Integrating Media Art into our Culture

Art History as Image Science

by Oliver Grau

Humboldt-University, Berlin

This is what it's about: Hundreds of names of artists, thousands of artworks, art trends, theory of media art in keywords, presented in an enormous huge circle (please visit http://www.asa.de/research/kontext).[1] Thirty-two slices are offered as a subdivision into themes, like representation, emotion and synaesthesia, the material issue in art, atmosphere, games, therapy, mission, art as spatial experience we find glimpses of a history of media art. Like other festivals, which look into their own past[2], the *Ars Electronica* has begun to explore its own history of media art, which it has influenced now for twenty-five years. Although some of the keywords may seem a bit condensed, others incomplete or not entirely apt, on the whole it is a very successful visualisation. Not least because it shows rather impressively the tremendous development that media art has undergone in recent years.

Today, media artists are shaping highly disparate areas, like telepresence art, biocybernetic art, robotics, Net Art, and space art; experimenting with nanotechnology, artificial or A-life art; creating virtual agents and avatars, datamining, mixed realities, and database-supported art. These specialist areas can be roughly assigned to the fields of telematic, genetic, or immersive–interactive art; subsumed under the generic term *virtual art*.[3]

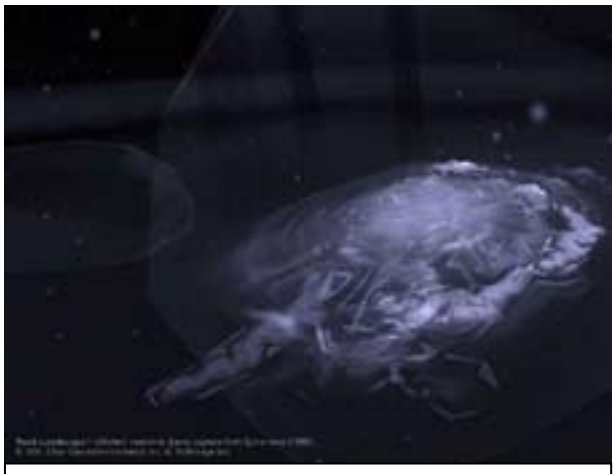

Fig. 1 Char Davies: Éphémère, 1998.

On the path leading toward installation-based virtual art, Charlotte Davies transports us with *Osmose* or *Éphémère* — already classics — into a visually powerful simulation of a lush mineral-vegetable sphere, which we can explore via a body-intimate interface (*fig*.1).[4] In *Murmuring* Fields (*fig.2*), Fleischmann and Strauss create a virtual space of philosophical thought, where statements by Flusser, Virilio, Minsky, and Weizenbaum are stored. The work creates a new type of a *Denkraum* — a sphere of thought.

[1] Gerhard Dirmoser: 25 Jahre Ars Electronica – Ein Überblick als Gedächtnistheater, in: Time Shift: The World in Twenty-Five Years, Ars Electronica 2004, edited by Gerfried Stocker und Christine Schöpf, Ostfildern 2004, pp. 110-115.

[2] The Transmediale in Berlin and V2 in Rotterdam also started to document their history.

[3] See the concept for the Database of Virtual Art: Oliver Grau: For an Expanded Concept of Documentation: The Database of Virtual Art, ICHIM, École du Louvre, avec le soutien de la Mission de la Recherche et de la Technologie du Ministère de lla Culture et de la Communication, Paris 2003, Proceedings, S. 2-15

[4] See: Margaret Wertheim, "Lux Interior," *21C*, No. 4 (1996), pp. 26–31; Eduardo Kac, "Além de Tela," *Veredas,* Rio de Janeiro, 3, 32 (1998), pp. 12–15; Charlotte Davies, "*Osmose*: Notes on Being in Immersive Virtual Space," *Digital Creativity*, Vol. 9, No. 2 (1998), pp. 65–74.

Constructed on a database, the interactive installation *Ultima Ratio*[5] by Daniela Plewe offers a first glimpse of a future system for interactive theatre (*fig.3*). Intellectually challenging, her concept allows the spectator to solve an open conflict at a high level of abstraction and combination of different dramatic motifs. Daniela Plewe's goal is to generate a visual language for argument and debate.

Artist-scientists, such as Christa Sommerer and Berndt Lintermann, have begun to simulate processes of life (*fig. 4*): evolution, breeding, and selection have become methods for creating artworks. And, last but not least, with their work *The Living Web* Christa and Laurent generate from automated search engines for web images a spatial information sphere in a CAVE (*fig. 5*). The work not only permits elegant, multi-layered interaction, it is also a new scientific instrument for visual analysis, with the option of comparing up to 1000 images in a scientific discussion.[6]

Fig. 2 Monika Fleischmann: Murmuring Fields, 1998.

Media Art History — Image Science

These artworks both represent and reflect the revolutionary development that the image has undergone over the past few years. Never before has the world of images around us changed so fast in such a short span of time, never before have we been exposed to so many different image worlds, and never before has the way in which images are produced changed so fundamentally. Images are advancing into new domains: Television is changing into a zapping field of thousands of channels; gigantic projection screens are invading our cities and cell phones transmit micromovies in real time. We are witnessing the rise of the image into a virtual spatial image. These are images, which appear capable of changing autonomously and of formulating a life-like, all-embracing visual and sensory sphere where temporal and spatial parameters can be altered at will.

The dynamic process of change has fueled the interdisciplinary debate about the status of the image, a debate with protagonists such as Mitchell, Belting, Elkins, Stafford and Manovich.[7]

---

[5] Bernhard Dotzler, Hamlet\Maschine, in: *Trajekte*: *Newsletter des Zentrums für Literaturforschung Berlin*, no. 3, vol. 2, 2001: 13–16; Daniela Alina Plewe: *Ultima Ratio*. Software und Interaktive Installation, in: Ars Electronica 98: Infowar: Information, Macht, Krieg, ed. Gerfried Stocker and Christine Schöpf, Vienna/New York: Springer Verlag 1998; Yukiko Shikata: Art-criticism-curating — as connective process, in: Information Design Series: Information Space and Changing Expression, vol. 6, ed. Kyoto University of Art and Design, p. 145.

[6] Christa Sommerer, Laurent Mignonneau and Roberto Lopez-Gulliver: Interfacing the Web: Multi-modal and Immersive Interaction with the Internet, in: VSMM2002 Proceedings – The Eight International Conference on Virtual Systems and Multimedia, Gyeongju, Korea, pp. 753-764.

[7] See: David Freedberg: *The Power of the Images*: Studies in the History and Theory of Response. Chicago: Univ. of Chicago Press 1989; Hans Belting: Bild-Anthropologie: Entwürfe für eine Bildwissenschaft, München 2001; Jonathan Crary: *Techniques of the Observer*: On Vision and Modernity in the Nineteenth Century, Cambridge, MA. 1990: MIT Press; William J. T. Mitchell: *Picture Theory: Essays on Verbal and Visual Representation*, Chicago, Univ. Chicago Press 1995;

Fig. 3 Daniela Plewe: Ultima Ratio, 1997.

But without exception, neither these artworks, nor the last decades of digital art in general have received the appropriate attention by the academic disciplines or have been added in adequate numbers to the collections of museums and galleries. We are thus in danger of erasing a significant portion of the cultural memory of our recent history.

The evolution of media art has a long history and now a new technological variety has appeared.[8] However, this art cannot be fully understood without its history which is why I support Rudolf Arnheim's recently published plea for integrating the new, interactive, and processual worlds of images into the experiences and insights that have come down to us from the art of the past.[9] There are many stories yet to be told about media art. The discipline of Art History, Media Artists and their work however, are waiting for a great deal more: studies that will aid media art to overcome its existence at the periphery of the discipline of art history. A first step, of course, will be to tell the story in numbers, places, names and technologies, like the Ars Electronica is attempting or the job being done by a number of international database projects. Beyond that: By focussing on recent art against the backdrop of historic developments, it is possible to better analyse what is really new in media art. Only if we are aware of our media history with its myths and utopias, its interests and power games, we will be able to make decisions that go beyond the heritage of ancient believers in images. Media-art history and media archaeology are a valuable aid to understanding our present and our goals in a period where the pace apears to get faster and faster — that is the epistemological thesis.

For the interests of media art it is of importance that we continue to take media art history into the mainstream of art history and that we cultivate a proximity to film- cultural and media studies, computer science, but also philosophy and other sciences dealing with images.

Fig. 4 Christa Sommerer & Laurent Mignonneau : Anthroposcope 1993.

A central problem of current cultural policy stems from serious lack of knowledge about the origins of the audiovisual media. This stands in complete contradistinction to current demands for more media and image competence. Considering the current upheavals and innovations in the media sector, where the societal impact and consequences cannot yet be predicted, the problem is acute. Social media

James Elkins: The Domain of Images, Ithaca: Cornell University Press 1999; Lev Manovich: *The Language of New Media*. Cambridge, MA: MIT Press 2001.

[8] Oliver Grau: Virtual Art. From Illusion to Immersion, MIT-Press, Cambridge 2003.

[9] Rudolf Arnheim *The Coming and Going of Images, LEONARDO*, Vol. 33, No. 3, pp. 167–169, 2000.

competence, which goes beyond mere technical skills, is difficult to acquire if the area of historic media experience is excluded. Media exert a general influence on forms of perceiving space, objects, and time and they are tied inextricably to humankind's evolution of sense faculties. For how people see and what they see are not simple physiological questions; they are complex cultural processes, which are influenced by many and various social and media-technological innovations. These processes have developed specific characteristics within different cultures and it is possible to decipher these step by step in the legacy left by historical media and literature concerned with visualization, including from the fields of medicine and optics. 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.

Fig. 5 Christa Sommerer / Laurent Mignonneau: The Living Web, 2002.

Mass communication using audiovisual media is generally regarded as a twentieth century phenomenon. In fact, however, their contemporary forms are the result of complex historical processes that had already formed finished sets of industrial technologies, distribution procedures, and forms of design by the mid-nineteenth century, which made it possible to supply a mass audience. Seeing machines and the image worlds of magic lanterns, panoramas, and dioramas are regarded as paving the way for photography, cinema, and the digital media of the present day. Yet without the revolution in image space, which the representational technique of perspective wrought in portrait and landscape painting, without the camera obscura, which became the guarantor of "objective observation" before photography was invented, the image media of the twentieth century would be unthinkable. At the same time, the prehistory of artificial visualization points the way forward to the digital world and its immediate future.[10]

An increase in the power of suggestion appears to be an important, if not the most important, motive force driving the development of new media of illusion. Image Science, or *Bildwissenschaft,* now allows us to attempt to write the history of the evolution of the visual media, from peep-show to panorama, anamorphosis, myriorama, stereoscope, cyclorama, magic lantern, eidophusikon, diorama, phantasmagoria, silent movies, films with odours and colours, cinéorama, IMAX, television, telematics, and the virtual image spaces generated by computers[11]. It is a history that also includes a host of typical aberrations, contradictions, and dead-ends.

---

[10] For contributions to the history of visual (art) media, a project that has yet to be pursued with rigor, see Barbara Maria Stafford et al.: Devices of Wonder: From the World in a Box to Images on a Screen, Los Angeles: Getty Research Institute for the History of Art and the Humanities, 2002; Thomas Gunning: "Re-Newing Old Technologies: Astonishment, Second Nature, and the Uncanny in Technology from the Previous Turn-of -the-Century" in: Rethinking Media Change, The Aesthetics of Transition eds. David Thorburn and Henry Jenkins (Cambridge: MIT Press 2003), pp. 39-59; Erkki Huhtamo: "Elements of Screenology: Toward an Archaeology of the Screen", *Iconics*, The Japan Society of Image Arts and Sciences, Vol.7, Tokyo 2004, pp. 31-82.

[11] Recently: Martin Rieser and Andrea Zapp, eds.: New Screen Media: Cinema/Art/Narrative, London: British Film Institute 2002; Gerfried Stocker and Christiane Schöpf, eds.: ARS ELECTRONICA: CODE = The Language of our Time, Ostfildern: Hatje Cantz 2003.

However, if one were to interpret the telling of this hitherto neglected story-line of art and media history as a sign of the changes taking place in the discipline of art history, which parallels current developments in philosophy and cultural studies and goes by the new label of "image studies," this would be far too superficial. Rather, it returns to and develops an older and successful tradition in art history, which in Hamburg and elsewhere in the 1920s can only be classed as image studies. It drew its inspiration from Aby Warburg's cultural history-oriented, inter- and transdisciplinary approach as well as from Panofsky's "new iconology."

Although already in the nineteenth century, art history included artisanship, medieval studies, collections of photography and, therefore, was in effect image science (see: Alois Riegl: Spätrömische Kunstindustrie, 1901), it was Aby Warburg, today regarded as the most important art historian of the early twentieth century, who helped to expand art history explicitly into image science. His research, which included all forms and media of images, the impressive library he built up, and his MNEMOSYNE image atlas all testify to the universal interpretative energy that can often uncover important discoveries in apparently marginal images. The Nazis extinguished this development, which only went forward again in the 1970s. Film, video, Net- und interactive art have, as yet tentatively, pushed art history in the direction of image science once again.

Today, image science sets out to investigate the aesthetic reception and response to images in all areas. Thus this new interdisciplinary subject is in good company with the recent research areas of the historical study of image techniques, the history of the science of artistic visualization, art history of scientific images,[12] and particularly the natural sciences-oriented occupation with images in science. This latter recently celebrated its inaugural congress at the Massachusetts Institute of Technology;[13] an event which also demonstrated that image science without art history — particularly without its tools for critical image analysis — is not capable of developing a deeper and historical understanding of images. It is in danger of propagating old myths and, lacking a "trained eye," of succumbing to the images' power. The rise of media art has added fuel to this debate, for questioning images has not only acquired new intensity but also a new quality.

Image Science does not imply that the experimental, reflection, and utopian spaces provided by art are to be abandoned. On the contrary: within these expanded frontiers the underlying, fundamental inspiration that art has provided for technology and media, which is associated with names such as Leonardo, Pozzo, Philidor, Barker, Daguerre, Morse, Valery, or 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 and with the new perspectives resulting from interplay with neuroscience, psychology, philosophy, emotions research, and other scientific disciplines.

NEW SCIENTIFIC TOOLS: DOCUMENTATION – ARCHIVES - DATABASES

We have to develop new scientific tools not only in order to work efficiently, professionally and to be in keeping with the times in different fields of science. Digital art of installations,

---

[12] Bruno Latour: Arbeit mit Bildern oder: Die Umverteilung der wissenschaftlichen Intelligenz. In: B. Latour: Der Berliner Schlüssel: Erkundungen eines Liebhabers der Wissenschaften, Berlin 1996, pp. 159–190; Christa Sommerer and Laurent Mignonneau, eds: Art@Science. New York.: Springer, 1998; Martin Kemp: Visualisations: The Nature Book of Art and Science, Berkeley: University of California Press, 2000.

[13] Image and Meaning: http://web.mit.edu/i-m/

virtual art, is also dependent on the durability of its storage media and permanently changing technical systems to a degree never seen before in art. Thus, we risk losing the last decades of international media art. Before any concerted policy of conservation and collection can be established, reliable documentation is needed — an essential prerequisite for conserving and collecting these works. This is our contribution as art historians — providing documentation on the art and information on functioning, exhibition, construction, technical specifications, collaborators, and financial requirements.

Traditionally, concepts of artworks and their documentation have been oriented on the material presence of the artifacts, corresponding to static models of documentation. Today's digital artworks, however, are processual, ephemeral, interactive, multimedia, and fundamentally context dependent. Because of their completely different structure and nature, they require a modified, expanded concept of documentation.

Since 1999 as a pioneer in the field the *Database of Virtual Art*[14] is developed in a collective process as a novel scientific tool that provides a show-case for media art. It is an approach that documents the leaps and bounds of its development and reflects to the fundamentally different nature of digital art. The expanded documentation concept utilised by the *Database of Virtual Art* provides a first step to building systematic collections of this contemporary art. Additionally, a web interface allows artists and scholars to put their own material onto the system, which makes the *Database of Virtual Art* a web platform for information and communication.

The documentation concept is not restricted to classic core data but includes technical specifics, such as interface design, software, image displays, and artists' inventions. It gives access to information on institutions and to an oral history how media art was perceived at a particular moment in history. Because of its ability to document the processual nature of interactive works, we gave video a core strategic position in our concept. A later work-phase will be devoted to historical examples of illusion and immersive art, which will be added and will provide an original resource for a broad discussion and analysis of media art within image science in the sense of Warburg.[15]

In the meantime, similar documentation projects are underway in other countries, albeit with varying goals. These include the programme of the *Langlois Foundation* in Montreal the UNESCO *Digiarts* programme, supported also by the Goethe Institute Dieter Daniels and Rudolf Frieling's *Medienkunstnetz*, the festival documentation of *V2*, *Rhizomes* NetArt archive, the *Variable Media Approach* developed by Guggenheim and others, the Stanford *Electronic Media Group* under Henry Lowood and the Fraunhofer project *Netzspannung*. There is increasing collaboration between these projects and our *Database of Virtual Art* in a variety of areas and in changing coalitions.

Clearly, the goal must be to develop a policy and strategy for collecting the art of our latest history. Ultimately, however, this can only be organised by an association of artists, art galleries, technology manufacturers, traditional museums, and computer and science centres. Therefore we need to discuss what kind of new institutions should be created to archive this goal. The ICC, ZKM, Kiasma, or the Variable Media Initiative, are all positive developments but are only a first step toward promoting awareness of the problem on the part of cultural policy and mainsream institutions.

---

[14] http://virtualart.hu-berlin.de

[15] Aby WARBURG: Der Bilderatlas MNEMOSYNE, ed. Martin Warnke et al., Berlin 2000.