of time also necessitate new strategies for documentation, which will be discussed later in this essay.

A further level of participatory exchange—depending on the "openness" of the work—occurs on the level of audience input. While the artists still maintain a certain (and often substantial) control over the visual display or underlying framework of the project, works such as Mark Napier's *P-Soup*<sup>9</sup> or Andy Deck's *Open Studio*,<sup>10</sup> an online multiuser drawing board, would consist of a blank screen without the audience's contribution. These projects are software "systems" in which the creation of the "manifestation" of the work relies on the content contributed by the audience. The artist becomes a mediatory agent and facilitator—both for collaboration with other artists and for audiences' interaction with and contribution to the artwork. Any new media artist who creates a system that is open to public contribution has to consider

the “socialization” of the work and the most effective framework for interaction.

The collaborative exchanges outlined above have profound implications for the curatorial process. In the organization of an exhibition presenting new media art, a curator may play a role closer to that of a producer—particularly when the work is commissioned—supervising a team of creators and the presentation of the work. Collaboration requires an increased openness in the production and presentation process as well as an awareness of process. The success and results of an exhibition are less predictable and highly dependent on the “platform” that the curators and artists establish for exchanges with the audience.

The openness of digital technologies also potentially allows for more audience involvement in the curatorial process. The development of ideas of “public curation” is currently still in the experimental stages but is increasingly gaining momentum within the museum world through initiatives that attempt to go beyond feedback in online discussion forums. The project *Show Here*<sup>11</sup>—shown at the Massachusetts Museum of Contemporary Art (MASS MoCA) in 2001—invited gallery visitors to use a curatorial software program that allowed them to filter and choose from a database of more than 100 digital images of twentieth-century works of art (fig. 13.1), make a statement about their choices, title their show, and project their selection onto the walls of the gallery. A similar system was developed in a class called Interactive Telecommunications Program (ITP) at New York University, organized in conjunction with the Whitney Museum and devoted to the development of interfaces that would enhance the experience of visitors to the Whitney. The project—*Connections*, by Jon Alpert, Eric Green, Betsy Green, and Victoria Westhead—consisted of three display walls with screens. One was an interaction wall, which used the metaphor of the mechanical switch. Users could plug a cable into the socket corresponding to an image from the Whitney collection, preview the image, and make it appear on one of the other two screens on the display walls. Both projects use the possibilities of installation, cloning, reproduction, and archiving facilitated by the digital medium to pose an alternative model of presenting and viewing art that moves away from a traditional prescribed model and allows the art to take on new meanings in multiple contextual reconfigurations. The models for “public curation” outlined above still consist of predefined archives but blur the boundaries



**Figure 13.1** *Your Show Here*, Massachusetts Museum of Contemporary Art, 2001. Close-up of the interface with five containers for visitors' selections at the bottom. See plate 10. Courtesy of Scott Paterson.

between public and curator, allowing for models that potentially could establish a more direct reflection of the demands, tastes, and approaches of an audience. Owing to the increasing development and popularity of mobile technologies, public response to and discussion of art has also begun to evolve on a self-organized grass-roots level. Students of Marymount Manhattan College recently created “unofficial” audio tours for artworks at New York’s Museum of Modern Art in the form of podcasts, and made their *MoMA Audio Guides* available at the website of Art Mobs,<sup>12</sup> an organization dedicated to exploring the intersection of communication, art, and mobile technology. The public is invited to create their own audio guides and submit them to the site. The more sophisticated models of public curation have been developed within the online environment and will be discussed within the context of online presentation.

One could argue that the changes in the roles of artists, audiences, and curators that have been brought about by collaborative models largely relate to the immateriality of systems, exchanges, and cultural production in general. At the same time, all parties involved are establishing links between the virtual space of the work, with its communicative and participatory interaction, and the respective site of interaction, be it a gallery space or one’s own home.

## **New Media in the Gallery: From Installation to “Mobile**

It seems inherently misguided to address a topic outlined as “pres media,” which suggests that new media might represent a unified thing there might be a “silver bullet” or perfect approach to installing New media art is an extremely hybrid practice, and each of the different manifestations of the art—from installation and virtual reality to software art, and mobile media—poses its own set of challenges and requires a distinctly different approach. The presentation and physical environment of a new media project ultimately should be defined by the conceptual elements of the artwork itself.

When it comes to general models, one can make a distinction between “integration” of new media in the galleries together with other art forms and “separation” in a specific new media space or lounge. The latter has been criticized as a “ghettoization”—contributing to the separation of new media from more traditional media and epitomizing the uneasy relationship that museums and institutions tend to have with new media at this point in time. The advantage of the lounge model is that new media art will not be isolated from the context of works in other media and becomes marginalized to the “(hi)story of art” unfolding in the other galleries. The practice of putting new media in a separate “black box” or lounge area with computer screens is not necessarily driven by concept but often brought about by practical requirements—the fact that the art might need a dark space, network connections throughout the museum—or by the fact that the project has been financed by a sponsor. However, the lounge model also has advantages. If museums have designated (sometimes sponsored) space for new media art, they are also obliged to offer continuous programming in these galleries, which translates into regular exposure for the art rather than an occasional presentation over the course of several years. The presence of computers and screens in a lounge invites people to spend more time with the works than they would invest while standing in a gallery.

Interfacing new media within the museum or gallery space allows for a certain recontextualization and often reconfiguration. Many new media projects are inherently performative and contextual—networked to the “outside”—and feel decontextualized in the “white cube” space that was intended to create a “sacred” space and blank slate for the collection of objects. The “black box” does not always provide better cor

often is not required by the work itself: unless a new media project depends on specific lighting conditions—because it strives to create an immersive space or incorporates light sensors—it could equally be shown in a lit gallery space. However, this would require extremely strong and therefore costly projectors, which many institutions cannot afford. Since all forms of new media art tend to be process- rather than object-oriented, it is of crucial importance to communicate the underlying concept and context of the respective process to the audience, be it through labels or the configuration of the gallery space.

Installations of digital art sometimes need to be set up according to specified parameters (such as height, width, defined lighting requirements, etc.) in order to create a distinct presence in physical space. However, the variability and modularity inherent to the digital medium also means that a work—be it an installation, net art, or software art—can be reconfigured for a specific space and shown in very different ways: the same work might be presented, for example, with installation components, as a projection, on a screen, or within a kiosk setup. This applies to software art, in particular, which is by nature focused on the algorithmically driven process of the “virtual object” rather than its display mechanisms. The basic arrangement of a laptop or computer screen on a desk may provide the “natural environment” in which people usually interact with computers or surf the Internet, but this setup usually seems out of context within a museum space and creates an undesirable office environment. In a gallery space, curators and artists are confronted with the question of whether it is desirable to hide the materiality of the computer (by constructing pedestals or walls) or to expose it, which may be essential for works that address the hardware itself.

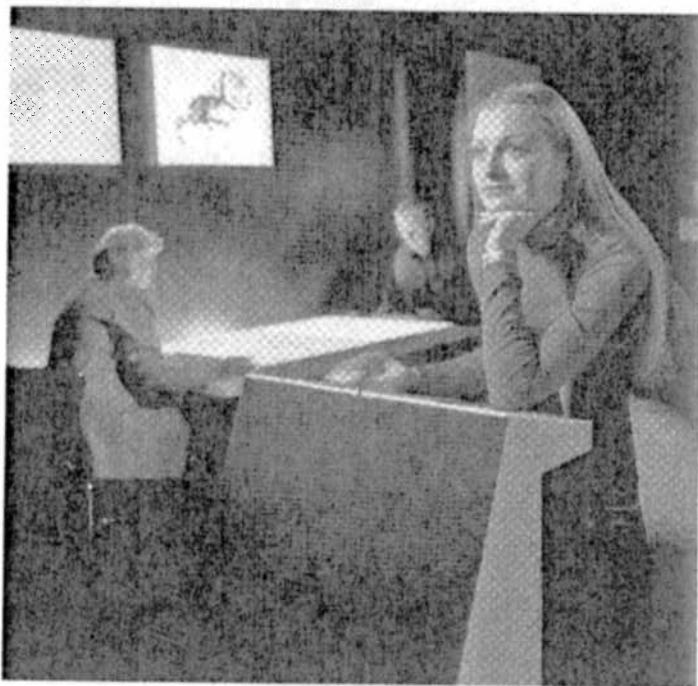
The variability of new media installations also means that the same work might not ever be installed again the same way as it travels from venue to venue. The net art project *Apartment*<sup>13</sup> by Martin Wattenberg and Marek Walczak, for example, has been shown as installation/projection in various configurations in galleries in the United States and Europe. The work was inspired by the Memory Palace/Theater, an old mnemonic device and strategy that is based on the connection between physical and mental space. In the second century BCE, the Roman orator Cicero imagined inscribing the themes of a speech on a suite of rooms in a villa, and then delivering that speech by mentally walking from space to space. One part of the project consists of a 2-D component where words and texts typed in by viewers create a two-dimensional floor plan of rooms, similar to a blueprint. The architecture is



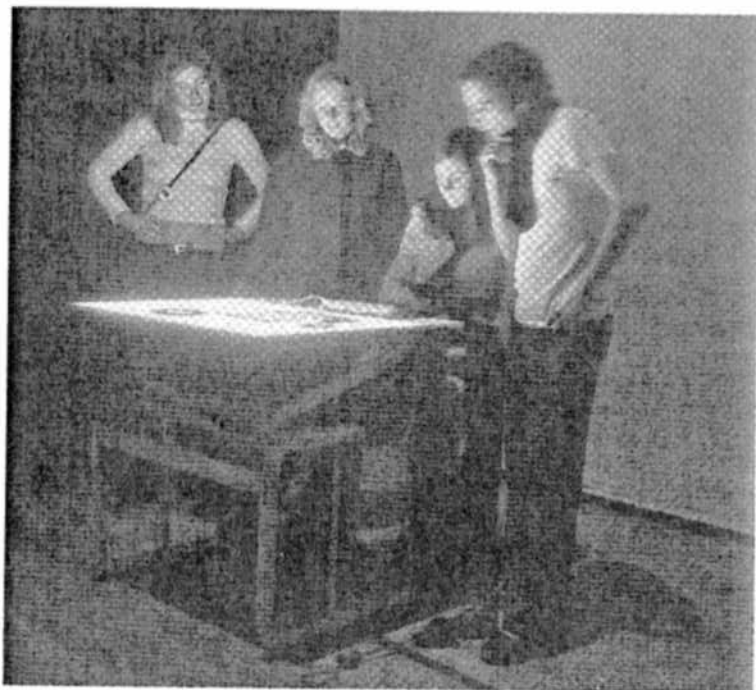
**Figure 13.2** Marek Walczak and Martin Wattenberg, *Apartment*, Whitney Museum of American Art, 2001. One user station and projection. Artist sketch (left) and installation shot (right). Courtesy of the Whitney Museum of American Art.

based on a semantic analysis of the viewers' words, reorganizing them to reflect the underlying themes they express. This structure is then translated into navigable 3-D dwellings composed of images, which are the result of Internet searches run for the words typed in by the viewer. As part of "Data Dynamics" exhibition at the Whitney Museum of American Art in 2001, *Apartment* was shown as a single-user workstation where visitors would create the 2-D apartment, while the 3-D interface was projected onto the museum wall (fig. 13.2). The projection established the connection to the memory palace (mentally inscribing words onto a wall) as an original source of inspiration. The installation at the Whitney Museum is the only variant to date that allowed visitors to print out their apartments and take them home. In the same year, the piece was installed at the Ars Electronica Festival in Linz, Austria, with two input stations for the 2-D and the 2-D and 3-D components projected next to each other on the wall, as well as an "archive" station, which stored all the combined apartments (fig. 13.3). The adjacent projections of the two components gave them the same experiential impact and established a more direct connection between a 2-D apartment and its 3-D version. At the Electrohype Festival in Sweden, the 2-D component was projected onto a single table (fig. 13.4). In each of its different variants, the experience of the work substantially changed.

Whether a project was created for a single user or multiple participants (or could be transformed from a single- into a multiuser project) is an important



**e 13.3** Marek Walczak and Martin Wattenberg, *Apartment*, Ars Electronica Festival, 2001. Installation shot with twin 2-D input stations, 2-D and 3-D projection, and archive n with user (front). Courtesy of Marek Walczak and Martin Wattenberg.



**e 13.4** Marek Walczak and Martin Wattenberg, *Apartment*, Electrohype Festival, Swe-2002. Single projection onto table. Courtesy of Marek Walczak and Martin Wattenberg.

issue for presenting any type of new media art. It can be a frustrating experience to watch someone else navigate a work and wait for one's turn—similar to giving someone else control over the TV remote control and watching the surf channels—and multiuser projects tend to create more engaging environments in public space. Nevertheless, the “performance” of a single user also has its positive effects: visitors who are less familiar with interfaces and would have been hesitant to take over the input device and explore a work often learn and get engaged by watching other people. For any type of work that has simultaneous presence in the gallery space and online, it becomes important to establish a connection between the physical and virtual space, be it through contextual information or by making the Web component accessible in the gallery space. The decisions that need to be made in establishing connections between virtual and physical space ultimately have an effect on the aesthetics of the work and ideally should be the result of collaborations between the curator and artist(s).

The form of new media art that is both most alien to the museum context and best exemplifies the idea of the museum without walls is mobile or locative media art—art that has been created for networked devices such as cell phones and Palm Pilots; or incorporates “wearables” such as clothing or accessories equipped with sensors or microprocessors; or makes use of the Global Positioning System (GPS) and wireless networks in order to deliver content specific to a location. Unless these works have been specifically created for gallery space, they naturally transcend the physical boundaries and walls of the museum. In the case of mobile devices that the audience brings to a museum (such as cell phones or Palm Pilots), the institution becomes an access point or node in the network—for example, through setting up a beamir station. In order to communicate the inherent concept of these projects, it often makes sense to establish a larger network for the artwork by collaborating with other organizations that could serve as additional nodes. Some mobile or locative media projects require leaving the museum space behind and moving into public space.

Mobile media works tend to be performative and often require the organization of an ongoing event. Projects that incorporate wearable computing can only be used by a limited number of people at any given time, and often require the presence of the artist(s) or facilitators who can assist the audience. One option of showing wearable projects is to arrange for scheduled “performances” during which the audience can experience the work. In addition



these scheduled events, it is crucial to provide documentation that translates the project to the audience during the time periods when the piece cannot be actively used.

One of the most challenging scenarios for presenting new media art is the integration of Internet art within the museum or gallery space. Since net art has been created to be seen by anyone, anywhere, anytime (provided one has access to the network), it does not necessarily need a museum to be presented or introduced to the public. While net art exists within a (virtual) public space, it seems to be particularly difficult to “connect” it to the public space of a gallery. There have been multiple approaches to showing this art form, which all have their advantages and disadvantages. Some works of net art lend themselves to presentation through installation and/or physical interfaces because they address notions of space. Others work well as a projection—these are often works that have not been created for a browser window and beg to get out of it. Yet others need to maintain their inherent “netness” and require one-on-one interaction through the physical setup of a computer with monitor. The latter is supported by the lounge model where visitors either access each work on its dedicated computer or have a number of computers available, each of which provides a portal to all the works in the exhibition.

Decisions about the presentation of a new media work within a gallery always have to be made on a case-by-case basis, and there are no specific methods for installing each of the different forms of new media that will automatically ensure a successful exhibition.

### **Models for Online Presentation**

In the case of net art, in particular, the discussion surrounding presentation cannot be limited to the space of the physical gallery but also needs to consider the “natural habitat” of the art, the online environment. When net art officially came into being with the advent of the World Wide Web in the early 1990s, an online art world—consisting of artists, critics, curators, theorists, and other practitioners—immediately developed in tandem with the art and outside of the institutional art world. One of the inherent promises of net art was the opportunity to establish an “independent” art world that could function outside of the framework of the institution and its systems of validation. Even though it may not be their explicit goal, independent online exhibitions implicitly challenge the structures of legitimation created by the

museum system and traditional art world. A broader art audience may place more trust in the selection undertaken by a prestigious museum, in the online environment, the only signifier of validation may be the recognition carried by the museum's name. In the late 1990s, institutions began to pay attention to net art as part of contemporary artistic practice slowly incorporated it into their programming. Presentation of net art be to unfold not only independent of institutions—through Web projects created by independent curators and (artist) collaboratives—but also in institutional context—through websites affiliated with museums, such as Walker Art Center's *Gallery 9*,<sup>14</sup> SF MOMA's *e-space*,<sup>15</sup> and the Whitney Museum's *artport*.<sup>16</sup> The presentation of net art within these different contexts—institutional or noninstitutional—differs substantially when it comes to the interpretation of selection, filtering, and “gatekeeping” as fundamental aspects of the curatorial process.

The “online only” exhibition of net art seems to have advantages in that it preserves the original context of how the art is supposed to be seen, but presents the problem that one has only limited control over how a work is experienced by the viewer. Net art projects often require specific browser versions, plug-ins, or a minimum screen resolution, and the inability to view a work becomes more of an issue when viewers “visit” an online exhibition organized by a museum or arts organization, which they hold responsible for providing a certain quality of the experience of art.

The online presentation of net art still involves many of the traditional aspects of curation—selection of works, organization of the exhibit and art historical framing—but also has to acknowledge the specifics of its environment and its shifting contexts. The Internet is a contextual network where a different context is always only one click away, and everyone is engaged in a continuous process of creating context and recontextualizing. The embedding of online art into a rich contextual environment blurs boundaries between “categories” of cultural production (fine arts, pop culture, entertainment, software, etc.) and creates a space for specialized interests with a very narrow focus. While an exhibition shown in physical space has a specific opening and closing date, requires a visit to a physical locality, and, after its closing, becomes part of the “cultural archive” through its catalog, documentation, and critical reception, an online exhibition is seen by a translocal community that never closes, and continues to exist indefinitely (until some party fails in sustaining it). It exists within a network of related and previous exhibitions that

can be seen directly next to it in another browser window, becoming part of the continuous evolution of the art form. In addition, the artworks included in the exhibition (through linking) may continue to evolve over time. Online presentation has to acknowledge the distributed model of the networked exhibition environment: an exhibition of net art on a website, be it that of an institution or individual, inhabits a “living,” discursive environment with multiple perspectives beyond those of a single institution or organization.

The Walker Art Center's online exhibition space *Gallery 9*, developed from 1997 until 2003 under the direction of its founding director Steve Dietz, acknowledged this need from its inception and was created as an online venue for both the exhibition and contextualization of Internet-based art. As Steve Dietz explains in his introduction to the site, the space features “artist commissions, interface experiments, exhibitions, community discussion, a study collection, hyperessays, filtered links, lectures and other guerilla raids into real space, and collaborations with other entities (both internal and external).” *Gallery 9* also became a permanent home for content that was not originally created by the Walker Art Center, such as Benjamin Weil's *äda'web*, an online gallery and digital foundry (created in 1995) that featured work by net artists as well as established artists, for instance Jenny Holtzer and Julia Scher, who expanded their practice with the new medium. After *äda'web* lost its financial support, the gallery and its “holdings” were permanently archived at *Gallery 9*. Another part of the gallery's archive is G. H. Hovagimyan's *Art Dirt*, an online radio talk show that was originally webcast from 1996–1998 by the pseudo Online Network. While sites such as *Gallery 9* or the Whitney Museum's *artport* are geared toward creating a contextual network, they still allow a traditional model in that they are overseen by a single curator rather than open to a multiplicity of curatorial “voices.” These institutional sites find their counterpart in online exhibitions that are organized by individual, independent curators—not affiliated with an institution—and often tend to take more experimental formats. Since these curatorial efforts are mostly distributed throughout the specialized community of the online art world, they do not necessarily need to consider a broader audience and museum patron who might not be familiar with net art but visits an online gallery since it is affiliated with a major institution.

A shift from the model of the single curator to that of multiple curatorial perspectives is more likely to be found at websites of nonprofit organizations devoted to online art. The British website *low-fi net art locator*,<sup>17</sup> run by a col-

laborative team, regularly invites guests to “curate” a selection of online projects within a theme of the guest’s choice. The selections are accompanied by curatorial statement and brief texts on each of the projects. Over time, *lou* has grown into an impressive curatorial resource, consisting of numerous online exhibitions. A range of perspectives can also be found at *turbulence*,<sup>1</sup> a project of New Radio and Performing Arts and its co-directors Helen Thrington and Jo-Anne Green, which, in addition to commissioned projects, features curated exhibitions (often organized by artists) as well as “Artist Studios” that present artists’ works and provide context for them through writings and interviews.

Some of the most advanced implementations of multiple curatorial perspectives and “public curation” have occurred in projects that explicitly consider software as a framework for curation, such as the software art repository *runme.org*<sup>19</sup> and Eva Grubinger’s *C@C—computer aided curating*.<sup>20</sup> Within a technological framework, curation is always mediated and agency becomes distributed between the curator and the public, and software is involved in the filtering process. Eva Grubinger’s *C@C* (1993), with software development by Thomas Kaulmann, probably was the earliest attempt at creating a software-driven framework and tool that responded to the needs of artists and curatorial practice in an online environment. *C@C* was visionary at the time in that it developed a space that combined the production, presentation, reception, and purchase of art and thus erased several boundaries between delineated practices within the art system. The concept included individual artist studios with built-in editing tools; a branching social network structure in which artists could introduce other selected artists; an area for discussion between the public and curators; and spaces that could be “purchased” by art dealers in order to present and promote their activities.

The idea of “automated curation” and software-based filtering became more pronounced in the *runme* software art repository, an open, moderated database that emerged out of the *Readme* software art festival (first held in Moscow in 2002) and was launched in January 2003. The site is an open database to which anyone can submit his or her project accompanied by commentary and contextual information. Selection only occurs in the reviewing process conducted by the members of the *runme* “expert team” who evaluate whether the project fits the basic objective of the site and makes an interesting contribution before making the work available for viewing to the public through the Web interface. Although the team has final say over the inclusion of a project,

the basic criteria for submission are fairly broad, and the initial filtering process certainly could not be described as highly selective. Further filtering occurs in the classifying and labeling that occurs through the taxonomical system established for the site: projects are classified according to a list of categories of software art as well as a “keyword cloud” that further describes projects and allows viewers to navigate them. Both the categories and keywords are open to additions and revisions by the public, so that classification occurs in a process where agency is distributed between automation and “human input.” In different ways and to varying degrees, all of the above models for online presentation illustrate the changes that the “immaterial systems” of the online environment have brought about for concepts of the exhibition.

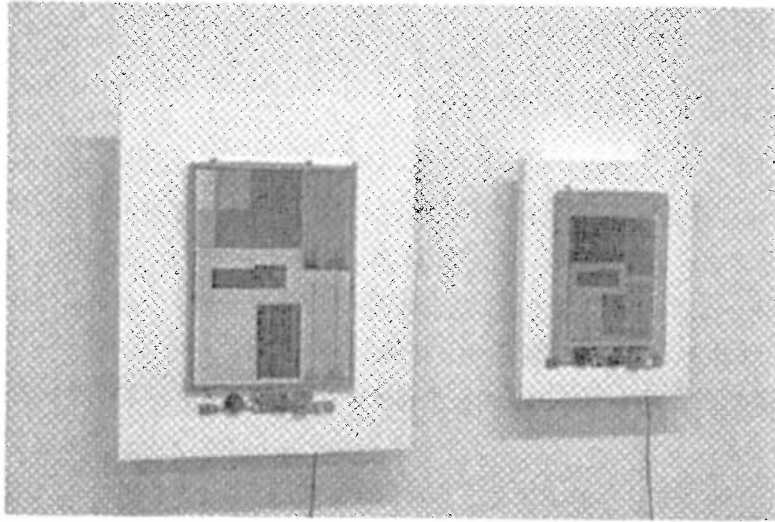
### **Preservation Strategies: From Materiality to Immaterial Process**

The nature of new media projects and the inherently collaborative processes employed in their creation and presentation make it necessary to develop new models and criteria for documenting and preserving process and instability. In both Europe and the United States, several initiatives are striving to create standards for the preservation of media works. Among them are the Variable Media Network<sup>21</sup> (a consortium project of the University of California, Berkeley Art Museum and Pacific Film Archive, the Solomon R. Guggenheim Museum, Cleveland Performance Art Festival and Archive, Franklin Furnace Archive, and Rhizome.org) and INCCA<sup>22</sup> (International Network for the Preservation of Contemporary Art). Main issues that have to be addressed by these initiatives include the development of vocabulary for catalog records, standards that allow the interoperability of the metadata gathered by institutions; and tools for the cataloging of “unstable” and process-oriented art. Among the latter is the Guggenheim’s “Variable Media Questionnaire,” an interactive questionnaire that enables artists and museum and media consultants to identify artist-approved strategies for preserving artworks and to define the behaviors of artworks in a media-independent way. The behaviors defined by the questionnaire are *installed*, *performed*, *reproduced*, *duplicated*, *interactive*, *encoded*, *networked*, and *contained*. Other tools include Franklin Furnace’s primarily performance-oriented archive cataloging database; and the Digital Asset Management Database (DAMD),<sup>23</sup> developed at the University of California Berkeley Art Museum, which consists of seven related databases that store files and the objects they represent, integrate sets of descriptive metadata

from institutions' Collection Management System, and support their export to different formats.

The challenges of documenting and preserving new media art illustrate most poignantly the concept of immateriality as links between materialities—the connections between hardware and software components and processes initiated by humans and machines that form an immaterial system of their own. As previously mentioned, some of the main issues of preservation are not related to a deterioration of bits and bytes but rather arise from the fact that hardware is almost obsolete as soon as it becomes available on the market (the next system already being in development) and operation systems and software constantly keep changing. The most inelegant and impractical strategy for addressing this situation is to collect software and hardware, which would turn any art institution or organization into a “computer museum.” Another method of preservation is that of using emulators, computer programs that “re-create” the conditions of hardware, software, or operating systems, so that the original code can still run on a newer system. Yet another approach is “migration”—an upgrade to the next version of hardware or software. The latter may work well for some projects but turn out to be problematic for others, which might still look “dated” in their re-creation: if the latest technology had been available to the artists at the time of the work's creation, they might have done a different project in the first place.

In the spring of 2004, the Guggenheim Museum in New York presented a groundbreaking exhibition called “Seeing Double—Emulation in Theory and Practice,”<sup>24</sup> which paired new media artworks (as well as others created in now endangered media) with their re-created doubles—a version of the original upgraded to a newer medium or platform. Organized by Jon Ippolito, Caitlin Jones, and Carol Stringari, the show included works by Cory Arcangel, Mary Flanagan, Jodi, Robert Morris, Nam June Paik, John F. Simon, Jr., Grahame Weinbren, and Roberta Friedman. The term emulation was interpreted in a broad sense since some of the works were technically migrations. John F. Simon, Jr.'s *Color Panel v1.0*, for example—originally created for a 1994 Apple PowerBook 280C stripped of its casing and embedded in a white acrylic frame—was migrated to a G3, and the artist had to “slow down” the speed at which the program originally was running (fig. 13.5). The circuitry of the 280C, which is visible on the frame in the original piece, does not exist in the G3 any more, and Simon decided to glue the original circuitry, now without any function, on the G3's frame. In some cases, where the original

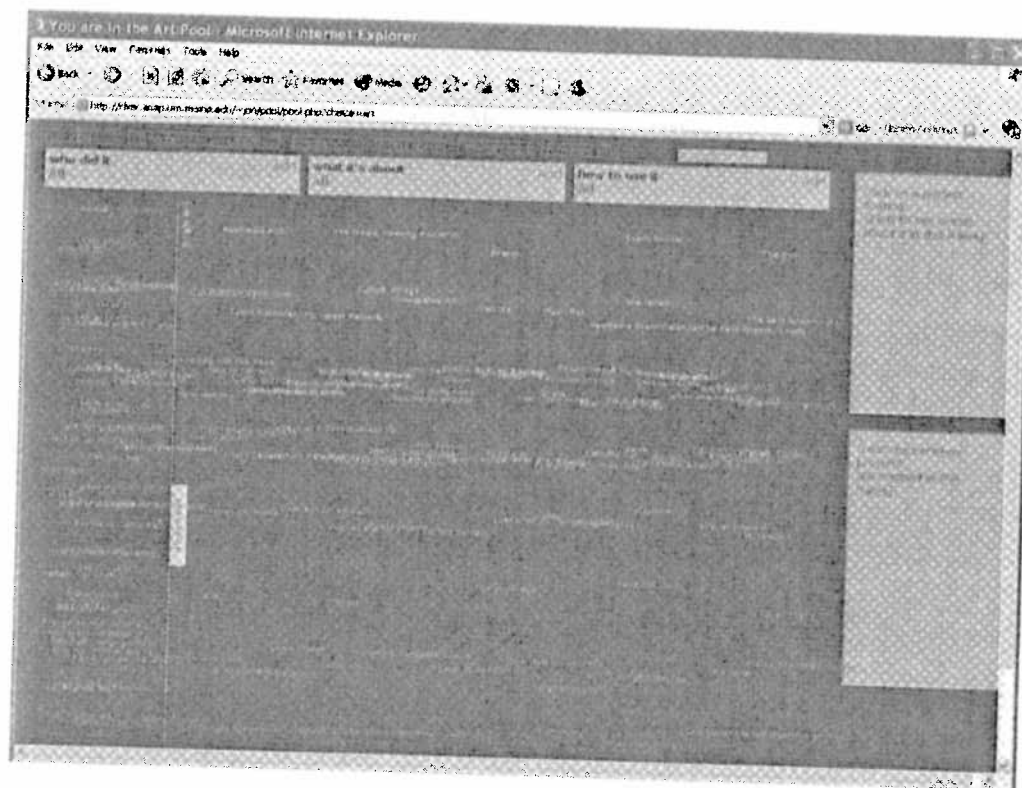


**Figure 13.5** John F. Simon, Jr., *Color Panel v1.0.1*, 2004 (left). C code, altered Apple PowerBook G3 laptop, and acrylic. *Color Panel v1.0*, 1999 (right). C code, altered Apple PowerBook 280c laptop, and acrylic. Courtesy of the artist and Sandra Gering Gallery.

work consists of a hardware manipulation that makes the specific hardware itself a focus of the project, the artists and organizers left the artwork untouched. Artist Cory Arcangel, for example, has created a whole body of work that involves a reengineering of Nintendo cartridges and plays with the aesthetics of Nintendo games. The project would become meaningless if upgraded. The exhibition, supported by the Daniel Langlois Foundation for Art, Science, and Technology, gave its audience a unique opportunity to compare an original to its recreated version. Detailed documentation about the show is available at the accompanying website.

As mentioned earlier, the variability and the collaborative nature of new media have the effect that the artwork often undergoes changes in personnel, equipment, and scale from one venue to the next. Current vocabularies and tools for describing and documenting artwork hardly accommodate the various mutations that new media art undergoes. In his essay "Death by Wall Label,"<sup>25</sup> Jon Ippolito uses the wall label (the art institution's standard method for "defining" a work) as a starting point for exploring the documentation problems posed by new media art's variable authors, titles, and media. Using the vocabulary of the Guggenheim's "Variable Media Questionnaire," Ippolito develops an alternative to the standard vocabulary of the wall label.

A documentation tool that specifically addresses the issue of mutability is *The Pool* (fig. 13.6), developed by Ippolito, Joline Blais and collaborators at the



**Figure 13.6** Still Water Lab at the University of Maine, *The Pool*, interface screenshot. Courtesy of Still Water Lab.

University of Maine's Still Water Lab.<sup>26</sup> *The Pool* was specifically designed as an architecture for asynchronous and distributed creativity and documents the creative process in different stages: the "Intent," a description of what artwork might be, an "Approach" to how it could be implemented, and a "Release" of the artwork online. The architecture also includes a scaling system that allows visitors to the site to rate any given project. *The Pool* supplies descriptions of projects' versions, reviews of the projects, and relationships to other works in the database. Tags to contributors make it possible to credit the artists who have worked on a project at any given stage. *The Pool* illustrates the shifts in the paradigm of culture production induced by the digital commons where a whole culture can be built on seeds of ideas and different iterations of a particular project.

One of the most difficult challenges of preserving new media and net art, particular, arises from the immateriality of context in the hyperlinked environment of the Internet and the ephemeral nature of links—a phenomenon often referred to as "link rot." Olia Lialina's early net art piece *Anna Karen. Goes to Paradise*,<sup>27</sup> for example, sets up three "Acts"—"Anna Looking



Love,” “Anna Looking for Train,” and “Anna Looking for Paradise.” The content for each act is provided by pages that list the results that search engines returned for the words love, train, and paradise at the time of the work’s creation. Lialina’s piece (which is already contextualized by *Anna Karenina*, the novel) was meant to point to constant shifts of context, which ultimately are the focus and content of the artwork. If one visits the work today, most of the links will be “dead”—the piece has been reduced to its concept while the implementation is inaccessible. Even if one would rewrite the piece so that it allows returns “live” search results, the previous versions of the piece would be lost unless their documentation—for example, through screenshots of all the sites that are linked to—is “programmed” into the piece itself. Artists usually have neither the time nor the money to engage in long-term preservation of their work, and institutions or tools developed by preservation initiatives could fulfill an important function in this type of context preservation.

There always have been and will be art objects that can rely on an established cultural “system” of presentation and preservation (museums, galleries, collectors, conservators), and new media art does not threaten to supersede these objects. However, if new media art will find its place in the art world through a support system that accommodates its needs, it will expand the notion of what art is and can be. Picking up where conceptual art and other “movements” that reconsidered concepts of the art object left off, new media art has the potential to broaden our understanding of artistic practice.

## Notes

1. Tiziana Terranova, “Immateriality and Cultural Production” (presentation at the symposium “Curating, Immateriality, Systems: On Curating Digital Media,” Tate Modern, London, June 4, 2005). Online archive at <http://www.tate.org.uk/onlineevents/archive/CuratingImmaterialitySystems/>.
2. Beryl Graham, “A Small Collection of Categories and Keywords of New Media Art,” <http://www.crumbweb.org/crumb/phase3/append/taxontab.htm/>.
3. N. Katherine Hayles, “Liberal Subjectivity Imperiled: Norbert Wiener and Cybernetic Anxiety,” in her *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999).

4. Josh On, *The Rule*, <http://www.theyrule.net/>.
5. Benjamin Fry and Casey Reas, *Processing*, <http://www.processing.org/>.
6. A Wiki is a Web application that allows users to add content, as on an Internet forum, but also allows anyone to edit the content. The term Wiki also refers to a collaborative software used to create such a website.
7. Lisa Jevbratt, *Mapping the Web Infome*, <http://www.newlangtonarts.org/netwoinfome/>.
8. Alex Galloway and Radical Software Group (RSG), *Carnivore*, <http://www.rhizoi.org/carnivore/>.
9. Mark Napier, *P-Soup*, <http://www.potatoland.org/p-soup/>.
10. Andy Deck, *Open Studio*, <http://draw.artcontext.net/>.
11. Tara McDowell and Letha Wilson (project coordinators), Chris Pennock (software design), Nina Dinoff (graphic design), and Scott Paterson (information architecture)
12. Art Mobs, [http://mod.blogs.com/art\\_mobs/](http://mod.blogs.com/art_mobs/).
13. Martin Wattenberg and Marek Walczak, *Apartment*, <http://www.turbulence.org/Works/apartment/>.
14. *Gallery 9*, Walker Art Center, <http://gallery9.walkerart.org/>.
15. E-space, San Francisco Museum of Modern Art, [http://www.sfmoma.org/espace/espace\\_overview.html/](http://www.sfmoma.org/espace/espace_overview.html/).
16. *Artport*, Whitney Museum of American Art, <http://artport.whitney.org/>.
17. *Low-fi net art locator*, organized by Kris Cohen, Rod Dickinson, Jenny Ekelund, Luci Eysers, Alex Kent, Jon Thomson, and Chloe Vaitsou; other members include Ryan Johnston, Pierre le Gonidec, Anna Kari and Guilhem Alandry. See <http://www.low-fi.org.uk/>.
18. *Turbulence*, New Radio and Performing Arts, <http://www.turbulence.org/>.

19. *Runme* software art repository, developed by Amy Alexander, Florian Cramer, Matthew Fuller, Olga Goriunova, Thomax Kaulmann, Alex McLean, Pit Schultz, Alexei Shulgin, and The Yes Men. See <http://www.runme.org/>.
20. Eva Grubinger, *C@C Computer Aided Curating*, [http://www.aec.at/en/archives/festival\\_archive/festival\\_catalogs/festival\\_artikel.asp?iProjectID=8638/](http://www.aec.at/en/archives/festival_archive/festival_catalogs/festival_artikel.asp?iProjectID=8638/).
21. See <http://www.variablemedia.net> and [http://www.bampfa.berkeley.edu/ciao/avant\\_garde.html/](http://www.bampfa.berkeley.edu/ciao/avant_garde.html/).
22. See <http://www.incca.org/>.
23. Digital Asset Management Database (DAMD), [http://www.bampfa.berkeley.edu/moac/damd/DAMD\\_manual.pdf/](http://www.bampfa.berkeley.edu/moac/damd/DAMD_manual.pdf/).
24. "Seeing Double—Emulation in Theory and Practice," Solomon R. Guggenheim Museum, New York, <http://www.variablemedia.net/e/seeingdouble/home.html/>.
25. Jon Ippolito, "Deathy by Wall Label," in *Presenting New Media*, ed. Christiane Paul (Berkeley, Calif.: University of California Press, forthcoming).
26. *The Pool*, <http://river.asap.um.maine.edu/~jon/pool/splash.html/>.
27. Olia Lialina, *Anna Karenina Goes to Paradise*, <http://www.teleportacia.org/anna/>.