

# On a Political Iconography of Information Societies

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**Abstract**—Not museums but festivals can be considered as the most important media for current developments regarding issues, technologies and discourses on Digital Art. But only few of these complex art and image forms appear in the permanent collections of the museums, archives and libraries. The investigation regarding the Digital Art Festivals within the AT.MAR project resulted in the empirical identification of thematic clusters of international topics of global relevance, e.g; climate, genetic engineering and the rise of the post-human body/body-images, new extremes of surveillance, virtual financial economics, and the image and media (r-)evolution, whose inherent complexity is reflected by artists like Victoria VESNA, Tom CORBY, Paolo CIRIO, Jeffrey SHAW, Seiko MIKAMI. Older definitions of the image, mostly developed with paintings, such as those by Gottfried BÖHM, Klaus SACHS-HOMBACH or W.J.T. MITCHELL, became problematic in the context of the digital age - Media Arts complexity nowadays is produced through interaction and variability, simultaneity, sequencibility and narration; connected polydimensional visual spaces of happening, experience and immersion can be created, image spaces open for unfolding and compression, development or evolution.

**Keywords**— Media Arts Research, Complex Imagery, Digital Humanities.

## I. INTRODUCTION

Compared to traditional art forms Digital Media Art has a multifarious and complex potential of expression and visualization; and therefore, although underrepresented at the art market, which follows other interests, it became, we might say, “the legitimate, the art of our time”, thematizing complex challenges for our life and societies; like genetic engineering and post-human bodies, ecological crises, the image and media revolution, the virtualisation of finance markets and new extremes of surveillance of human communication.. Just to name theme clusters my team empirically identified at the most important media art festivals of the last decade.

So far not museums but festivals can be considered as the most important media for current developments regarding issues, technologies and discourses on Digital Art. Although the Biennial project at the ZKM revealed that Digital Artworks play a part at more than 200 biennials worldwide<sup>1</sup> and the systematic investigation of Digital Art Festival themes within the AT.MAR project lists over 100 additional festivals dedicated to this art form. Those complex art and image forms able to do that have almost not arrived into the core collecting

institutions of our societies, the museums, archives, libraries, funded by us, the taxpaying public. Due to the fact that this art depends entirely on digital storage methods, which are in a constant state of change and development, Digital Art is severely at risk, as we know. And it is no exaggeration to state that we face the TOTAL LOSS OF AN ART FORM from the early times of our postindustrial-digital societies. It is ironic that this loss takes place in a time, where the world of images around us changes faster than ever, where images have started to supersede words as a primary form of communication: The Internet Revolution with giants like YouTube or Flickr with it's billion uploads or Facebook with its 1,5 Billion members are now the largest image archives in the world.<sup>2</sup> Television, now in 3D, became a zappy field of thousands of channels. Large projection screens enter cities, buildings surfaces meld with moving images, recreating the old dream of talking architecture, surgery becomes more and more image-guided, drone war kills through telematic imagery and *Google StreetView* and *Google Earth* revolutionise concepts of panoramic image spaces including Satellite views.

It was an international shock when we became aware of the worldwide attack on economic, political, military, scientific and basically all civil communication – even all phone calls - by NSA and the British GCHQ, when documents made public by Edward Snowden, first were published by the Guardian and the Washington Post. World-communication has been systematically taped and stored in zetabytes in the largest ever existing archive. The Vision of Big Data created the largest surveillance machine in human history and it comes in a form, we have no cultural experience with. This amalgamation of internet industry and surveillance machinery was neither foreseen by scientists, Sci-Fi writers nor George Orwell himself. So, while our own Secret Services for the first time know everything about us citizens, we are ironically almost completely excluded by our own museums and archives from reflecting on the issues of our time through its relevant art. Although by law it is duty of almost all museums to collect, preserve and document the art of its time, this is simply not done in an adequate and concerted way – this disparity in Societies with an art system based on tax paying citizens, as in Europe, even creates a serious democratic-political problem.

[2] YouTube®, Flickr®, Facebook® or other Social Media Channels like the photo and video sharing app Instagram® are more and more invading in our daily lives. This transition from text towards images is also addressed by the CEO of Facebook: “Five years ago most of Facebook was text, and if you fast-forward five years, probably most of it is going to be video.” See: Public Q & A with Mark Zuckerberg, CEO <https://www.facebook.com/qawithmark38>:’02

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[1] Andrea Buddensieg, Ed. *The Global Contemporary and the Rise of the New Art Worlds*. (MIT-Press 2013).

We know that media artists today are shaping highly disparate and complex areas, like time based installation art, telepresence art, genetic and bio art, robotics, Net Art, and space art; experimenting with nanotechnology, artificial or A-life art; creating virtual agents and avatars, mixed realities, and database-supported art: Digital Art addresses often many senses – visually, aurally and beyond – thereby technically exceeds and transforms that of traditional art forms – such as painting or sculpture – and offers a manifold potential for expression and visualization. Digital Arts potential for a political iconography of our time was identified empirically in thematic clusters through our research project AT-MAR. ADA documented thousands of artworks, that make use of and express the complex and multifarious potential of media art. Here are examples from the main clusters: Issues of ecology and climate occupy an important place in festivals<sup>3</sup> and a number of key works in ADA focus on climate change: Tom Corby's and Gavin Baily's 'The Southern Ocean Studies' (2009) developed in cooperation with British Antarctic Survey understands complex climate models also as cultural artefacts and as vehicles of communication of environmental change.<sup>4</sup> The project software connects in real-time ocean currents with physical and geochemical phenomena resulting in ecological complexity, which we perceive as pattern and aesthetic system.<sup>5</sup>

Victoria Vesna's *Bodies@Incorporated* (1993) allowed visitors to construct their own avatars. Using a variety of Web tools, the users could create a 3D representation of their body. Throughout the site, references are made to identity politics and other concepts used to separate and identity bodies. Digital Art reflects the developments of global financial markets<sup>6</sup>. Golden Nica winner Paulo Cirio or Maurice Benayoun's 'Occupy Wallscreens' (2012) strategically visualise global financial flows and networks in real-time. Today we know that the virtualization and increasing complexity of financial products is partly responsible for the crisis that cost us trillions of Euros and Dollars. But already more than a decade ago the architecture and art studio Asymptote proposed a 3D info-scape for the NYSE to manage financial data within a real-time virtual environment, providing a better, more transparent image and thereby a better idea of transactions — before we get driven into the next mega-crash. The NYSE did not want further development of a visualization of their so called "financial products," at least since Lehman Brothers' bankruptcy in 2008 we may know why.

At least since Edward Snowden's release of documents we know that Facebook also is systematically used for NSA

Surveillance, but already David Rokeby's 'Very Nervous System' (1986) pinpointed the technological means of detection and surveillance and Seiko Mikami in her robotic installation *Desire of Codes, 2011*, dealt with this big issue of our time already before the worldwide espionage became known.<sup>7</sup>

Artists from the field of Digital Art use and reflect on a variety of technologies, such as Virtual Reality (VR), Augmented Reality (AR) or Telepresence. For *UNMAKEABLELOVE* (2007), inspired by Samuel Beckett's *The Lost Ones* (1971/72), Jeffrey Shaw and Sarah Kenderdine used their cybernetic theatrical environment *Re-Actor* to create a real-time augmented world of 30 simulated humans. Shaw himself mentions as an inspiration early cinema history, quote: "the myriad of extraordinary devices like the Lumiere Brothers Photorama, the Cyclorama, Cosmorama, Kineorama, Neorama, Uranorama (...)"<sup>8</sup> etc. – but here they combine interaction with 3D humanoid, phantasmagoric figures, who seem to move in a dark space or even a prison camp formed by a hexagon of six rear-projected silver screens for passive stereo viewing. This results in the most powerful reappearance of the phantasmagoria 18<sup>th</sup> Century augmented reality – here it results in a deprivation, maybe even an icon for we human's in a WEB 2.0 world of "connected isolation". Internationally renowned artists like Mischa Kuball, Maurice Benayoun, William Kentridge, Rafael Lozano-Hemmer, Michael Naimark and others have created optical experiments, panoramas, phantasmagoria, dioramas, camera obscura, anamorphoses, magic lanterns, etc.<sup>9</sup> Reinterpreting old optical media they contextualize and help to reflect on our digital image revolution – and which traditional art form could do that? Older definitions of the image, mostly developed with paintings, such as those by Gottfried Böhm, Klaus Sachs-Hombach or W.J.T. Mitchell, became problematic in the context of the digital age.<sup>10</sup> Talking generally on imagery we need a wider understanding. Beside earlier definitions of interactive, immersive, telematics and generative digital images (Grau 2000) Media Arts complex imagery nowadays produce their complexity through a set of temporal and spatial parameters: Through multifarious creations of interfaces<sup>11</sup> and partly by evolving display<sup>12</sup> innovations, variability,

[7] Festivals: 'Good Bye Privacy' (Ars Electronica, 2007), 'Go Public' (Transmediale, 2002), 'We the Enemy' (European Media Art Festival, 2014), 'We live in Public' (Art Futura, 2010); etc. Wendy Hui Kyong Chun, *Control and Freedom. Power and Paranoia in the Age of Fiber Optics*. (Cambridge/Mass.: MIT Press 2008).

[8] Sarah Kenderdine and Jeffrey Shaw. 2009. "UNMAKEABLELOVE: gaming technologies for the cybernetic theatre Re-Actor." In *ACE '09 Proceedings of the International Conference on Advances in Computer Entertainment Technology*, 362-365.

[9] Oliver Grau (Ed.), *MediaArtHistories* (Cambridge/Mass: MIT Press 2007); Erkki Huhtamo. *Illusions in Motion. Media Archaeology of the Moving Panorama and Related Spectacles*. Cambridge/Mass: MIT Press 2013).

[10] See: Gottfried Böhm, *Was ist ein Bild?*, (Munich: Beck 1994); W.J.T Mitchell. *Cloning Terror. The War of Images. 9/1 to the Present*. (Chicago University Press 2011).

[11] Christa Sommerer and Laurent Mignonneau, *Interface Cultures*. (Bielefeld: Transcript 2008).

[12] Sean Cubitt. *The Practice of Light: A Genealogy of Visual Technologies from Prints to Pixels*. (Cambridge/Mass: MIT Press 2014).

[3] Festivals that addressed those issues include 'Human Nature' (Ars Electronica, 2009), 'Response:ability' (Transmediale, 2011), 'Deep North' (Transmediale, 2009), 'The Power of Things' (DEAF 2012), 'New Translife' (International Triennial of Media Art China, 2011), 'Nature Transformer' (Microwave Festival, 2009).

[4] Corby, Tom. "Landscape of Feeling, Arenas or Action: Information Visualization as Art Practice." In: Leonardo 5, Vol. 5 (October 2008), 460-467.

[5] All mentioned artworks within the case studies are documented within the ADA. See: [www.digitalartarchive.at](http://www.digitalartarchive.at)

[6] 'Unplugged – Art as Arena For Global Conflicts' (Ars Electronica, 2002), 'Play Global!' (Transmediale, 2003), 'Machine Time' (DEAF, 2000), 'Mash Up' (European Media Art Festival, 2010), 'Location' (ISEA, 2014).

simultaneity, sequentiality, narration, innovative strategies of interaction<sup>13</sup> through real-time processing<sup>14</sup> and immersive involvement, extra content can be accessed through the use of visualisations<sup>15</sup>, of databases and web-based networks<sup>16</sup>, which lead to questions of complexity<sup>17</sup> - image spaces open for unfolding and compression, development or evolution. All represent important parameters for the research regarding the specific expressive potential of Digital Artworks and their imagery. These examples might demonstrate, that media art can deal with complex challenges as traditional art media simply can't. In the best humanistic traditions digital media art takes on big contemporary questions and proposed transformations – we may call it a political iconography of the present - but is not adequately collected, documented and preserved by our public museums and archives. And a techno-cultural Society that does not understand its challenges, which is not equally open for art of its time, is in trouble.

Hence, scholars stress that the technological advances in current media cultures are best understood on the backdrop of an extensive media and art history. Therefore we developed the international Conference Series on the Histories of MediaArt, Science and Technology, which was started in 2005 through a collective process, involving more than 10 disciplines related to media art, coordinating meanwhile more than 2000 papers and applications on MediaArtHistory.org. Through the success of Berlin 2007, Melbourne 2009, Liverpool 2011, Riga 2013 and Montreal last November the conference series is well established. Contributions to this field are widespread and include, among others, researchers who have disciplinary focuses such as the history of science, art history and image science, [media studies](#) and [media archaeology](#), [sound studies](#), [film studies](#), as well as [computer science](#) and Digital Humanities among others. By telling for example the history of illusion and immersion, the history of artificial life or the tradition of telepresence, media art history offers sub-histories of the present image revolution. Media Art history might be considered a reservoir in which contemporary processes are embedded, an anthropologic narration, on the one hand, and the political battleground where the clash of images is analyzed, on the other.

### **Towards new Instruments for Art Documentation and Image Analysis**

Reflecting on new tools for media art histories in the 21<sup>st</sup> century we remember Aby Warburg's *Mnemosyne* atlas tracking image citations of poses and forms across media – and most significantly, independent from the level of art

niveau or genre. We might even say that he redefined art history as medial bridge building arguing that art history could fulfill its responsibility only by including most forms of images, calling himself an image scientist. And let us remember too, that Film Studies was started by art historians. The initiative by Alfred Barr and Erwin Panofsky founded the enormous *Film Library* at New York's MOMA, the 'Vatican of Film' as it was called by contemporaries. The same spirit for new infrastructures, networks and virtual museums for the Media Art of the last decades is needed today - key projects for the Digital Humanities. Comparable with natural sciences, digital media and networked research catapult the humanities within reach of new and essential research tools – Linux and Wikipedia might be seen as a glimpse of what can be possible and what we need are collective documentation and preservation tools for media art, or, even better, an entire history of visual media and their human reception by means of thousands of sources, Video and 3D simulations.

During the last decade we originated at Humboldt University the first online media art documentation, the Database of Virtual Art, now Archive of Digital Art ADA. As pioneer, it has been documenting in cooperation with renowned media artists, researchers and institutions the last decades of digital installation art, as a collective open source project. Since digital artworks are processual, ephemeral, interactive, multimedial, and fundamentally context dependent, because of their different structure, they required a modified, we called it an "expanded concept of documentation".<sup>18</sup> As probably the most complex media art resource available with almost 2000 events, 800 institutions and several thousand documented works and their technical data ADA represents the scientific selection of 500 artists of approx 5000 evaluated artists. The policy, whether an artist is qualified to become a member is "the number of exhibitions, publications – at least 5; high importance we ascribe also to artistic inventions like innovative interfaces, displays or software." Artists are also recommended by the advisory board with colleagues like Erkki Huhtamo, Roy Ascott or Gunalan Nadarayan.

And now within the Austrian Science Fund supported project (AT.MAR), ADA was developed into the first Web 2.0 & 3.0 Research Art Archive. Artists and scholars contribute to the living archive and work collectively on documentation and analysis of media art with a set of new tools - a proactive process of knowledge transfer, you can participate. Features like a message system provide the possibility to communicate with peers. You can receive news and archive-updates by peers, once you have added them to your colleagues list – somehow like Facebook, but transformed that it works for an archive. Another feature is the Light Box – it is a completely new developed tool that facilitates comprehensive image studies, especially intended for scholars and students. ADA also features every month another important artist among the best documented members in ADA. And here you see the teaser for the online exhibition. The virtual exhibition is a brand new feature. It will allow to document historic

[13] Linda Candy and Sam Fergusan (Eds.), *Interactive Experience in the Digital Age. Evaluating New Art Practice*. (New York: Springer 2014); Oliver Grau, *Virtual Art: From Illusion to Immersion*, (Cambridge/Mass: MIT Press 2003).

[14] Inge Hinterwaldner, *Das systemische Bild*. (Munich: Fink 2010).

[15] Denisa Kera. 2010, "From Data Realism to Dada Aggregations: Visualizations in Digital Art, Humanities and Popular Culture." In *Information Visualisation, 14th International Conference Information Visualisation*, London: IEEE, 297-300.

[16] Anna Munster, *An Aesthetics of Networks*. (Cambridge/Mass: MIT Press 2014).

[17] Oliver Grau, *The Complex and Multifarious Expression of Digital Art & Its Impact on Archives and Humanities*. In *A Companion to Digital Art*, edited by Christiane Paul. (New York: Wiley-Blackwell, 2016), 23-45.

[18] Oliver Grau, "For an Expanded Concept of Documentation: The Database of Virtual Art," ICHIM, École du Louvre, Paris 2003, Proceedings, 2-15.

exhibitions from the field enabling us to compare them online for our discussions and we start with Christiane Pauls seminal Exhibitions at Whitney.<sup>19</sup>

And you know that keywording can be bridge building too! The hierarchical Thesaurus of ADA constitutes an approach to systemize the field of Digital Art. Out of the Getty Arts & Architecture Thesaurus and the subject catalogue of the Warburg Library in London, keywords were selected which have relevance also in media art. On the other side, out of the most common used terms from media festivals like Ars Electronica, ISEA, Transmediale etc., new keywords were empirically selected. Important innovations such as ‘interface’ or ‘genetic art’ have been considered as well as keywords, that play a role in traditional arts such as ‘body’, ‘landscape’ or ‘Illusion’ and thus have a bridge-building function. It was important though to limit the number to approx. 350 words so that members of the database can keyword their works without great study of a too complex index.

A second main step of contextualising media art can be done based on an internationally unique situation, that with the 45 thousand prints of the Göttweig Collection, ADA has an important art historic collection in highest resolution emphasizing Renaissance and Baroque works on its side - representing a library of 150.000 volumes going back to the 9<sup>th</sup> century, like the Sankt Gallen Codex. The Göttweig collection is effectively an index of Renaissance and Baroque visual knowledge. Abbot Bessel (1672-1749) sent his agents over Europe to buy 30,000 prints in less than 10 years – a visual encyclopedia of almost all available knowledge of the time – a unique attempt to collect the world. ADA strives to achieve the goal of a deeper mediaarthistorical cross pollination. This context will be explored deeper through the “Thesaurus Bridge”. Just as the MediaArtHistories conference series bridges a gap, the combination of the two and other databases hopes to enable further historic references and impulses. The collection also contains proofs of the history of optical image media, intercultural concepts, caricatures, illustrations of landscapes in panoramic illustrations. For the future this may provide resources for a broader and deeper analysis of media art.

With ADA involved in the field of media art tool development from its beginning, we witnessed the crisis of documentation during the last years: Since the foundation of the *Database of Virtual Art* in 1999 (now ADA) a number of online archives have arisen – almost all these major projects of the field terminated.<sup>20</sup> In this way the originated scientific archives which more and more often represent the \*only\* remaining contextualized image source of the works, do not only lose their significance for research and preservation but in the meantime partly disappear from the web. Not only the media art itself, but also its scientific documentation fades that future generations will not be able to get an idea of the art of our

time. If we take a look at media art research over the last 15 years then it is clear: What we need is a concentration of high quality scholarly documentation as well as a huge expansion of strength and initiative. In the field of documentation – and although we have important initiatives at Guggenheim or TATE systematic preservation campaigns do not exist so far – it is essential to unite the most important lessons learned and strategies developed by initiatives either existing or abandoned on an international platform, a network of institutions that can guarantee persistent existence. This precarious situation of media art research lead to our international MediaArtHistory (Liverpool) declaration, signed by more than 500 scholars from 40 countries to date – you find it on the platform of the field.<sup>21</sup> There is urgent need to create stable international platforms of interoperable archives, to share resources to built expertise for collection and research, but this has to be done – and this is essential - in a sustainable way.

### On a new Museum Infrastructure for 21<sup>st</sup> Centuries Art

However, digital art is not collected systematically and in a concerted strategy by museums, because the basic structures of the 200 year old institution date back to a time when different artistic media prevailed. As debated since the 1990s, museums rarely include Media Art in their collections, and those that do struggle to sustain finance, expertise, and technology for the preservation of artworks through strategies such as migration, emulation, and reinterpretation.<sup>22</sup> That is why we as citizens are facing a massive problem in terms of democratic discourse via art. Although in Europe most museums are financed by our taxes, they can't fulfil their official tasks in the range of digital contemporary art. A systematic preservation requires the conjunction of museums and archives to bigger expert networks. But this possibility isn't even discussed yet. A concerted collection policy would be located over the level of a single museum, and this meeting is a remarkable glimpse of such a development to overcome single museums limitations to preserve art in the 21<sup>st</sup> century due to its little personal, budgetary and technical facilities. A regional or nationwide network of expertise could help to preserve digital art with the systematic help of main strategies developed in many case studies, strategies such as emulation, recreation and interpretation. But it depends on the will of those who are responsible for cultural policies. This way the federalism in Germany and other countries could help through a practice of shared responsibilities. In Germany for example Bavaria could build such a network of expertise and then be responsible for the preservation of – say - interactive Installations, Saxony one for Bio Art, Brandenburg one for net art and so forth.

First of all, art preservation remains by law responsibility by the state alias (our) museums. But with media art, also the owners of soft- and hardware companies, of new social networks, today are in a position and responsibility to help museums to preserve art on the communication tools, which

[19] Oliver Grau: Documenting Media Art. In 18. *Tagungsband des Verbandes österreichischer Kunsthistorikerinnen und Kunsthistoriker* (2016, forthcoming).

[20] For example, the *Langlois Foundation* in Montreal (2000-08), *Netzspannung* at the Fraunhofer Institut (2001-2005), *MedienKunstNetz* at ZKM (2004-06), V2 in Rotterdam, Netherlands.

[21] <http://www.mediaarthistory.org/declaration>

[22] Renate Buschmann/Caianiello Tiziana, (Eds.), *Media Art Installations Preservation and Presentation: Materializing the Ephemeral* (Berlin: Dietrich Reimer Verlag, 2013). Jon Ippolito/Richard Rinehart, *Re-collection: Art, New Media, and Social Memory* (Cambridge, MA: MIT Press, 2014).

made them rich. If we do realize such a Federalist delegation of responsibilities, also private collectors could finally have access to a reference network of experts in media art whom they could consult and sponsor. Media art festivals and artists could return to focus on exploring beyond the technological horizon in the aspiration of realizing their artistic investigations and aesthetic intent. For Media Art Collection & Research a significant commitment has to be made: Let's recall the enormous and sustaining infrastructure that was developed for traditional artistic media, painting, sculpture, architecture, even film, photography and their corresponding archives over the course of the 20th century. What is needed is an appropriate structure to preserve at least the usual 1–6 per cent of present media art production, the best works. As our large Data sets show clearly: Artworks of famous artists showing on festivals and shows around the world do not make it to the collections, just a few and almost always those, which are technologically more trivial, and these limitations should not exist in our time! To achieve that, we need a concerted policy of collection and preservation on a much larger scale, appropriate to serve the culture of the 21<sup>st</sup> century. If we compare the world-wide available budget to preserve and explore traditional art forms, if we just compare the budget for traditional art forms, then we understand how inadequate the support for our present digital culture is; it is almost statistically immeasurable. The faster this essential modification to our cultural heritage record can be carried out, the smaller the gap in the cultural memory; shedding light on the dark years, which started about 1960 and lasts till now. Only when we develop systematic and concerted strategies of collecting, preservation and research we will be able to fulfill the task which digital culture demands in the 21<sup>st</sup> Century.

Oliver Grau was appointed first Chair Professor for Image Science in the German speaking countries at Danube University in 2005. More than 300 lectures and keynotes worldwide, including Olympic Games culture program and G-20 Summit. Grau's "Virtual Art. From Illusion to Immersion", MIT Press 2003 (Book of the Month Scientific American) is with more than 1000 citations internationally the most quoted art history monograph since 2000 (H-Index) and received 90+ reviews. Grau received several awards and is translated in 14 languages. He was founding director of the MediaArtHistories Conference Series and conceived new scientific tools for image science developing the first international archive for digital art (ADA). [www.digitalartarchive.at](http://www.digitalartarchive.at) Since 2005 Grau is also head of Goettweig's Graphic Print Collection with 30.000 works, from Duerer to Klimt. [www.gssg.at](http://www.gssg.at) 2014 he received a doctor h.c. 2015 he was elected into the Academia Europaea.

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