

Special Focus

Our Digital Culture Threatened by Loss

By Oliver Grau

Media art is the art form that uses the technologies that fundamentally change our societies, and plays an important role in the reflection of our time. Below, Oliver Grau argues that with current museum policy funding and grant policies, there is a threat of losing this culture and its related research archives.

An interactive map, which can be navigated by touch screen – that sounds like Google Street View, but it is actually media artwork from the 1970s. Long before the internet was used and Google was founded, Michael Naimark, who was then studying at the Massachusetts Institute of Technology (MIT), filmed the streets of Aspen, Colorado with a camera attached to a car, and processed the picture material into the first interactive map in history.

For more than 50 years, media art has combined the latest technologies with the big questions of our time: artists critically addressed the visions of life sciences and projections on artificial life, utopias of neuroscience, robotics and cyborgs. Media art reflects and researches the media and image revolution and takes up the subject of the processes of globalisation and growing worldwide surveillance. In the 1990s, the artistic group 'Asymptote' created visual representations of the processes at the New York Stock Exchange (NYSE). Complex financial products stood on the threshold of visualisation – but maybe the transparency that would have made the toxic assets understandable for laymen was not in the bankers' best interest (*Fig. 1*). They rejected its further development anyway. We know how the story ended ... Through its visually expressive potential, which is technically superior to traditional art media of earlier centuries – e. g. painting and sculpture – media art attains a key role in the reflection of our information societies. Visually powerful, interactive Media Art, often supported by databases or the www, is offering more and more degrees of freedom in creative expression and evidently is much better equipped to directly address the challenges of our complex times within the very medium that shapes them. Although it has been around for decades and even quantitatively dominated many art schools, digital media art has not fully arrived in the core collecting institutions of our societies.

Inaction is the same as iconoclastic riot

If the global amount of annually produced new analogue information fell slightly in the last 20 years, the amount of digital information exploded from 1993 to 2007 by a factor of 2,500. Since then, its growth has accelerated even more. Some institutions in our society continue to act as if the proportion is the reverse, as if the revolutionary development of our information society and its culture had not taken place. Consequently until now, digital data has hardly been recorded or archived for the long term in a systematic way. The consequences are particularly drastic in the cultural sector: multiple decades of contemporary culture are threatened by total loss.

Media art is the art form that uses the technologies that fundamentally change our societies. Globalisation, the information society, social networks, and Web 2.0 — the list could be far longer — are enabled by digital technologies. Although not all digital media art comments on social, cultural and political conditions, it is nevertheless the art form with the most comprehensive potential for cultural urgency. We know that digital art today is taking highly disparate forms, like time-based installation art, telepresence art, genetic and bio art, robotics, net art, and space art; this "art of our times"



Figure 1

is experimenting with nanotechnology, artificial or A-life art; and creating virtual agents and avatars, mixed realities, and database-supported art. Over the last fifty years digital Media Art has evolved into a vivid contemporary factor. Although there are well attended festivals worldwide, funded collaborative projects, discussion forums, publications and database documentation projects, Digital Media Art is still rarely collected by museums, barely supported within the mainframe of art history and has relatively low accessibility for the public and scholars.

Publicly financed archives, museums and educational institutions may be obligated to collect and pass on the art of our time, but the archive systems in our society were caught off guard by the shorter lifespan of digital storage media. Methods for

long term storage, such as emulation and recreation, remain in their infancy and a concentrated networked collection policy that our federal museum system implemented for classical modernity or post-war art is not even being discussed for electronic art. Furthermore, the funds are lacking: although the need for action is clearly more urgent, the funds for preserving electronic art forms still constitute only a fraction of what is available for monument maintenance. It is not even sufficient for preserving three to six percent of the artwork that usually would have survived from the art of earlier centuries, i.e. not even the most important works of globally exhibited artists. If we don't do anything now, we will lose the entire digital art and culture of contemporary society – a tabula rasa that is comparable to the iconoclastic riots and war losses in the past.

Image science as a key to contemporary analysis

The significant cultural movements of the last decades were recognised and discussed early on by humanities scholars – see, for instance, artificial life and AI, cybernetics, the image and media revolution and its historicisation, the so called end of utopias or free will. In light of the image revolution, as expressed at the Seoul G20 Summit and the international art history congress CIHA, “today it is important to understand and analyse new virtual worlds that have become a part of the lives of many people.” The humanities, particularly the art and image sciences with their expertise in historical and comparative analysis have set themselves this core task. In order to fulfil their social responsibility, they must be placed in a technically and politically viable position to do so.

Picture and video documentation that also record the hardware and software configurations, as well as countless interface innovations and display creations by artists, play a central role in the research of digital culture. In the 1990s, thanks to short term project funding, Central Europe attained a leading international position in this area and in the development of image and video platforms necessary for this. Due to a lack of sustainability and the largely lacking development of international funding structures in the humanities to this date, this position has now been gambled away. If things do not change, the academic online research on the digital culture of our time will be lost.

And yet the study of art and image through thorough image analyses and their methods of comparison could strengthen our political-aesthetic analysis of the present. Last but not least, the emergence of new media could also be illuminated, which is frequently first developed in artworks. For this reason, much begins, as in some natural sciences, with sequences and comparison. The possibility of studying pictorial developments over longer periods of time is a prerequisite for pursu-

ing image science, which requires not only the object definition, but also the description, which necessitates the use of large image archives.

Images for the future: what needs to be done now

Inspired by Darwin's “The Expression of the Emotions”, Aby Warburg began his famous “Mnemosyne Atlas,” the picture cluster composed independently from the established art canon of its time (!) and including a number of different media. Art and pictorial history developed into an overarching media search for bridges of comparison wherein Warburg recognised his academic responsibility under the influence of the First World War. Museums, too, have been collecting photography since the beginning of the last century, and a large film collection emerged in the 30s in the New York Museum of Modern Art; today we should actually be witnessing the emergence of virtual museums. This key development for the digital humanities has still not occurred yet.

Only if we systematically develop collection, maintenance and research strategies in a concentrated way, can we handle the tasks that the humanities face in the age of digital culture.

In recent decades in the life and natural sciences, previously unachievable questions could be researched through networking and visualisation: the virtual observatory of astronomers provides access to the cosmos via a worldwide network of dozens of planetariums. All the connected observatories can access the same pictorial material, the creation of which the involved countries have jointly financed. In climate research, the Millennium Ecosystem Assessment calculates the warming of the earth and ecological changes on a global scale, and the success of the human genome project is legendary – we were actually surprised at how quickly the collective work structures had an impact on the decoding of the genome.

In the humanities, previously unexecutable projects could be made feasible through digital media and networked research. These include the documentation and preservation of media art or – maybe slightly utopian – a collective history of visual media and their human perception on the basis of thousands of image sources, videos and 3D simulations. In light of the image revolution and its increasingly quick development of suggestive effects such as 3D, animation and virtuality, this is a key question of our time. In order to facilitate sustainable progress for the humanities, it is necessary to use the new technologies comprehensively. The motto is: don't give up the tradition of

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individual research, but support it through collective, network-based forms of work. Only in this way can critical analysis be placed and strengthened on a contemporary, broad basis.

If we take a step back and observe the past 15 years of media art research from a distance, one thing becomes clear: despite everything that has been achieved – we need a concentration of forces. In the field of documentation, it is essential to bring the most important concluded and ongoing projects under the umbrella of an international institution such as the Library of Congress, the Bibliothèque National or the Europeana, which could ensure the long term existence of the artefacts. But the Europeana – the large, but underfinanced idea of a European network of digital collection documentation – also remains useless if its basis of individual archives is not continued. Besides securing collections, the establishment of a high-performing international research organisation with the top minds in the field would also be sensible.

In Germany for example, large interdisciplinary issues that prove to be too expensive and complex for one university – and nothing else meets this criterion like the research of digital cultures from the computer game to avantgarde art – require the format of a Max Planck Institute. With its new international orientation, it would be well-suited for making an exemplary international contribution. Appropriate institutionalisation could lead to a much better development of the field.

We need a proper and sustainable international collection and research funding policy, similar to the ones that facilitated the success of the natural sciences. A declaration recently initiated by the author for this purpose has since been signed by hundreds of high-ranking academics, artists and museum directors from 40 countries (www.mediaarthistory.org). In order to create enough momentum and the required sustainability, the research foundations such as the National Science Foundation, Swiss National Science Foundation, German Research Society, Volkswagen Foundation and the EU must sustainably ensure international structures that were built partly through five global conferences on media art history. Only if we systematically develop collection, maintenance and research strategies in a concentrated way, can we handle the tasks that the humanities face in the age of digital culture.

For sustainable media art research


Maybe we will reach the point of having collective image-science work with instruments such as the globally exhibited artist and researcher Jeffrey Shaw has developed (Fig. 2). In his 'T-Visionarium', pictures in all formats, videos and, in the future, 3D models can be arranged in a panorama. This installation – one is immediately reminded of the picture atlas by Warburg – could be developed into a novel research instrument for the discussion and visual analysis of up to 1,000 images.

Database as research instrument

The most important instrument of media art research consists of image and video databases. They document the artworks



Figure 2

and their technical details on the hardware and software. Such databases are also very important for museums in order to maintain an overview of inventory. The first international database for digital art (www.DigitalArtArchive.at) was initiated in 1999. In order to work out categorical differences on historical, analogue art forms in a differentiated way, this will now be connected with databases of historical artworks. For the first time, all picture formats will be combined in an interactive instrument for the analysis of images and made comparable - from the print graphics of the 17th century on the photo and video to the latest movable 3D image space. 

About the Author



OLIVER GRAU is an art historian and media theoretician. His book "Virtual Art" (MIT Press 2003) became internationally the most quoted art history monography since 2000 (H-Index). Professor Grau has held the first chair for Image Science in the German speaking countries at Danube University, Austria since 2005 and has given hundreds of lectures around the world. He has run projects financed by the German Research Society (DFG), Volkswagen Foundation, the German Ministry for Education and Research (BMBF) and the Australian Research Council. Professor Grau has developed new postgrad programmes like MediaArtHistories MA and Image Science, MA and has been translated into twelve languages to date.



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The authors analyse the impact of the image revolution in the natural sciences and humanities for which we have catchwords such as virtual space, web 2.0, games, 3D, science pictures, visualisation, machinima, bio-art, Facebook, collaborative video, cute media, new scientific analysis instruments. With articles by Olaf Breidbach, Adrian David Cheok, Wendy Chun, Sean Cubitt, James Elkins, Oliver Grau, Eduardo Kac, Martin Kemp, Lev Manovich, Christa Sommerer, David & Dolores Steinman, Martin Warnke, Peter Weibel and others.