

“Media Libraries and Archives for the 21st Century” Node

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PRESENTATION

Introduction: How to archive and preserve artistic practices linked to new mediums

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Whether it is true or not, the following humorous anecdote from the early years of e-commerce is quite illustrative: it seems that some years ago the head of a large international publishing company “gave the order to remove from internet” a digital book in pdf format that shortly after going on sale on their web page was copied and spread by all of the world’s servers. Today, similar attempts (“to remove a pdf from internet”) remain hilarious to us, above all taking into account the vast profusion of textual, sound or visual material that we find on the net, legally or illegally distributed, free of copyright or subject to the most stringent intellectual property laws. Material that is there, whether we like it or not, and that continues to be consulted, reminding us that the digital realm has specific characteristics that are quite different from the analogical.

Everything seems to be on internet: all kinds of files are exchanged in peer to peer networks, we download songs, complete discographies, books or films from webs or spaces specializing in storage of digital contents. Meanwhile, thousands of users post their documents, classify, order and label files incessantly, in any part of the world and virtually in real time. Internet has become the archive of archives; in these times of superabundance of information the world has become an immense archive. Digitalization of contents has made the malleability of data possible – the easy accumulation, storage and transport – just as the conversion of analogue to digital has converted information into something numerical – and thus processable and calculable, turning all data and information into a process without end –.

We must not speak of the immateriality of this data, for despite the conversion of all analogue information into digital formats, the mediums that store and put this information into operation most certainly continue to be material. Anyone who has ever lost data from the hard disk of their computer can emphatically certify this: data and information have a place and take up space. In the same way that everything is archived, everything is lost: in the din of noise caused by the superabundance of information, in the obsolescence of the mediums that store, produce or reproduce it, or in the short circuits of the systems that archive it. How to produce meaning, order, significance and relevance in the midst of this exponential increase in the uninterrupted flow of data has become a crucial aspect for the survival of our fragile (and oversaturated) memory.

While blogs, wikis, tags, twitters or social networks of all types have become the hegemonic tools for quickly taking the pulse of what is occurring on internet and in this instantaneous world, mountains of data, millions of documents pile up in some hidden place waiting to be classified in some order that makes possible their eventual recovery on demand. After the current tempest, what deserves to be archived and what must be archived? What is best to be forgotten? What should we include in our archives for their perseverance? And above all, in what way should we construct our memory?

Although these questions are common to all kinds of data, information, objects, events, etc. in our culture, they are especially relevant in the context of artistic and cultural productions linked to electronic and digital mediums. Media art,

in its great diversity of singular expressions, which range from the now forgotten fax art to the most experimental forms of artistic creation with software or video games, for example, already has quite a long history. A history being written insofar as we are capable of reconstructing the pieces we find scattered through the myriad of disciplines stimulated by new artistic practices.

In fact, we are not confronting new issues, every age (re)constructs memory in its own way. This construction has been reflected upon throughout history, starting from the well-trodden phrase “history is written by the victors” to the Nietzschean genealogy that seeks to articulate history as a counter-memory, introducing its philosophy of meaning and value in the very heart of the truth of history. From the truth of history to the history of truths, from history as a search for the founding origins of meaning to history as counter-memory that disproves the foundational myth of origins; history becomes the way in which we explain the past from a present and for a future.

Today, not only do we continue to ask ourselves about how but also, and above all, about who constructs this history and from where. The access and control of information has been redistributed to undreamed-of limits, and today, although there continues to be a hegemony of some over others, the multiplicity of constructing agents of accounts of data from the past has become diversified, from the most micro to the most macro. While institutions ponder how to archive the large quantity of pieces of media art that are gradually achieving the category of “historical”, thousands of users register, post, file, order and distribute their documents, making possible the construction of an infinity of accounts about “the happening of things that happen”. The history of media art does not wait, but moves forward in its continuous attempt to explain that which occurs in the evolution of our contemporaneity.

The archive is the operational basis that makes the different accounts of history/ies possible. And from it we may ask ourselves not only about who constructs history and archives, and from where,

but from whom and/or for whom are these archives? And in turn, from whom and/or for whom is history? These questions that mobilize users, spectators, consumers, fans or citizens throughout the world should also inform the practices of institutions that wish to adapt to these new times while they reinvent themselves in their eagerness for the production, collection, conservation, archive and documentation of that which “deserves” being preserved in memory.

In the age of the prosumer the spectator becomes, in turn, producer. In the age of remix, contents survive in a thousand and one ways, in a thousand and one different formats, redefining themselves in an infinite loop of production of meaning. The modularity, interconnection and interoperability of archives that form nodes in an immense network of multiple connections urges the question of *who, how and where* to redistribute this in a heterogeneous fabric of multiple relations.

If we go from asking ourselves: “why archive media art?”, to asking: “what should we archive?”, and from there we advance to “how to archive”, we can see how we move from, on the one hand, archiving objects to archiving processes, where, besides the conservation of original pieces, recourse to documentation becomes an indispensable tactic for the survival of the foundational material that history is made of. On the other hand, in the face of the rapid obsolescence of technological mediums and the need to contend with an incessant flow of data, we must take into account the policies of **free access** that diversify the use of archives, or the strategies of cooperation aimed at the interoperability and standardization of formats and other mechanisms that likewise contribute to the much longed-for survival. We not only focus on recovering and revering the original; the transformation has already taken place and that book that should “be removed from internet” has today become an endless quantity of books, fragments, videos, audio books, citations, cross references, poems, collages, etc., which travel along networks, redefining themselves a thousand times over; because when it comes right down to it, isn't this what culture is all about?



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<http://artnodes.uoc.edu>

ARTICLE

“MEDIA LIBRARIES AND ARCHIVES FOR THE 21ST CENTURY” NODE

Content production and selection. What to conserve?

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Abstract

The concept of the archive is in transformation, which confronts us with questions like how do we, as cultural institutions, see the role of our archive, what should it represent and how should they accordingly be structured. Our understanding of past, present and future is also closely linked to the way we organize and process information with electronic media and how we retrieve knowledge and meaning out of these processes. Archives are becoming complex interconnected databases and no longer just contain our past for inspection by historians and other researchers. Archives have become crucial in how the past and present are created and reflected upon. What does all this mean for our institutional archives, what could be the function and meaning of contemporary archives and what is our vision on archives in relation to our institutions and what we practice in them?

Keywords

archive, preservation, audience participation, museum

Producción y selección de contenidos. ¿Qué conservar?

Resumen

El concepto de archivo se está transformando, lo cual nos hace plantear, en calidad de instituciones culturales, la función de nuestro archivo, de lo que debería representar y de cómo deberían estructurarse las instituciones en consonancia. Nuestra comprensión del pasado, del presente y del futuro también se encuentra estrechamente vinculada al modo en que organizamos y procesamos información con medios electrónicos y a cómo obtenemos conocimientos y sentido de estos procesos. Los archivos se están convirtiendo en complejas bases interconectadas y ya no se limitan a contener nuestro pasado para que los historiadores y otros investigadores lo examinen. Los archivos se han vuelto esenciales en la creación y en la reflexión del pasado y del presente. ¿Qué significan todas estas afirmaciones para

nuestros archivos institucionales, cuál podría ser la función y el sentido de los archivos contemporáneos y qué pensamos de los archivos en relación a nuestras instituciones y a lo que hacemos en ellas?

Palabras clave

archivo, conservación, participación del público, museo

Our understanding of past, present and future is closely linked to the way we organize and process information with electronic media and how we retrieve knowledge and meaning out of these processes.

In contemporary archival practices it is not just the individual data that are being stored in databases. The relationships and correlations between the various data are now also being stored, by using metadata that offer us different context for individual data.

Archives are becoming complex interconnected databases and no longer just contain our past for inspection by historians and other researchers. Behind almost every activity in the hard, material world nowadays hides an immaterial archive. We are living in the world's online archive, or more to the point, we are living in the world-as-archive, as a constellation of databases all connected with each other by a global network of computers, the internet.

Because archives are continuously available and accessible, they have become an essential factor in acting in the present. One could say that archives have become crucial in how the past and present are created and reflected upon.

What does all this mean for our institutional archives, what could the function and meaning of contemporary archives be and what is our vision of archives in relation to our institutions and what we practice in them? This question relates to the way we structure our archives, make them accessible for different users and what kind information we want in our archives. Or better said: what is an archive nowadays and what do we want it to be (looking at our practice and our institutions).

To not drift into a futuristic vision of the archive, even though we need new models for our archives, it is important to reflect the archive in relation to the main functions of our institutions, which are:

- presentation and audience participation;
- research and production, and related to this, the dissemination of knowledge and experience (education);
- preservation (which only few of us do and it would be good to hear why we think this is) and conservation as part of an archival practice (our archival practice is divers and often less related to preservation and conservation as is the case in regular museums).

Archives, history, time

The experience and perception of time is not an objective phenomenon, even though we might think it is when looking at how we nowadays live under the regime of the rational clock time. This also becomes obvious when we look at the fundamental distinction between natural time, where time is internalized, and rational time (the clock):

I know what time is as long as nobody asks me about it.

(Aurelius Augustinus, 4th century)

The abstraction and rationalization of time in hours, minutes and seconds, as performed by the clock, had far reaching consequences in the 19th century when it became the model for the rationalization of production (labour) during the Industrial Revolution. The introduction of the Greenwich time standard (1884) was a clear expression of this tendency to submit social, economic and political life to the rhythm of rational time and to establish a global time standard, or better said, an economy of time. The bomb attack on the Royal Observatory in 1894, by a young French anarchist who accidentally blew himself up in Greenwich Park before reaching his target – as it seems that the clock he used for the bomb wasn't properly set – shows how the standardization of time was experienced as submitting man and labour to the regime of the clock.

As mentioned, the personal experience and perception of time is not an objective phenomenon following a logical and causal historical time line, specifically not in our media technology saturated societies. Timothy Druckrey, a media art critic and writer, stated in this context:

In media art we are confronted by an array of temporalities engaged with the temporalities of the systems that deny the normative flows of representability. Here we are urged not merely to experience banal phenomenal time, but rather to engage in behaviours, assess momentary conditions, interfere with stasis, investigate the instantaneous states of information, probe transitory visibilities, consider indeterminate identities, examine the decay of memory, inspect the "flow" of the event, and survey the cumulative and relative structures of the archive.

In our media determined realities we experience time as being malleable. In technical media (cinema, video, radio, the internet, etc.),

we can detach time and space, and stretch and compress time. Media reinforce our notion of time, which is related to how media are linked to our historical sense of time; they are time machines producing machine time.

As cognitive research into the phenomenon of time progresses, it is becoming more and more obvious that time is not an objective quality which can be measured by chronometers and divided up into seconds and everything beyond. Time very much is a personal and therefore emotional experience, controlled by social rhythms – a process that starts in the womb –. Time is never only natural or only historical, only subjective or only objective: it is always both at the same time. But how can this be embedded in the way we structure our media art archives?

For the past 10 years we have seen approaches in archival thinking that touch on this topic of what is represented in archives and how this relates to the different temporalities that so strongly determine our personal experiences. In contemporary digital archives we store data objects as autonomous data that have metadata connected to them, thus being able to offer a more dynamic and personal user related set of data to the user. These archives present us with ever changing relations between these single data-objects and thus move away from a more historical approach of the content, since they try to contextualise data-objects in the now and less in the past.

The concept of the archive is in transformation which confronts us with questions like how do we as institutions see the role of our archive, what should it represent, and how should they accordingly be structured.

Our understanding of past, present and future is closely linked to the way we organize and process information with electronic media and how we create meaning out of the data clusters or clouds that are offered by digital archives.

Interesting models and methodologies of collecting, storing and processing information, and the creation of meaning can be traced back from the *wunderkammer* or curiosity cabinets from the 16th century to contemporary practices regarding digital archives.

As mentioned, in contemporary archival practices it is not just the individual data that are being stored in databases. The relationships and correlations between the various data are now also being stored, by using metadata. Metadata (also known as tags) are data that describe and categorize other data. Metadata as means for ordering, hierarchizing, streamlining and evaluating have become increasingly important as social, political and economical instruments in an informational sphere that for a long time was considered as being value-free.

In various contemporary views the archive has proved to be a strong metaphor. The human body has become a genetic archive, now that it has been digitally opened up in the *Human Genome*

Project. Our language is an archive of meanings that can be unlocked by philological methods. It teaches us who we are and where we come from. The unconscious is an archive of all the traumatic and deep experiences that define our identity. Even history has become a database from which facts can be arbitrarily retrieved and now lacks one big unifying story.

Archives no longer just contain our past for inspection by historians and other researchers. We are permanently living in archives: All the sites we visit on the internet are logged by our search engines and are monitored by mostly illegal spy bots that are installed in our machines by companies and who knows who else. All our shopping is registered by our supermarkets. On the basis of such archives the policies for the future are being planned. Behind almost every activity in the hard, material world nowadays hides an immaterial archive. We are living in the world's online archive, or more to the point, we are living in the world-as-archive, as a constellation of databases all connected with each other by a global network of computers, the internet.

Because archives are continuously available and accessible, they have become an essential factor for acting in the present. One could even say that archives have become crucial in how the present is created and reflected upon by its users. Archives have become more user oriented, offering to users contextualization of the content of the archive according their personal interest or by adding personal information to existing archives. Moreover, for some years now we have been seeing the rise of the semantic web, where the traditional archivist and curator will be pushed to the background while personal *smart agents* will do the search for you and create meaning out of the unstructured data they find on the web themselves.

So, having a conference on future archival practices and asking ourselves what we should archive and how we want to structure it, offering interfaces for easy retrieval, and user participation (or not), is addressing fundamental questions about the role of institutional archives in a rapidly transforming informational sphere where the role of the archivist, the user and even the institutions themselves are questioned.

This presentation is merely trying to create a context and some reference points for the good practices being presented by the different speakers that represent art organisations of varying size and different backgrounds, but who can all be related to the role of contemporary art in our technological culture, and who are positioning their practice within this broader context.

The archive always had a central place in art institutions. The main functions of art institutions, being presentation, preservation and education have always been strongly related to the archive as being an endless resource for research, interpretation and education.

Since the role, function and structure of institutions and their classical functions are also reshaped and re-thought in relation to

the impact of an ever-growing networked information society, it is important to position the role of archival practices clearly within these developments.

Furthermore, it is these dynamic and often interactive media practices themselves that we shape and reflect in our daily practices

already facing us with tough questions like what should we archive, how should we archive, and how can we unite our forces and share the accumulated experience and knowledge and make our archives more compatible with each other.

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CV



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ARTICLE

“MEDIA LIBRARIES AND ARCHIVES FOR THE 21ST CENTURY” NODE

The World is Just a Great Big (Archive) Onion

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Abstract

The article reflects on some of the key challenges that the new possibilities of archives and databases have brought us in the context of media art, as much as for all cultural productions. The utopia of infinite storage, the re-empowerment of viewer as producer, the collective tagging practice, the need for a narrative able to construct meaning from the excess of data, or the creation of a particular view of the world through the mediation of cultural objects are some of the issues explored in this article. Through the experience of FACT as a cultural institution dealing with many of the key issues treated here, the article affirms the need for an articulation of a view of the past able to introduce media art practices in the context of art and cultural history, and speculates around the new paradigm for archiving today.

Keywords

living archive, digital storytelling, collaboration, Wodiczko, metadata

El mundo no es más que una cebolla grande (en forma de archivo)

Resumen

El artículo reflexiona sobre algunos de los desafíos principales que comportan las nuevas opciones de archivos y bases de datos en el contexto del arte multimedia, así como para todas las producciones culturales. La utopía del almacenamiento infinito, la reconquista del poder del espectador como productor, la práctica colectiva de etiquetar, la necesidad de una narrativa capaz de elaborar sentido a partir del exceso de datos o la creación de una visión particular del mundo a través de la mediación de los objetos culturales son algunos de los temas que se exploran en este artículo. Tomando como base la experiencia de FACT como institución cultural que aborda muchos de los temas clave planteados en el mismo, se afirma la necesidad de articular una visión del pasado que logre introducir las prácticas del arte multimedia en el contexto de la historia del arte y de la cultura, y se especula en torno al nuevo paradigma actual de archivo.

Palabras clave

archivo vivo, narrativa digital, colaboración, Wodiczko, metadatos

Our vision and understanding of the world is as much informed through memory and comparative data as it is through our eyes. Within a media landscape proliferating images and with enhanced accessibility to network and archive, *Total Recall* has become a possibility. This suggests the re-empowerment of the viewer to navigate and select images within the context of a global database, thus converting viewer into producer – continuously uploading and collectively informing that representation of the world –. It appears a collaborative model of documenting and perceiving is upon us. Or is this an illusion?

The classic questions of who edits history and how information and artefacts are selected for preservation, conservation and archive still sits with us, however the shift towards a culture or technical system in which everything is archive is tantalizing. Until we have better trust in those systems and are confident that all data is uploaded and tagged, *Total Upload* remains a utopian dream and the realities of handling dusty materials for import or cumbersome computers containing data. Resourcing this with humans is a real issue, too. Not only for non-robotic labour: engineering and operating a keyboard, but also in terms of selecting and contextualizing that to be archived.

The technologies of surveillance today allow us to trawl far greater data sets than the KGB could during the Cold War. Yet how do we act, when we can access everything? If we archive everything, how will we find the time to access and make sense of it? Similarly, what timescales are appropriate for storing this information?

Everything forever? Infinite storage, infinite choice and no limits of time or space. Perhaps. It is already not just about what to archive – but how to archive –. Storage systems and mechanisms need embedded transcoding and transfer ability that is integrated from the start. Metadata tagging and transcoding have as much in common with technologies of virtual engineering as with archiving media art. The issues we face here in media art histories are shared across many disciplines; future-proofing data within an emergent condition is both part of our task and intrinsic to our practice. We are all tied into an up-grade culture that makes previously “new formats” obsolescent far too quickly, whether as domestic consumers or professional archivists. Data needs to be considered as having a DNA of its own that can mutate and jump species as necessary and our digital heritage has to move beyond the container.

Until the movement to real-time cognitive enhancement we will still need judgment in forming opinion and much as we want hard facts, we still love stories, desire fantasy and find illusion compelling. The suspension of disbelief is deeply encoded and we can be gullible beings even when everything is before us and information is presented to us. Many of us know that driving cars is dangerous or that we can view medical photographs of ruined lungs knowing that cigarettes will kill us, yet we continue to drive and smoke (sometimes even at the

same time!). Access to raw information is useful, but how knowledge is formed through comparison of positions and opinions remains critical. Can creating an archive without developing a narrative or historicising the contents be of the same value? Producing an evidence base is of course dependent on having access to the artefacts and data that form our history: therefore collecting, conserving and archiving are the key factors in more traditional museumological cannons. But when artefacts and data are proliferating, mutating and self-generating – this traditional approach is less relevant and we need new terms and references; this itself is a massive challenge when applying conventional ways of considering the role of institutions be they museums, galleries or libraries.

When data has become the lifeblood of our cognition and memory, re-defining vision and ultimately begging the question: how does vision persist after death? Have we become members of the CIA – the Collective Intelligence Agency? Is the latest version of the networked condition already here, or is this a transitional state of becoming or a continual emergence? William Gibson inspired me when discussing such far-reaching questions as well as popularising cyberspace in his classic cyberpunk novel, *Neuromancer*:

Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding... (Gibson, 1984, p. 69)

Over the last twenty years, facts have become less definitive and increasingly speculative. Have we then become less certain of the future, or is it that modernism and the promise of “progress” has not always come up trumps? Most versions of science fiction and futurism tend to dumb-down. Facebook and Twitter may be the current ubiquitous manifestations of collective intelligence, but by the time you read this, will they already sound quaint and old hat? And with the development of ever speedier methods of exchanging information and comparing views, does this synchronous flow take account of bias, differences of perception, and diversity of culture?

Bearing this in mind, it is not possible to compare perceptions across time and generalise about “one” world, or certainly not until everyone has access to the internet, education in social media and PDAs.¹ My grandfather related stories of “deepest, darkest Africa, the Amazon and shrunken heads”. Living a bread-and-jam existence in the shadow of rationing, post-war Britain needed hope. And as a product of that time, I have been privileged to have filmed in zero

1. More than eight million citizens in the UK have no access to computer or internet (more than 10% of the population).

gravity and am planning an artists' residency programme on the moon. The unimaginable really has gotten closer and my father is now one of the savvy elder generation who does pay electricity bills online.

Access to new tools and new skills has enabled new models of living. A perfect example of this is our own community TV station Tenantspin, which over the past ten years has seen people of different ages and backgrounds creating their own media, TV station and archive exploring compelling new relationships as both producer and audience. Formed initially in 2001 by Danish artists group Superflex and initially a cable TV station managed by residents in public housing it has now become so much more than that.²

A relational exchange, whether televised or otherwise, is only as good as the energy put into it. This is about real people in real life rather than technology itself. We increasingly accept the broad philosophical premise that we create the world in perceiving it, or at least that objects, circumstances, events and data are affected through mediation.

Conversely, with the shift from conventional perceptions of broadcast and narrowcast, time and space have been upended. Entire systems of belief and dogma have tumbled along with previous understanding and measurement of time: Time Collapse. We may no longer have the resources to upload everything. FACT, like many media art institutions, is under restrictions on income and it is very hard to prioritise conserving the past over investing in new ideas and people; therefore, the necessity to create automated instruments and data supply chains becomes critical. And with the burgeoning mass of collectable data this also creates a problem of how to forget...



Image 1. The Tenantspin show

The notion of the traditional archive may be redundant but for now remains essential. FACT Archive is both a physical and online collection of tapes and related materials charting an early history of predominantly UK video art and international works commissioned for FACT programmes, ranging from documentation of commissions and interviews with luminaries such as Vito Acconci through to the ephemera and promotional materials produced for the earliest video festival Video Positive in 1989.³

Originally built from scratch, initially in partnership with A Database, combining search and database facilities and taken in-house for further development. Whilst we wait for automation, we have hit that point like many archives where through financial pressure we have prioritised the present and future over the past. We no longer have an archive manager or archivist, but we have however migrated many of the technologies and thinking into developing FACT TV.⁴

The idea of a living archive existing alongside a traditional archive is of great interest. FACT hosts and partners collaborative PHD students with both via Liverpool John Moores University and the University of Liverpool. PhD subjects cover Media Art History, The History of FACT, Digital Art in the Public Realm and Film and Architecture. Being able to bring together a collaborative resource of historic material utilising facilities such as FACT TV makes for an interesting approach to using online platforms when combining academic and practice based research with artists' projects. An example of this would be the residency of Krzysztof Wodiczko as part of last years AND (Abandon Normal Devices) Festival.⁵

Every aspect of Wodiczko's project *War Veteran Vehicle* integrated story-telling, archive, digital technology and art in public space. To enhance this further, through capturing participants' views within the FACT TV environment; built depth and complexity and in many ways suggests living archive made real. This was a brilliant art project – a true and necessary collaboration, specific in its starting point of hearing the stories of returning soldiers from Iraq and Afghanistan in partnership with Combat Stress, a charity set up to help with veterans mental health. Wodiczko has made a lifetime art practice deeply connected to the voiceless finding space to express themselves and “knowing when to speak out”.

With the ending of the Cold War, previously powerful assumptions were further challenged and it became increasingly possible for us to hear new voices. With these shifts, traditional systems of knowledge transfer, pedagogies and histories were put into question, significantly weakening bastions of traditional power. This, and peer-to-peer information exchange, has to a considerable extent, replaced broadcasting.

2. See: <<http://www.tenantspin.org/>>.

3. See: <<http://archive.fact.co.uk/>>.

4. See: <<http://fact.tv/>>.

5. See: <http://fact.tv/search?content_search_simple=true&content_wordss=wod&submit.x=0&submit.y=0>.

As the world's geo-political axis has shifted, so too has FACT. Indeed, if Liverpool has dubbed itself the centre of the creative universe, perhaps FACT has been one of the axes around which that creativity has revolved and evolved. The FACT Centre may originally have been conceived as a technocentric media arts centre, but it has blossomed through love, time and need into a true 21st century arts centre; the embodiment of contemporary hybrid research and practice-based knowledge exchange, rich in participation, forging strong, deep – and essentially social – connections to a wide range of communities and places. The fascination here is the real-time negotiation of those relationships and nuanced interchanges which motivate communication, exchange and action. It is through comparing differences that we learn. The process and comparison of what is both out there and in here is the end in itself. The idea that art can be a container for meaning, or directly representational, is less and less interesting as methods of direct translation prevail. Direct experience and transmission suggest colourless technical and non-ideologised



Image 2. War Veteran Vehicle Project



Image 3. War Veteran Vehicle projection on Liverpool Catholic Cathedral

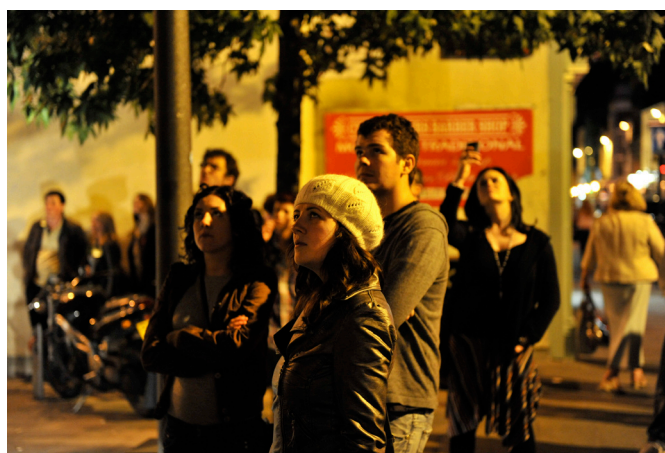


Image 4. People watching the projections

decision-making, but let's reference some of our current debates around sustainability and look to the scale of economies that exploit resources whilst abstracting their origins, some call it *greenwash*.

An ontological approach is where art excels, and artists' work that is of observation and direct experience proves difficult to measure and quantify.

Twenty years ago artists, curators and activists were not knowingly creating a new paradigm or starting a "digital" revolution. It is only now that we can rationalise *post facto* and reassemble those connections. This is important not only to ensure our place in history, but to also remind ourselves of where innovation often begins: with the experiments of artists, designers and technologists. FACT actively encourages experimentation, provocation and interference. Repeatedly it has been artists who have provided early warnings of the cultural, economic and political ramifications of new technologies, through a variety of media and tactics, gesture, performance and resistance.

Equally, it is our responsibility to acknowledge the importance of diverse historical practices, contextualising media art and its histories in relation to the current explosion within digital and networked society. In demonstrating the significance of pioneering practices by artists, technologists, curators and our partners, we can chart how these influenced and helped to form emergent models of organisation and the application of peer-to-peer communication technologies, social media and personalisation opportunities across a variety of sectors and in the new networked conditions. The ramifications of these types of video, media art and new media art practices have extended well beyond the development of discrete artworks, questions of genre and the practice of art. While these are important areas in themselves, even more significant is the fact that video, media and new media art have been forerunners in what is now termed a *digital revolution* – a revolution that is redefining all rules of engagement, collaboration and

economy –. Beyond the body, beyond biology and technology, post-human, we are dispersed across time and space, wearing multiple data-bodies in a chaotic matrix, joined as one ceramic ribbon through silicon chips and virtual memory.

If artists since Futurism have embraced exponential acceleration, complex power systems and traditional politics of argument are now becoming increasingly indigestible, reduced to sound bites and spectacle, giving little comfort where specialism and volume and sheer quantity of data are overwhelming. Without trust in knowbots, robots, basic forms of artificial intelligence and ubiquitous filters, increasingly we must trust our instincts and the direct experience:

For to perceive, a beholder must create his own experience. And his creation must include relations comparable to those which the original producer underwent... Without an act of recreation the object is not perceived as a work of art. (Dewey, 2005, p. 54)

Art is about being, about being actively involved and about doing it. The artists who have made FACT what it is have had little choice in this; it is their life and they are the living archive.

We invent the society we want to belong to. We are the real-time experiment but let's not forget how we remember the past, or where we put it.

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CV**Mike Stubbs**

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Director and CEO of FACT since May 2007, jointly appointed by Liverpool John Moores University as Professor of Art, Media and Curating. Encompassing a broad range of arts and media practice, his arts management, curating and artwork have been internationally acknowledged.

As founding Director at Hull Time Based Arts (HTBA) his work won recognition as a primary promoter of new media and performance art in an international context, setting up the venue Time Base, EMARE (European Media Arts Residency Exchange) and the international ROOT Festival.

Mike moved to Melbourne in 2003 to the world-leading Australian Centre for Moving Image (ACMI) as Curatorial Manager, becoming Head of Exhibitions the following year. An award-winning and respected moving image artist, Mike Stubbs' work encompasses film, video, mixed media installations, performance and curation. He has won more than a dozen international awards, including first prizes at the Oberhausen and Locarno Film Festivals, and in 1999 was invited to present a video retrospective of his work at Tate Gallery, London. A selection of his work was featured at the 2003 Adelaide International Film Festival.

During his career, Mike has commissioned over 250 interactive, site specific, performative, sonic and moving-image based artworks. Originally educated at the Royal College of Art and Cardiff College of Art, Mike's own internationally commissioned artwork encompasses broadcast films, video art, large-scale public projections and new media installation, much made through a process of interdisciplinary research and residency.

Mike arrived at FACT in the final lead up to Liverpool's year as European Capital of Culture 2008, with the opportunity to work with other cultural leaders in further developing Liverpool as a major international cultural centre and destination.

FACT itself is an engine for the production and presentation of cutting edge moving image and new media art, whose work Mike is intent on refocusing through experience, consciousness, articulation and building-wide programming via interdisciplinary partnerships. For more information about FACT, visit: <<http://www.fact.co.uk>>.

ARTICLE

"MEDIA LIBRARIES AND ARCHIVES FOR THE 21ST CENTURY" NODE

The Museum as Archive

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Abstract

This article reflects on the central role of the archive in our culture and shows how the tension between privatization and the public domain on the internet reveals the new dynamics that require us to redefine the role of museums and art centers. This rethinking of the function of the museum in our society, brought about in part by the crisis of metanarratives that support it, also entails establishing a new relation with the collection, which, having to display the singularity of the objects and of the artistic practices — with their consequent dematerialization and deobjectivization beginning at the end of the nineteen-sixties with the avant-garde —, has become an archive through which its users may circulate and construct multiple narratives.

Keywords

museum, archive, information society, narratives

El museo como archivo

Resumen

El presente artículo reflexiona sobre el papel central del archivo en nuestra cultura y muestra cómo las tensiones entre privatización y dominio público en internet manifiestan las nuevas dinámicas que obligan a replantear el papel de los museos y de los centros de arte. Este replanteamiento de la función del museo en nuestra sociedad, motivado en parte por la crisis de las metanarraciones que lo sostenían, implica también establecer una nueva relación con la colección, que, al verse impulsada a mostrar la singularidad de los objetos y de las prácticas artísticas—con su consiguiente desmaterialización y desobjetualización iniciada desde finales de los años sesenta con las vanguardias—, se convierte en archivo por el que transitar y en el que sus usuarios pueden construir múltiples narrativas.

Palabras clave

museo, archivo, sociedad de la información, narrativas

According to Michel Foucault, the archive is the basic structure that supports knowledge; it cannot be stated in its entirety because it contains the law and jurisprudence of all that can be said. Thus, the French author's idea has become more relevant than ever in the information society.

The function of the archive in the modern state was fundamentally fiscal, police-related and the safeguard of legitimate property rights, deriving as much from commercial transactions as from genetic continuity. The archive bound present reality with strata of past realities.

Beyond these functions, the archive had a symbolic connection with the state to which it served as registry and was considered the rock upon which the state was supported or as the anchor that kept it from drifting. The burning of archives was one of the most effective instruments in the breaking-up of a state following its invasion or the usurpation of power.

However, the archive as a central organization of the modern state is witnessing profound modifications in the process of the dismantling and privatization of the welfare state: now private firms are hired to store hospitals' medical records. In addition, on another area, privatization of the management of the old national radio and television archives has given rise to the commercialization of what until now was considered common patrimony.

In reference to the development of information management technologies, this has given centrality, quotidianity and extension in all aspects of life to the tasks of the archive, which have become capillarized and internalized to the point where the archive no longer has this almost sacred separation in relation to life, which it previously had. In reality, the contemporary archive, basically embodied by the internet, is by nature collective, permeable and in a constant state of configuration and flux.

Simultaneously, internet giants such as Google or Facebook are at once instigators and private administrators of the enormous collective archive that is the internet, and their objectives are not those which supported the modern archive.

Lastly, the decrease or complete lack of state presence in the monopoly of archives and their horizontal extension through information technologies has exposed the multiplicity of fragmentary and precarious archival initiatives that no longer correspond or remit to a homogeneous demos, but that is related with an urgent need to leave an imprint, generate memory, accumulate experience and pass the baton to future generations. Moreover, and this is the innovation, it can serve as a reference for other unknown and distant, but coetaneous, communities, in this ocean without shores that is the internet.

These kinds of archives, despite the fact that they mainly occur in the technological medium of internet, share their nature with traditional oral memory: they make and leave their imprint through the very act of dissemination, of communication. They do not have a single and fixed locus; rather they are perpetually mobile and their

contents are malleable and modular through the continuous process of displacement and reappropriation.

This type of memory, connected to issues, actions or experiences that lies outside of the central archive, now acquires a distinct nature, being devoid of this referent (which in some instances it never possessed) and aspires to be a part of this hypothetic, atomized, heterogeneous and collective archive that is the internet. An archive, however, which would in principle lack the role of sustaining a norm, a canon, of configuring.

From what has been said thus far it could be extracted that the old metropolitan institutions have quietly disappeared to give way to this atomized, autonomous and precarious archive. Not only is this not so, but such an archive cannot easily exist without some degree of institutional support, nor have large modern institutions stopped aspiring to the expansion *ad infinitum* of their collections, and have adapted their policies of acquisition and exhibition to this new "paradigm" of expanded archive.

Vuc Cosik, the pioneer of net art in the mid-nineties, recently declared in a meeting of the people who are in charge of museums in the ex-Yugoslavia, that, in his opinion, museological institutions should close because they have lost their function and because of the capacity of individuals, collectives and networks to archive and manage, without the need for state institutions, an immaterial patrimony that was by nature unencompassable within the walls of the museum.

Nevertheless, despite the power of the Cosic's point of view, it is evident that in reality the scenario is far from what he describes. Museum institutions are undergoing important mutations, but from this it does not necessarily derive that they have lost (at least the museums of the old colonial metropolises) their accumulative, centripetal and even depredatory impulse. Instead, what is occurring is an instrumental adaptation to new conditions, both technological and geopolitical, in order to continue expanding.

Hans Belin says that the present coexistence of the logic of the museum and the database is paradoxical, a symptom of the anachronisms and imbalances of cultural changes. Museum and archive have traditionally been concomitant structures, but different in nature. The museum is an apparatus of visibility, a theater in which the embodied canon was portrayed, represented by pieces, selected decontextualized objects, separate from both the world they came from and before that which they were being displayed.

The relation of the museum with the world was based on exemplarity and pedagogy. The rare selected objects that comprised it were valuable by virtue of their significance in this great canonical narrative, the narrative of nation, of civilization and of the history of art. The value of these objects was accumulative, and, in aggregate, the objects belonging to the museum, the collection, constituted the patrimony of the nation or empire, the sign of its cultural richness, but also of its political and economic power. The collection, although

not visible in its entirety, constituted the community's true reserve of value.

Compared to the theater of the museum, the traditional archive was a blind mechanism, the value of whose objects stemmed from the information they contained and the reality they formulated, not due to their specific nature. These items, despite documenting events that were temporal in nature, were structured by very diverse topological laws, not by narratives. This structure resembled geological or archeological strata.

The crisis of metanarratives that sustained the museum in so-called postmodernism can be understood in certain measure as a result of the growing hegemony of the logic of the database. If the discrediting of the canonical narrative of art history did not cause all of the paintings to fall off the walls of museums, it was owing to cultural inertias, the growth in cultural tourism, the coincident tertiarization of the economy, the spectacularization of culture and a new ideology of creativity allied with neoliberalism and which once again placed value on individual genius.

Furthermore, as explained by Craig Owens, the laws of the market would have guaranteed the economic value of works of art regardless of any other standard, as the supreme fetish of the new consumer society of the eighties. Nevertheless, other phenomena occurring in the internal ambit of art were going to give rise to a simultaneous and gradual adaptation of the old museum. Beginning at the end of the sixties, the avant-garde dematerialized and disobjectualized their practices, and mutated them toward recordable processes by means of text, photography, video, or, directly, in information and documentation whose natural place was the archive, more than the museum.

In reality, self-archiving processes would appear along with practices using the forms and procedures of the archive as medium, and which would reflect on them, as if it were a conscious or spontaneous reaction to the new dominant logic of culture.

The museum is experiencing then its own anachrony, in an era like that of the archive, whose inclusive logic not only permits these contradictions, but promotes them. The new situation radically changes the relation between the museum/theater and its collections. Inasmuch as there no longer exists a single narrative that configures and gives unidirectional meaning to the collected objects, we find ourselves with a situation similar to that of the protomodern *wunderkammer*, in which each object appears again in all of its uniqueness and full of strata and facets. The poetic and aesthetic quality coexists with

the documentary and testimonial, with the referential or cultural, uninterrupted.

In contrast to that single narrative, now relations between distinct objects may be contrived through contingent and positional narratives, which do not emanate from a necessary structure of things, but from a process of interpellation or dialogue from the present, similar to that which was revindicated in the nineties, with respect to the past, the new cultural history, or Stephen Greenblatt's new historicism at the end of the previous century.

These narratives can be put on a level with browsing the internet. They do not preexist in the database, but they are what activate it and the trail they leave affects future browsing, future narratives. The National Museum of American Art in Washington devotes an entire wing to showing visitors thousands of objects whose internal organization is dependent upon the subjective decisions of the visitors.

This situation also affects the collecting practices of museums, not only because they have to admit those works produced since the sixties that are basically archival registers, but because simultaneously documents, testimonies and fragments become important, which are no longer a mere contextualization of the artistic object, but a component of the collection in its own right, now transformed, increasingly, in archive.

The hybridization of the traditional notion of collection with that of archive brings up a new situation whose meaning is far from being clear. The logics of display of the museum are qualitatively different from those of access, imposed by the logic of the archive. The pedagogical mission of the museum is also quite different from the discretionary use of the information contained in an archive.

The possibilities of universal access, of collective intervention and the rhizomatic growth of new archives seem to collide with the walls of the museum, but not only this. The documents in an archive and the archives themselves become infected by the mercantile structure of the art system when they are "museumized". The expansion of the notion of intellectual property, particularly acute in the field of art, makes it so that the document, the register, by definition ownerless and collective, is subject to a capitalization that goes against its very nature.

We did not wish, however, with all of this, to paint an irremediable situation, but rather to point out the fact that the museum institution can only exercise the necessary role, even if only provisionally, of facilitating the consolidation and activation of these new archives, if it implements a profound redefinition of its institutional foundations, which necessarily involves a radical change in practices.

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CV



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ARTICLE

"MEDIA LIBRARIES AND ARCHIVES FOR THE 21ST CENTURY" NODE

Distributed archives, content from the past, content for the future

Alessandro Ludovico

 Editor in chief of *Neural* magazine

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Abstract

The web (paradoxically similarly to a human being) is particularly fond of its own age and much less so regarding what happened before its birth. Historical events, news, documents and cultural artefact at large since 1994 to the present are way easier to find than the ones antecedent to the middle nineties; the earlier the worse, and the later the better. It seems that the web reflects more and more a structure like a river flow, always heading to its mouth, more than remembering when and where its own water started to flow or even before that. So even if the late 1990s and 2000s are quite well covered, there's a tangible historical vacuum in the chaos of online archived information. And this is evident when you need to do serious research beyond the culture classics with a substantial lack of information freely available. Probably because online giants are aware of this cultural gap, they think that the final establishment of the web's reputation as a universally trusted medium goes through the migration in the online form of traditional media, and this means to let people access what they used to trust more: printed. Now its digitalization seems to add a distinctive quality to (trusted) printed media: being universally accessible. But digitalizing printed sources is a big task, a massive effort in trying to archive printed content and make them readable online. In the endless debate about the future of print, it can be felt as the final passage from the printed to the digital form: when even the most obscure printed titles will be available in a digital form, will there be anybody left who will still need print? And digitalizing means also to make a copy of the original printed material and possibly storing it online. But actually we should ask ourselves: can this be properly defined as "archiving"?

Keywords

archiving, printed media, digitalization, universal access

*Archivos distribuidos, contenido del pasado, contenido para el futuro***Resumen**

Por paradójico que resulte, la web está encantada con su propia época como si de un ser humano se tratara y le preocupa mucho menos lo que sucedió antes de su nacimiento. Los sucesos históricos, noticias, documentos y artefactos culturales en conjunto desde 1994 a la actualidad resultan mucho más fáciles de encontrar que los que anteceden a mediados de la década de 1990; cuanto más antiguos peor y cuanto más recientes mejor. Parece que la web refleja cada vez más la estructura de la corriente de un río, que siempre se dirige hacia su desembocadura, en vez de recordar cuándo y dónde empezó a fluir su propia agua, o antes incluso. Así que, aunque la etapa de finales de los noventa y principios de este siglo quede bastante bien cubierta, existe un vacío histórico tangible en el maremágnum de información archivada en línea. Esta circunstancia resulta evidente cuando hay que hacer investigación rigurosa más allá de los clásicos de la cultura y se detecta una carencia sustancial de información disponible gratuitamente. Probablemente porque los gigantes en línea son conscientes de esta brecha cultural, piensan que la consagración definitiva de la reputación de la web como medio de confianza universal pasa por la migración en línea de los medios tradicionales, para que la gente pueda acceder a aquello en lo que más confiaban en el pasado: a lo impreso. Ahora la digitalización parece añadir un valor distintivo a medios impresos de (confianza): el de hacerlos accesibles universalmente. Pero digitalizar fuentes impresas constituye una tarea ingente, un esfuerzo masivo de intentar archivar contenido impreso y hacerlo legible en línea. En el debate inacabable sobre el futuro de lo impreso, parece que la fase final es el paso del formato impreso al digital: cuando incluso los títulos impresos más desconocidos estén disponibles en formato digital, ¿quedará alguien que aún necesite lo impreso? Y digitalizar también implica hacer una copia del material impreso original y probablemente almacenarla en línea. Pero en realidad deberíamos preguntarnos: ¿puede este proceso definirse correctamente como «archivo»?

Keywords

archivo, medios impresos, digitalización, acceso universal

The web (paradoxically similarly to a human being) is particularly fond of its own age and much less so regarding what happened before its birth. Historical events, news, documents and cultural artefact at large since 1994 to the present are way easier to find than the ones antecedent to the middle nineties; the earlier the worse, and the later the better. It seems that the web reflects more and more a structure like a river flow, always heading to its mouth, more than remembering when and where its own water started to flow or even before that. So even if the late 1990s and 2000s are quite well covered, there's a tangible historical vacuum in the chaos of online archived information. And this is evident when you need to do serious research beyond the culture classics with a substantial lack of information freely available. Probably because online giants are aware of this cultural gap, they think that the final establishment of the web's reputation as a universally trusted medium goes through the migration in the online form of traditional media, and this means to let people access what they used to trust

more: printed. That happened because printed material used to be checked and proofread before being printed, thus controlled and tested before being embodied in an unchangeable product. Now its digitalization seems to add a distinctive quality to (trusted) printed media: being universally accessible. But digitalizing printed sources is a big task, a massive effort in trying to archive printed content and make them readable online. In the endless debate about the future of print, it can be felt as the final passage from the printed to the digital form: when even the most obscure printed titles will be available in a digital form, will there be anybody left who will still need print? And digitalizing means also to make a copy of the original printed material and possibly storing it online. But actually we should ask ourselves: can this be properly defined as "archiving"?

I'll try to answer to this question later, but I'd like to quote what the American economist Jeremy Rifkin wrote in his book *The age of access*:

The physical container becomes secondary to the unique services contained in it [...]. Books and journals on library shelves are giving precedence to access to services via the internet. (Rifkin, 2000, p. 76-93, 100)

Truth is that we still have unparalleled cultural resources in old media format. Billions of books and magazines for example are still readable, even if, in some cases, they are a few centuries old. But their access is most of the time more complicated. In fact, unless you're close to a copy of these books and magazines, or, even better, in the same physical place (that obviously can instead be on the other side of the world) you can't read them, you can't flip them, you can't search through them. If they are listed by some bibliographical catalogue, you can learn where the closest copy is, although, again, it can be very far away. On the other end, we have global networks, which are constantly indexed, hosting an astounding amount of knowledge and culture that can be searched anytime through private search engines. But as said above, they are mainly fond of the last two decades, and only a small fraction of what's physically available has been digitized and indexed online. Google has raised the status of the most visited search engine, and so, implicitly, one of the most prominent digital archives of human knowledge produced digitally and publicly available. That's probably why Google's founders claimed that the culture preserved in print that is missing online is a problem for humankind. So Nikesh Arora, president of Google's Global Sales Operations and Business Development, confessed that Google founders' dream is "the creation of a universal library."¹ That ideally sounds like a perfect extension of their dominating position in indexing online content: broadening the indexing to the previously print-based content, even providing the needed digitalization and hosting resources. Actually, more than a dream it sounds like another huge business opportunity. In fact such a massive amount of content to be freely enjoyed and navigated is another attractive online space that Google could exploit for selling ads. In fact, contextual ads, related to the content, would be displayed while reading the book of choice selected from an immense online library, in the classic benevolent and fatherly Google style. What Google is trying to do is to digitize (and possibly get rights of) huge chunks of cultural printed matter. With five million dollars as initial investment and twenty thousand publishing partners, including major libraries, after a few years of work they can claim seven millions books scanned, with one million already available in full preview in their service Google Books. Just to have an idea of how it works: most of the books are scanned using a special industrial camera at a very fast rate of 1,000 pages per

hour. Furthermore, in 2008 Google completed the purchase of twenty million digitized historical newspaper pages from PaperofRecord.com, a Canadian company.² And in 2010 they signed another agreement with a European national institution: the Italian Minister of Culture was happy to give to Google, for free, the right to scan and host. In fact, in two years another million books in public domain hosted by the Italian national libraries in Rome and Florence. This approach has two sensitive problems. First: the access to this enormous body of culture is controlled and regulated by Google. It's not UNESCO, it's Google. It's not a non-profit international cultural institution; it's a private global business. Second: because of its specific aim, Google tends to acquire the most "universal" type of culture in order to be as popular as possible. Then what about the rest?

1. Online archives strategies and success

I've tried to analyze the characteristics of digital archives containing printed material in my upcoming book titled *Post-Digital Print, the mutation of publishing since 1894*. I've tried to analyze independent digital archives, and there are already quite a few excellent efforts online to be noted. Ubuweb,³ for example, is a curated one about "all forms of the avant-garde and beyond", but especially fond of the sixties and seventies. Curators are filtering the precious digitalized material submitted by a community of enthusiasts, making them searchable and freely available in standard and enjoyable formats. It embeds the virtues of being focused on a topic but also being perceived as an outstanding reference by a community that contributes actively, "donating" precious digitalisations of rare materials (as an excellent library should aim to be). Aaaaarg.org⁴ was another one on the same wavelength: they're digitizing (and asking people to help to digitize) hundreds of books and papers mainly related to academic research in art, media and politics. All the files are searchable as text, so establishing a unique vertical search engine on these topics, self-built and free of charge (compared to the very expensive academic commercial services). All the files are then freely available for download, although a registration is required. Their definition is kind of imaginative:

AAAARG was created with the intention of developing critical discourse outside of an institutional framework. But rather than thinking of it like a new building, imagine scaffolding that attaches onto existing buildings and creates new architectures between them.

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1. See: <<http://online.wsj.com/article/SB10001424052748703701004575113511364939130.html>>.
 2. See: <<http://blog.searchenginewatch.com/081202-100005>>.
 3. See: <<http://www.ubuweb.com>>.
 4. See: <<http://aaaaarg.org>>.

There are also online archives that are focused on magazines. One of the most celebrated magazine rebirths from the underground press was the *Radical Software* magazine.⁵ All the eleven issues (printed in the 70s) were scanned and assembled in pdf format, and made freely available on their website, giving a significant contribution to media culture's researchers and scholars. The process was funded by The Langlois Foundation, focusing on this specific magazine, because it was considered as probably the first media art magazine ever published. Several other magazines, (the older the more considered) have been taken into consideration for being disembodied and then accessed online. To mention another seminal example, all $L=A=N=G=U=A=G=E^6$ issues, one of the most important experimental poetry magazines published in the 70s in USA, are available online in both pictures and pdf, but they are both not searchable as text. A different approach was taken by another magazine meant also as an art project: *PhotoStatic*.⁷ It was a magazine that focused on xerography as the source of a peculiar visual language and art form, printed from 1983 to 1998. The editors slowly made pdf files of every issue, starting from the latest printed backwards; uploading them on their website and making them available for free download. The peculiarity of *PhotoStatic* is that where the original pdf files were not available they were "reconstructed", re-assembling the original layout, text and pictures as if they'd been made ready to be printed again. In this case the preserving effort was putting back in operation the original virtual "plates" that printed it, but in an abstract form that can eventually (and paradoxically) generate an even better quality printed product, that never existed in their own time. One of the essential questions is: are these processes really "archiving"? The long lasting printed copies are still in the libraries, and only some exceptional accident can delete them. The digital copies can be deleted (by accident or on purpose) in a second, although, their innate infinite duplication-induced spread easily their access. So having multiple copies of the scanned files, spread in potentially thousands or millions of different places and in different computers would help in the end their collective memory, and so maybe help in parallel and in a separate way their preservation. Furthermore, there's a hidden social and cultural aspect to be carefully considered in this respect. If you consider any "subculture" or literary, artistic or music movement, you can easily individuate a few key persons (journalists, historians, collectors, small institutions, obsessed fans) that have assembled over the years impressive collections that just lie in one or few rooms. These precious kinds of heritages are individually preserved but, in a word, they are invisible to the rest of the "scene" and to the world.

If their presence and at least essential references would be shared, then their context would become a public resource, a common that would have important consequences on both the online presence of the passionate collector and the general historical perception. If Wikipedia is the biggest effort in sharing knowledge from the most general and cultural perspective, then single but networked online archives of printed content should make a big difference in writing the history of subcultural, avant-garde and artistic movements.

In this perspective, there's artwork dealing with archiving and paper that is able to reverse our usual perspective. Tim Schwartz's *Card Catalog*⁸ is an installation made of a more than 2 meter long drawer containing a catalogue of the author's 7,390 songs on his iPod, in the form of single cards for each song. Here the "data" is understandable (cards referring to a song), but it's not a representation of the data in itself (there are no scores, or music-related information), but rather of its complete index. Here the author is playing with space and its different qualities (when it's virtual and when it's real) so a paper catalogue index would be substantially bigger even than the whole amount of data hosted in a tiny mp3 player. Nevertheless, the installation is made in a 19th century style, entirely in classic wood with a brass knob, and that is not by accident. It reminds us that paper catalogues are still there, in old libraries, after centuries, still representing knowledge through paper in a universal form, while the invisibility of hard disks is still arcane to most of us. This element is reinforced ordering the cards in a faithful chronology of the author's listening habits, which gives an even stricter correspondence between the invisible data and its tangible paper index.

2. Neural Archive and Distributed Archives

I'm the editor of *Neural*,⁹ a magazine printed since 1993. Since then (and even before), we've started to develop our own archive of books, catalogues, magazines, posters, ephemerals and various other old and new media. Actually it contains approximately 2,000 items. Although it's totally unlikely that this collection will be publicly available in Bari, where *Neural* is based, we want to share it as much as possible. So we started a few tests on how to make online and offline strategies to publish online the first complete references to the things we collected. And the *Neural* archive is really far from being conceived as a solitary and self-referential effort. After compiling the reference of every single item, step 2 is trying to establish a model

5. See: <<http://www.radicalsoftware.org/>>.

6. See: <<http://english.utah.edu/eclipse/projects/LANGUAGE/>>.

7. See: <<http://psrf.detritus.net/>>.

8. See: <<http://www.timschwartz.org/card-catalog/>>.

9. See: <<http://www.neural.it/>>.

of an online archive, sufficiently simple (even rough) and abstract, which could eventually be adopted by other people willing to put their collections online. This model would be the most valuable outcome of our archiving efforts and it should be shared as a sort of “manual” (“how to make your own online archive”) including instructions on how to use some free software to build it (we’re testing a Content Management System-based solution). Big institutions have already developed their own, like, for example, V2_ in Rotterdam,¹⁰ which has an impressive one, but we want to make our work worthwhile for small institutions and personal collectors.

Step 3 will be to make different archives, dealing with homogenous topics, to be searchable altogether. It would be accomplished through simple free indexing software that would periodically scan the content of each single archive and make an effortless dedicated search engine. The whole effort is aimed to build a method as simple as possible to make online archives that would reflect the physical ones.

The resulting scenario would then be to make “islands” of culture which are maintained by the respective responsible persons. If they’ll reflect their respective physical archives, we’d have a reliable online representation, which would be searchable and would indeed publicly recognize the responsible efforts in making and maintaining printed material collections.

Step 4 is to help to build open source DIY book scanning machines, in order to start to digitize the respective productions and make them available online. Google uses industrial book scanners for its giant Google Books program (that seduces institutions convincing them to grant Google the access to their printed treasures in exchange for a free or cheap version of their digitized files, shared with Google, of course). But there’s a small community dedicated to building similar scanners through a strictly open source process, thus sharing the whole methodology and the software part. It’s a technical crucial passage, because once built and spread these machines would substantially speed up the process of digitizing entire series of (old and new) books or complete collections of independent magazines.

Neural has just started to discuss collaboration for a program with a few partners in the Balkan area. We want to build an archive or references for our entire collection, build a book scanner for each of us and start to digitize a part of our collection and make it available online. We’re trying to get funding in order to go through all the steps (1 to 4), developing in parallel and in the end joining our respective archives.

In a way, both the processes (publishing references of items collected and even digitizing them) is a similar mechanism to the so called

seeding of p2p stuff. Seeding, in the p2p technical vocabulary, means that if you want to “own” something you have to share it, at least a part of it; that is exactly what we’d do with the opportunities of combining print and digital technologies. And this is something completely different from nostalgia, of course. Building these archives of references, and scanning small productions, according to publishers’ and authors’ will, would sometimes help to reconnect fragments that were lost over time, texts lent and never returned that would turn up again.

But, we’d ask ourselves: can we properly define these types of processes as “archiving”? I think we can’t. All of the above is about “accessing”, and not “archiving”. Only in a few decades will we know whether jpg and pdf files will still be there. But starting to take the responsibility to make them and share them is the first constructive step we can take.

Conclusions

The resulting scenario could be of archived “islands” of culture slowly and independently emerging online, and then growing. They’d be made by people who share passion and just want to share valuable information and contribute to the access to important content that would be new for the web. It’d be a shared memory as peer-to-peer unquestionably proved to be. It’d be coupling the stability of our printed culture, and its being static, with the ephemerality of its digitalization, and even more its consequent dynamic characteristics. However, such a project requires permanent “seeders” to stick with the peer-to-peer parallel, or people who want to be responsible. That’s why we at *Neural* have already started working on what we have thus far acquired, while simultaneously networking with others. If we’ll be able to establish usable models, platforms and practices, we’ll probably help a small portion of culture to survive its own future.

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10. See: <<http://archive.v2.nl/>>.

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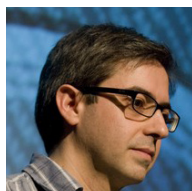
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<http://artnodes.uoc.edu>

ARTICLE

“MEDIA LIBRARIES AND ARCHIVES FOR THE 21ST CENTURY” NODE

The Transfigurability of Digital Objects

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Abstract

Due to the rise of the internet and digitality, an increasing degree of cultural heritage takes the form of ICT enabled operations contradicting the traditional practices of archives. Referring to these new forms as digital objects, the paper presents them as being transfigurability based on the dimensions of editability, interactivity, openness and distributedness and on the highly modular and granular texture of binary media and ICT processes. In other words, digital objects are technological operations rather than fixed entities. They are fluid, amorphous and ephemeral, rendered as momentary proxies of objects only. Within this context, a key challenge for cultural heritage institutions is the taming of digital objects. Juxtaposing two extreme examples – the search engine results page and the archival snap-shot of a web page – the paper will conclude with the argument that persistency does not come with the digital object, but needs to be imposed *ex-post* through second-order technologies which themselves are based on the paradigm of transfigurability. In other words, while the persistency of material objects has to be preserved, the persistency of digital objects has to be produced.

Keywords

digital objects, persistency, ephemera, archive, preservation

El carácter transfigurable de los objetos digitales

Resumen

Debido al aumento de internet y de lo digital, cada vez hay más patrimonio cultural que adopta la forma de operaciones basadas en las TIC, lo que contradice las prácticas y archivos tradicionales. Al referirse a estos nuevos objetos digitales, el artículo presenta su carácter

transfigurable basándose en que se pueden editar, son interactivos, abiertos y se pueden distribuir, y en la textura altamente modular y granular de los medios binarios y de los procesos de las TIC. En otras palabras, los objetos digitales son operaciones técnicas más que entidades fijas. Son fluidos, amorfos y efímeros, son sólo representaciones momentáneas de objetos. En este contexto, un desafío clave para las instituciones de patrimonio cultural es la domesticación de objetos digitales. Al yuxtaponer dos ejemplos extremos, la página de resultados del motor de búsqueda y la instantánea archivada de una página web, el artículo concluirá con el argumento de que la persistencia no se presenta con el objeto digital, sino que tiene que imponerse después mediante tecnologías de segundo orden que también se basen en el paradigma del carácter transfigurable. En otras palabras, aunque debe conservarse la persistencia de los objetos materiales, tiene que generarse la persistencia de los objetos digitales.

Keywords

objetos digitales, persistencia, elementos efímeros, archivo, conservación

Introduction

Inscribed above its portal, the lost library of Pharaoh Ramesses II bore the warning that one was not about to step into an ordinary building but rather into “the house of healing for the soul” – a sacred place (Lutz 1978; Polastron 2007, p. 7). Being the oldest library known to mankind, the inscription reminds us that ignorance is a disease of the soul and accessing knowledge its remedy. In the so-called information society, the access to knowledge and information is of a lesser concern for a growing part of the world’s population. The internet and all the services it affords are, to an increasing degree, integral aspects of our lives up to a point where information and communication technologies (ICT) interweave with the very fabric of the human condition. Cast into a digital format, knowledge is made to fit into an information environment of bits and bytes that is, above all, constantly updated and ephemeral (Kallinikos, 2006, 2009a). Enabling immense possibilities for access, these developments, however, also spawn new challenges to be addressed by the future houses of healing for the soul. Our digital cultural heritage takes forms that cease to resemble the physical and relatively stable artefacts we have been accustomed to for centuries. The new metaphors that are invoked for describing these artefacts tend to stress the fluid, hardly palpable and ephemeral characteristics of digitality and computational operations.

In our work at *The Information Growth and Internet Research* project,¹ we refer to the digital equivalents of material objects as *digital objects*. However, software applications, databases, computer files, digital images and so forth are objects only in a euphemistic sense. It is only for the eye of the user that they are rendered into an object-like appearance through computational operations (Ekbia,

2009; Kallinikos, 2009b; Faulkner *et al.*, 2010; Kallinikos *et al.*, 2010). In other words, digital objects come into existence through the networked arrangement of data by means of ICT processes and calculations which lead to a set of distinctive characteristics; that is, digital objects are highly *editable*, *interactive*, *open* and *distributed* as well as composited in a *modular* and *granular* fashion. Summarized under the term *transfigurability*, these characteristics and compositional textures raise serious problems for cultural heritage institutions in terms of how to preserve digital objects for future generations. The archival goal of granting persistent accessibility to authentic and persistent testimonies of our times needs to be redefined in order to address the diffusion of knowledge, that is, to a rapidly increasing degree mediated as digital objects (Brindley 2009).

Digital Objects

Digital objects come in a vast variety of forms and functionalities – be it blogs, hypertexts, computer games, e-books, e-mails, operating systems, spreadsheets, the list goes on and on. However, the classification of these ICT embedded and enabled forms as digital objects relies on a common set of characteristics that can be used to describe and distinguish them from material objects. The proposition outlined in this paper presents digital objects as multidimensional operations along the characteristics of *editability*, *interactivity*, *openness* and *distributedness* (Kallinikos, *et al.*, 2010). Hence, digital objects can be more or less editable, more or less interactive and so forth. In what follows, each of the characteristics will be discussed briefly. The concept will then be illustrated by two extreme examples; the search engine *results page* and the digital *snap-shot* of web

1. See: <www.tigair.info>.

pages taken by the Internet Archive. The first exemplifies a highly transfigurable digital object; the latter shows a way through which the transfigurability of digital objects can be tamed.

Editability

Digital objects are in a constant stage of flux as they are contingent to being modified and updated. Their content or elements can be changed or deleted, new elements or modules can be added *ex-post*. A telling example is a Wikipedia article page which can be edited and modified throughout its whole life-cycle (Aaltonen *et al.*, 2010). In this sense, a digital object is never finished but rather bears an inherent, built-in potentiality for being changed.

Interactivity

While every object entails some degree of interactivity, digital objects can reach a level that, ultimately, results in a qualitative difference. Digital objects allow for an increased spectrum of possibilities contingent upon the choices made by a user who is invited into a potential space for exploration. A state-of-the-art 3d computer game, for instance, presents such a high level of visual immersion and navigation that the gamer literally can explore the world s/he is playing in. Of course there are limitations to the game-play, however from a visual perspective the computer game is open to the choices of the gamer and renders the appropriate visual graphics in real-time.

Openness

In contrast to editability, openness refers to the potentiality of digital objects to be modified in ways unintended by the creators or designers. In this sense, digital objects can be tampered and experimented with, a notion that finds its clearest expression in the hacker culture that brought us the open source movement and Creative Commons licensing (Himanen, 2001). A well-known example is a digital image that can be manipulated by anybody with the appropriate know-how in specialized computer graphics applications.

Distributedness

Digital objects mostly consist of modules or components which in turn can be other digital objects. Not packaged into a single entity as it is the case with a book, these components can be distributed and networked across various sources (Esposito, 2002, p. 299). Hence, a digital object is a momentary rendition – an assemblage – of various data sources brought into existence by IT operations. A hypertext document is a case in point. Not being bound to a single computer file, it may span across web pages and domains incorporating pictorial elements from an image folder or embedding a video hosted on

YouTube. In this sense, the borders of a hypertext appear fuzzy defying practices based on clear-cut and bounded documents as, say, printed books provide for.

Compositional Texture

The above described characteristics rely on a very distinctive tapestry – a texture composited in a highly modular and granular fashion. *Modular composition* refers to the generative nature of the interacting habitat in which digital objects are embedded. Relying on an end-to-end infrastructure such as the internet (Zittrain, 2008), digital objects are relatively autonomous self-contained building blocks that depend on being loosely coupled to other digital objects. In this sense, one should not confuse autonomy with autarky. To use the example of a hypertext document again, changing one web page would not have an effect on any of the other hyperlinked web pages. However, cutting the links between the web pages would mean the end of the hypertext document. The same principle applies to object-oriented programming that results in software consisting of contained and functionally related modules of code. It is the loose coupling between modules (which may or may not be digital objects themselves) that allows for the decomposition of a digital object into manageable parts that can be edited, reorganized and put together with other modules.

Of course, modules cannot be decomposed into other more elementary modules ad infinitum; a fact that leads to the second aspect of the compositional texture – *granularity*. Encoded into a binary-based medium, digital objects allow for immensely minute modifications and calculations down to the most basic level of 0s and 1s. Although it may require a lot of skill and know-how to do so, the high-level granularity of digital objects enables piecemeal interventions, ranging from the simple correction of a typo in an electronic document to sophisticated means of finding and fixing bugs in an operating system. One of the outcomes worth noting is that the crowd sourcing of tasks becomes a practical alternative of getting things done, since a lot of people can make small contributions, which combined can lead to surprising innovations such as Wikipedia (Benkler, 2006). To clarify, modularity and granularity are not the outcome of the rise of information technology but have been around for quite some time. Modularity, for instance, is a key element of mass production; that is, the assemblage of standardized parts into final products in a factory. In terms of granularity, phonetic writing enables the creation of a variety of literary forms through the combination of a very limited number of letters. However, the level of granularity and modularity the assemblage of digital objects is based upon truly marks a qualitative difference. A difference that is described with attributes such as fluid, amorphous, unstable, ephemeral, generative or, as it is referred to in this paper, transfigurable.

The Search Engine and the Archive

Seeing digital objects the way outlined above raises the question of how they are brought into existence in different settings and contexts each consisting of very diverse expectations, objectives and practices. For instance, the current generation of algorithmic search engines, such as Google, owe their whole existence and functionality to the transfigurability of digital objects and the compositional texture they are embedded into. One of the main digital objects search engines bring forth – the results page – is a case in point. Basically containing a list of web pages deemed relevant in relation to a user's search query, it is the result of sophisticated algorithmic calculations taking into account various aspects within and between mostly web pages and other web sources. The search engine results page, however, only exists as a momentary rendition. The moment the window displaying the results page is closed, the digital object disappears only to be recalculated and constructed anew when the user launches a new search. Even when the user types in the very same search terms as before, the results page is created again in real-time, hence the search engine algorithm may present different results between searches due to the constant updating of the underlying database and its evolving search index. Given the high impact the ranking by a search engine, especially Google, has on the traffic to a web page, web consultants offer their services in terms of search engine optimization, which should push a web page up the ranks in relation to specific search terms. Web hosts adapt their web pages to the ranking mechanism which, in turn, may lead to search engines changing their mechanisms. As a result, a feedback cycle emerges between the search engine and the respective conglomeration of web pages and, ultimately, the WWW as well as other internet services (Fortunato, Flammini *et al.*, 2006). The search engine results page, thus, is in a constant stage of flux cast into an object-like existence through algorithmic calculations (Morville, 2005). It is an interactive, radically open and distributed artefact that is not easily delineated from the web resources it represents. What remains constant, in this constellation, is not the digital object, it is the algorithm (Esposito, 2002).

In stark contrast to a search engine's functionality, archival practices revolve around the maintenance of cultural artefacts and/or their documentation. One of the main key terms is persistency – be it the persistency of the archived artefact or the persistency of its documentation (Cox, 2007). Because of their transfigurability, digital objects contradict the institutionalized archival practices of memory institutions which rely, with a few exceptions such as performance art, on the material stability and boundedness of the artefacts the archive organizes and preserves (Weinberger, 2007; Schnapp, 2008; Márton, 2010). Within this context, the Internet

Archive² epitomizes an organizational attempt to bring persistency into the ephemera of bits and bytes and, thus, to preserve digital objects for future generations (Lyman *et al.*, 1998). Besides many other projects, it is mostly known for archiving the WWW by means of making snapshots of millions of web pages. Stored in a database, they are made findable according to their URL and the time the snap-shot was taken (Howell, 2006). The snap-shot, however, is not a complete and perfect copy of the actual web page but rather a different kind of digital object altogether. In order to document provenance and authenticity, merely the content and layout of the respective web page is being copied but not its underlying functionalities and processes. As a result, the digital object is cut from the information environment the original web page is embedded into. One can find, for instance, an early version of Google's web search interface from the 11th November 1998 preserved in the Internet Archive, however one cannot make a search query that would deliver search results from that period of time. Still, the archival snap-shot remains to be a digital object. Hence, the possibility, say, to edit the snap-shot is still available but denied by rigorous security protocols. In other words, the persistence of the archival artefact does not come with the snap-shot, but rather needs to be imposed through information technological operations in order to tame the transfigurability of digital objects.

The Computational Redefinition of Persistency

As the two extreme examples of the search engine results page and the archival snap-shot illustrate, digital objects are to be seen as objects only in a euphemistic sense. The feedback loop between the results page and the WWW as well as the imposition of persistency onto the snap-shot are the results of sophisticated and, more importantly, continuously running computational operations. They basically process data to be presented to a user in the form of an object-like momentary rendition. Hence, digital objects are not fixed entities but rather technological operations emulating proxies of objects (Manovich, 2001; Ekbja, 2009; Faulkner *et al.*, 2010).

The constant mutation of bits and bytes is, on the one hand, the driving force behind as well as the source of most of the remarkable services the internet has brought forth. Especially search engines have emerged as primary information service providers thanks to the transfigurability of digital objects. On the other hand, the clear cut definition and persistency of a document, upon which archives have relied for centuries, have become less evident and need to be redefined by technological means (Hjørland, 2000). The snap-shot as such is a digital object, but its transfigurability is limited by the Internet Archive in order for the snap-shot to become an archival and quasi-persistent document. Persistency is the result of *ex-post*

2. See: <www.archive.org>.

software processes achieved through second-order technologies which are based on the same paradigm of transfigurability (Márton, 2009). In other words, while the persistency of material objects has to be preserved, the persistency of digital objects has to be produced.

As presented in this paper, the framework of digital objects confronts and, thus, illuminates the fluid and amorphous existence of ICT enabled and digitally infused social practices. The attributes of editability, interactivity, openness and distributedness as well as the modular and granular constitution of digital objects unfold a vast horizon of potentialities which may empower users in terms of accessing information or providing far-reaching channels for self-expression and creativity (Zittrain, 2008). However, one also needs to take into account the underlying technological operations going beyond the discretion and perception of the user; a complex environment of distributed and networked functionalities growing into an ever mutating information habitat (Kallinikos, 2006). Stepping into this fluid and ephemeral environment, archival institutions will need to take care of digital objects which are not able to “take care of themselves” like material artefacts (Russell *et al.*, 1999). Should

the custodians of our *digital* cultural heritage inscribe a warning onto their (digital) portals, it certainly should say “from ephemera to persistency”. Only then will we retain a remedy for ignorance.

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