MEDIA ARCHAEOLOGY AND / OR ART HISTORY. A *liaison dangereuse*

[Edited lecture for the seminar *Média Archéologie et L'Histoire de l'Art*, Centre Nationale d'Histoire de l'Art (INHA), Paris, March 6, 2015]

INTRODUCTION

Média archéologie radicale (introduction en Français)

D'abord une clarification: Il y a des média-archéologies multiples par definition des auteurs divers; comme methode et comme discipline, la média-archéologie est encore *en emergence*. Moi je

propose une version radicale de média-archéologie, en sens littéraire de "radical": *radix* en Latin (et *l'arché* en Greque) est le début, l'origin en sense temporel, mais aussi la racine en sens mathematique, le symbole "√". L'archéologie est l'analyse des structures, ne pas des surfaces phenomenales.

La notion du *média archéologie* a un double sense: "l'archéologie *des* médias technologiques", mais aussi l'archéologie *par* les médias, le point de vue techno-mathematique. Le regard et l'opération média-archéologique est d'abord une de-culturalisation[1], un act de "re-presencing" (Vivian Sobchack), et une de-historization des oeuvres de l'art.

Je ne vais pas discuter les effets indirectes des nouvelles technologies (comme la photographie ou le film) sur les oeuvres de l'art traditionelle comme la peinture et la sculpture depuis le 19ème siècle; cette influence est déjà bien integré dans les recherches historiques de l'art moderne.

Aussi je ne vais pas thématisier *media art* ou l'effet technologique sur l'esthetique est evident.

Il n'y a *pas* une rélation directe entre les études des oeuvres de l'art classiques et l'archéologie des média en sens de technologies. La média-archéologie *respecte* les euvres de l'art (la peintiure, la sculpture) comme un *autre*

- même, dans un sens surprisant, la naissance de la théorie des média était directement inspirée par le Critique de l'Art. Le théoreme central de *Understanding Media*, la publication fondatrice des études médias par Marshal McLuhan (1964) est que "Le médium est le message"; explicitement cette notion était inspirée par la characterisation de Clement Greenberg de la peinture moderniste. Média-archéologie aussi attend pour le "méssage" inscribé dans l'oeuvre de l'art, au-dehors l'individuation subjective et intentionel, mais plutôt en sens iconologique propre: des relations numérique (géometrie algebraique en sens de René Descartes).

Les liaisons entre la média-archéologie et le champ artistique sonst plus subtile - même "dangereuses" au niveau epistémologique. Cette provocation concerne le concept d'une *histoire* de l'art. A ce point je veux souligner que je ne suis pas un critique de l' histoire de l'art comme discipline academique, au contraire: Il y a une necessité pour une historiographie de l'art en sens de la contextualisation des ouevres esthétiques sur la base des archives documentaires.

Du point de vue historiciste, si l'histoire existe, il faut historisier le discours historique. Pour ca if faut prendre un point distante (critique): (media-)archépologique.

---

1 See Claus Pias (ed.), *Kulturfreie Bilder*, Berlin (Kulturverlag Kadmos) (à publier)

La relation entre média-archéologie et l'histoire de l'art est une "liaison dangereuse" parce-que "l'histoire" est mis-en-question par l'approximation media-archéologique des ouevres de l'art du passe, en faveur de decouvrier par des actes "archéologiques" des autres sedimentations du temps en pluriel ("Zeitschichten" en sense de l'historien Reinhart Koselleck).

L'exercise archéologique est le regard non-historiciste sur les objects; plutôt: le regard *temporalisante*, pour laisser s'articuler le temps-propre ("idéosyncratique") des oeuvres.

La média archéologie plutôt prend une point de vue *complementaire* (ou même alternative) à l'histoire des articulations esthétiques; le regard média-archéologique sur les ouvres de l'art du passé est radicalement non-historisante.

Attendons les peinture derivée de la passé. Le regard non-semantique sur les images artistiques: est-il possible? Pour la première fois, tels objets des musées de l'art peuvent être "interpretée" comme *imaging* par des machines, au-delà du regard anthropocentrique.

Dans la definition du "techno-imaginaire"[2] par le philosophe des médias Vilém Flusser, avec la numératisation des images, ils devient encore des "textes", et leur historicité est effacé. Aussi pour Jean Baudrillard, pour la photographie digitale, il n'y a pas du sense encore de parler de "photographie".[3]

Sélon Flusser, images traditionelles sont pre-textuelles, pre-historique (" prae-historisch,"), tandis ques techno-images (" Technobilder ") sont basées sur des textures alphanumériques, ils sont post-historiques ("post-historisch").[4]

Laissez-nous, pour un moment, suspender l'analyse des euvres de l'art de la hermeneutique des sciences humaines, en faveur d'une scientification - mais afin que dans un deuxième sense ces evidences positivistes sont reliès à l'analyse epistémologique.

Car les methodes métriques de l'investigation des oeuvres de l'art ne sonst simplement des technologies auxiliaire pour l'analyse. Dechiffré avec le point de vu média-archéologique, ces opérations sont des évenements et moments epistémologiques au même temps. Ils decouvrent le *momentum* de ce qui passe quand l'homme-auteur (l'artiste) est couplé avec la physique et le logique des matérialités appliques.

---

2 See Vilém Flusser, Into the Universe of Technical images [1985], Minneapolis (Univ. of Minnesota Press) 2011

3 Jean Baudrillard, Pourqoui tout n'a-t-il pas déjà disparu?, Paris (Les Éditions de l'Herne) 2007

4 Flusser Archiv, University of the Arts, Berlin, typescript "Von der Zeile ins Bild (zurueck)", 3

Média-archéologie pose la question: Comment les opérations calculatrice sur l'image (*image processing*) affectent la notion de l'histoire de l'art au niveau epistemologique?

[Les computations des oeuvres de l'art par les methodes des "digital humanities" sont statistiques et basées sur une epistémologie algorithmique. Est-que c'est encore humanisme numérique ("computational humanism", Roberto Busa)? En différence aux "Digital Humanities", la média-archéologie des objets d'art passé regard la materialité aussi; ce n'est pas reductrice aux opérations calculatrice. Il y a une relation *inductive* (expression electrique) entre la qualité esthétique et la qualité materielle (téchnique) d'object de l'art.]

La tension média-archéologique entre la peinture et la photographie

Walter Benjamin avait déjà interrogé la transformation de la peinture par la reproduction photographique: *aura* perdu). L'influence de la photographie sur l'(histoire de l')art est multiple:

Média-historiquement, il y avaient des nouvelles definitions de l'esthétique de la peinture (sa fonction de la *mimesis*) par l'ìmage indexicale de la photographie. A ce point une définition distincte: L'euvre de l'art n'est pas un *medium* en sense technologique. Peinture et sculpture sont des techniques culturels - toutes liées au corps humain (les mains, le regard, la procession cognitive). Mais technologie est l'autonomisation des la technique, l'automatisation; un scène fondatrice était la "liberation" des images mondiales du geste humain de la peinture par le procesus kalotypique de la photographie.

Voyons, par example, le film actuel *Mr. Turner* (2014) avec des yeux média-archéologiques: Comme dramaturgie, le film est une récit biographique traditionelle. Mais aux même temps, l'apparatus cinématographique reproduit des oeuvres de Turner qui sont *peint* avec couleurs materiaux sur un écran par projection de la lumière aussi sur un écran - l'écran de la cinéma. Un moment décisive dans le film est Turner qui regard une chemin de fer en passant, laissant des nuages de la fumée. Cet argument reste authentiquement plus vivant non-historiquement en reproduction cinématographique.

Mais dans ce contexte, rendrons l'opération archéologique à la France, mais non limité aux analyses de l'auteur Michel Foucault, plutôt au-délá: comme *média* archéologie.[5] Dans son interpretation

5 See W. E., M.edium F.oucault, Weimarer Vorlesungen über Archive, Archäologie, Monumente und Medien, Weimar (Verlag & Datenbank für Geisteswissenschaften, Reihe Medien, Bd. 4) 2000

des peintures de Edouard Manet[6], Michel Foucault sougligne l'écran plat, mais Foucault était aveugle pour les effets lumineuse de photographie qui étaient implicite ici: l'illumination eléctrique.

Média-archéologiquement, ils emergaient des nouvelles retrospectives sur l'histoire de la peinture par des opération photographiques,

comme expliqué par Herman Grimm au fin de siècle dix-neufième pour les études academiques de l'historie de l'art. Le *Skioptikon*, un projeteur des diapositives des peintures historiques, rendrait possible une analyse des oeuvres en détail par agrandissement (le regard média-archéologique) et *comparée* comme condition d'un constallation formaliste de l'art, pas historiquement (limité à la contextualisation par les textes écrites).[7]

Dans ce sens, André Malraux aussi avait identifié un *musée imaginaire* par l'ordre médiatisée: la standardisation des oeuvres de l'art par la photographie noir et blanche.

--- Pour des questions plus difficiles, il faut que je maintenant change pour l'Anglais:

THE TECHNICAL GAZE: DIFFERENT WAYS OF LOOKING AT ART HISTORY

Radical Media Archaeology and its complicated relation to the study of art history

Media Archaeology at first sight relates to technological media. Its task in relation to so-called contemporary "media arts" is to de-metaphorize its aesthetic gesture, separating truly technologically induced aesthetics from superficial effects.

But the more difficult question is this: Is there a relation between the study of works of art and Media Archaeology for times *before* technical media in the proper sense? Media archaeology is not simply an additional method to the familiar art historical analysis by describing, for example, the impact of technologies like photography on painting, and by revealing its implicit technical impact on the aesthetic message.

So-called "art history" sprang from a certain discursive necessity in the past. "Historic" research means con*text*-intensive analysis, and the linear ordering of events - mostly achieved by historiographic narrative - since the end of 18th century served

6 Michel Foucault, La Peinture de Manet [1971], in: Les Cahiers de la Tunisie, numéro spécial: Foucault en Tunisie, Tunis 1989, 61-87

7 Herman Grimm, Die Umgestaltung der Universitätsvorlesungen über Neuere Kunstgeschichte durch die Anwendung des Skioptikons, in: ders., Beiträge zur Deutschen Culturgeschichte, Berlin (Wilhelm Hertz) 1897, 276-395

to reduce the experience of growing temporal complexity since the French and Industrial revolution (Reinhart Koselleck, Niklas Luhmann). But complexity nowadays can be coped with by mathematical modelling, by computational counting with probabilities in non-linear ways.

There is "soft" media archaeology which takes care of "dead media" (Bruce Sterling) neglected in the history of culture and technology, which remembers "imaginary media" (Siegfried Zielinski) or which identifies patterns of technological recurrence ("topoi") *within* history of modernity (Erkki Huhtamo). Against the archaeological "digging" and "rediscovery" metaphor, radical media archaeology ("radical" in terms of the mathematical square root) identifies a non-historicist cut by technologies into so-called cultural history. Radical media archaeology has a sense of tempor(e)alities, but no sense of (art) "history".

Radical media archaeology - in its technically "grounded" version - takes its departure from technology in its proper sense. It concentrates on the epistemological insights which can be derived from the close analysis of electro-mechanical media, electronic media, and finally computative machines.

Technological media (photography) and the *beaux arts*

First of all let us differentiate (again and again) between cultural artefacts and technological media. Sculpture and painting can *not* be considered as *technical* media. Painting is no technical medium in itself but can be related to technical media.

The direct relation of technologies to art history as research method started with the impact of technical means of reproduction of works of art (engraving, photography, the digital scan). That has become an issue of art historical research already. But a true *media archaeology* of art does *not* start with the obvious impact of photography on hand-related arts like sculpture and painting.

In Lessing's *Laokoon* and Clement Greenberg's sense the flat surface of the painterly screen rather becomes the material "message" of the physical "medium". As has been pointed out by Greenberg in his writings on art (and later by Michel Foucault in his interpretation of Manet), modernist painting itself has (re-)discovered the grounding materiality of the rectangular canvas as the principal message. According to McLuhan who developed this insight further, it is the archaeological task of the artist to un-cover such a ground.

The discontinuity with the painterly illusion of perspective in favor of the exhibition of the flat surface by Edouard Manet itself might have been an implicit reaction to photography.

The historicist idea of art historical moments itself is a photo-realistic effect.

Painting (art work) vs. photography (technical medium)

In 1844, Henry Fox Talbot emphasized in the introductory remakrs to his publication *The Pencil of Nature*: hat the inserted photographic plates "[...] have been formed or depicted by optical and chemical means alone, and without the aid of any one acquainted with the art of drawing"[8].

But once more: We leave it to media history to investigate the aesthetic impact of photography on human works of art. Media archaeology rather identifies the epistemological aesthetics deriving from photography and its impact of looking at works of art history.

Maurice Denise's definition of art resembles Greenberg's notion of modernist painting as well as Foucault's writing on Monet and Marshall McLuhan's famous *dictum* of the medium-as-message: "[A] painting, before it is a naked woman, a horse in battle, or an anecdote of some kind, is first a flat surface covered with colored marks assembled in a certain order"[9].

It was John Ruskin who defined the painting as "technique" already, operating on the difference between cognitive aesthetics and perceptual *aisthesis*:

"We *see* nothing but flat colours; and it is only by a series of experiments that we find out that a stain of black or grey indicates the dark side of a solid substance, or that a faint hue indicates that the object in which it appears is far away. The whole technical power of painting depends on our recovery of what may be called the *innonence of the eye*."[10]

But the human eye, in its cultural education, can never be innocent. To be suspended from iconology, humans may delegate visual analysis to the electric scanner and digital imager. The result is a new, media-archaeological way of looking at paintings from the past. According to McLuhan, "the stipple of points of Seurat is close to the present technique of sending pictures by telegraph, and close to the form of the TV image or mosaic made by the scanning finger" of the cathode ray tube. "All of these anticipate later electric forms because, like the digital computer with its mulitple yes-no dots and dashes, they caress the contour

8 Henry Fox Talbot, The Pencil of Nature (London 1844; Reprint New York: DaCapo Press 1969) o. S.

9 As quoted in Moles 1968 / 2011: 265

10 John Ruskin, The Elements of Drawing [1857], in: ders.: The Works. Hg. von E. T. Cook / A. Wedderburn, Bd. 15. London (1904), 27

of every kind of being by the multiple touches of these points. Electricity offers a means of getting in touch with every facet of being at once, like the brain itself. Electricity is only incidentally visual and auditory; it is primarily tactile"[11] in terms of the electric stroke or impulse.[12] Thereby the world of the symbolic order is implemented in the electro-physical real word.

In defence of antiquarianism: Inbetween media archaelogy and history of art

What media archaeology shares with art history is *ekphrasis*, the analytic description of the essential details in cultural artefacts - be it a work of figurative art or a technological devices, both in terms of spatial co-existence of elements (Lessing 1766: painting / sculpture), and in terms of their operative *being medium* (Lessing 1766: poetry, narrative). But in this affiity, the difference becomes apparent as well: digital aesthetics of counting by numbers rather than narrative *ekphrasis*.

- De-historicizing art history means de-coupling art remaining from the past from its narrative enframing, in favour of a rather diagrammatic, non-linear time graph to dis-cover different tempor(e)alities of works of art from the past.

- To the media-archaeological analysis, a "historic" piece of art is always radically present, both in its material and its archival presence.

The *antiquarian* attitude to a material artefact from the past "is not an imperfect approximation to something else" such as a meta-physical philosophy of history behind the physical object. The antiquarian relationship to the past artefact is *transitive* and treats it in its own, intrinsic terms.[13]

It takes a "reverse engineering" of the (art) historical approach to gain back the "antiquarian" (material, sensitive) processing of works of art from the past.

The "antiquarian" (like the proper *archaeological*) method (as opposed to narrative ideology) can be positively defined as both materiality and data-orientated - both in ascetic resistance to premature "historic" narrativization.

What we look for, is media-critical antiquarianism. There has always been a double-bind in antiquarian data processing between distance and empathy, resulting from the gap beetween material

11 McLuhan 1964: 247 f.
12 See Heilmann 2010: 131
13 Stephen Bann, Clio in part: on antiquarianism and the historical fragment, in: Perspecta. The Yale Architectural Journal 23 (1987), New York (Rizzoli), 24-27 (27)

presence and the discursive absence of the past. Antiquarians tried to overcome this gap by touching and tasting the immediate material object. For antiquarians history is not just text, but the materialist emancipation of the object from being subjected to textual analysis alone. Antiquarianism ackowledges the hardware of the past as opposed to historical discourse which provides the software operating upon these data. In a digital culture of apparent virtual realities the reminder of the resistance of material world is undispensable - the more from a media-theoretical view.

Physical and computational analysis vs. hermeneutics of art derived from the past

Once culture is not reduced to semantic meaning, even algorithms which have been developed to analyze digitized works of art can be considered analytic aesthetics.

The analysis of the physical, material properties of a painting have been considered useless for the understanding of the meaning in art historical research (Panofsky[14]); this is what is aptly desscribed as "low level" properties in digital image processing as well: the internatl representation of images such as texture, shapes, hue, color distribution. So far this has been interesting for engineers only - which describes exactly the borderline between media-archaeological image analysis and iconological interpretation (visual hermeneutics).

As expressed by Henry Fox Talbot in 1844, the photographic instrument is a true media archaeologist because it is suspended from the cultural semantics of art historical value, since it "chronicles whatever it sees, and certainly would delineate a chimney-pot or a chimney-sweeper with the same impartiality as it would the Apollo of Belvedere."[15]

In his publication *The Pencil of Nature* (referring to plate III „Articles of China") Talbot already had pointed out the non-human *archival* efficiency of the photographic shot, its automatic register:

"The whole cabinet of a Virtuoso and collector of old China might be depicted on paper in little more time than it would take him to make a written inventory describing it in the usual way. The more strange and fantastic the forms of his old teapots, the more advantage in having their pictures given instead of their descriptions."[16]

---

14 See Erwin Panofsky, Meaning of the Visual Arts, Chicago, Il. (University of Chicago Press) 1955, 14

15 Ibid., Text zu Tafel II „View of the Boulevards at Paris"

16 In: Wolfgang Kemp (ed.), Theorie der Fotografie: eine Anthologie, Bd. 1, München (Schirmer / Mosel) 1980, 60-63 (61)

Wölfflin's formal language: Suspending "past" art from historical discourse

When inaugurating media analysis not only as sociological practice but as true theoretical discourse, Marshall McLuhan was not only familiar with *Art and Illusion* by Ernst Gombrich (Princeton 1960). McLuhan's media theory was even more direclty and explicitely inspired by cubism as an artistic practice in early 20th century which deconstructed the perspective 3-D illusion of flat paintings in favor of revealing its symbolical construction.

Inspired by artistic practice in modernism, media-theoretical analysis focuses on the message of the medium itself. Applied to memory agencies and especially the ‚digital archive', this method demands not only a close analysis of its different technology but a new interpretation of its different epistemological and aesthetical dimension as well. While the traditional archival format (spatial order, classification) will in many ways necessarily persist, the new archive is radically temporalized, ephemeral, multisensual, corresponding with a dynamic user culture which is less concerned with records for eternity but with order by fluctuation. New kinds of search engines will not only answer the needs of media arts but develop into a new 'art of the archive' itself.

Already Heinrich Wölfflin in his *Kunstgeschichtliche Grundbegriffe* in 1915 proposed a comparative analysis of basic forms in works of art instead of focusing on their iconological content, such as: linear vs. picturesque, or closed vs. open form.

Instead of asking how a work of art from the past effects the present beholder Wölfflin rather recontructed the set of forms which were available for arists in his epoque - the "archive" in Foucault's sense.[17]

Information theory has offered a non-cultural explanation of aesthetic value. But can it be called "art" at all when not considered in terms of cultural meaning?

The media-archaeological operation here distances art from history (for a moment) with the help of optical and image-processing technologies.

The media-archaeological procedure is dialectic. It suspends art of the past from its historiographical enframing, and then re-discuss it in terms of the elaborate *sciences* humaines (which is *both* philosophical techno-epistemology *and* computational science).

17 Heinrich Wölfflin, Kunstgeschichtliche Grundbegriffe. Das Problem der Stilentwicklung in der Neueren Kunst [*1915], Basel (18. Aufl.) 1991, 5

Media archaeology is not concerned with the *historical* past but with present re-enactions. More specifically for art history, the question is this: How can a work of art from the past, even though the mental, cultural, political (that is: "historical") context is very different, still be aesthetically exprienced, even shared by the present consumer?

Media history refers to the impact of technologies on human culture (individually and collectively). Media archaeology, on the other hand, derives insight and knowledge from the instrinsic properties of the technical and/or logical artefact directly.

COMPUTATIONAL ARCHAEOLOGY OF ART HISTORY

[Computational archaeology of art historical works]

The first revolution of art history as academic practice (if not even its condition) has been the photographic reproduction of works of art (kept in Photothèques); the second is its transformation by computational science ("Informatik").[18]

Research into technologies as generative agencies of aesthetic forms (like the impact of the camera obscura, of photography, film, video and the computer on painting) belongs to the field of media history (since it reconstructs historical interrelations between the technological *dispositif* and culture),

while the *mathematization* of the image in the Renaissance belongs to active media archaeology since it allows for a non-historicist analysis of such images, *culculating* its geometrical dimensions (as has been pioneered in the "Piero Project" for virtual navigation through the painting).

The question is what art history is confined to. Is it limited to the *beaux arts*, that is: artistic painting, sculpture and related drawings? Recently, scholars like Horst Bredekamp have started to actively include the "technical image" into art history, such as Leonardo's engineering drawings and scientific diagrams.[19]

Guerino Mazzola has been inspired by Raffael's painting *School of Athens* not as a *connoisseur* of art but explicitely as

---

18 Oskar Bätschmann, Vorwort, in: Guerino Mazzola / D. Krömker / G. R. Hofmann, Rasterbild - Bildratster. Anwendung der Graphsichen Datenverarbeitung zur geometrischen Analyse eines Meisterwerks der Renaissance, Raffaels „Schule von Athen", Berlin u. a. (Springer) 1987, IX-XII (IX), referring here to Jacques Thiller

19 See the entries "Medientheorie: Bilder als Techniken" and "Kunstgeschichte" in: Bild. Ein interdiszplinäres Handbuch, ed. Stephan Günzel / Dieter Mersch, xxx

mathematician ("als Mathematiker"). Listening to a lecture by the art historian Oskar Bätschmann on the hidden symmetries in this work of art made Mazzola envision to reveal such hidden spatial relations in a Renaissance painting applying methods of modern computational modelling, virtually tracing variances in the perspectival construction.[20] This is truly media-archaeological dis-covery of art-"historical" *implicit* knowledge in both senses: a) the methodological approach (Mazzola) and b) its non-human operation (*active* media archaeology by the computer).

On the other hand, this means: the digital image is always already an archival one; pixelwise it exists in virtual, that is: calculabe space only in an archival mode, like the score in music. With this transsubstantiation the art work is subject to techno-mathematical control - in the micropolitical and the epistemological sense.

This makes all the difference between the painterly stroke or even *pointilisme* and bit-mapped graphics.

To search the images themselves in a transitive way is the option provided by the video compression codec MP7 which "promises the ability to tag the image itself. But all these are still text-based. 'We have to write out a description for, or appended to, the image and then search for it by entering the keyword."[21] Color, composition and other image features can be directly tagged to the image - even if this is still metadata, an index, automatically or human-based. But this *textualization* of the image allows for its non-linear diagrammatic ordering. This allows - not only in film studies - for similarity-based search for images "by example", especially in big image banks like André Malraux' *musée imaginaire* - reversed, "analytic" kinematographics. Techno-mathematical intelligence is "hardware and software that turned the moving image into binary code, and once so encoded, almost anything could be done with it" <Kolker 2004: 388>.

After Kasimir Malewitsch's *Black Square* had defined the ideal grey value of painting, Wassily Kandinsky in 1912 pointed it out: "The final abstract expression of every art is a number."[22]

In the mathematical epistemology of media archaeology, there are almost timeless structures of aesthetics at work which defy the evolutionary concept of art history. There have been numerous attempts to characterize artistic creation as a set of rules such as the Pythagorean Golden Section; in the Renaissance, artists like Alberti and Dürer formalized rules for projective geometry. "Until recently, rules of this type could be expressed only in the

20 Preface Guerino Mazzola, in: same author et al. 1987: XIII

21 Robert Kolker, Digital Media and the Analysis of film, in: Schreibman et al. (eds) 2004, 383-396 (395)

22 Quoted here after: Raymond Guido Lauzzana / Lynn Pocock-Williams, A Rule System for Analysis in the Visual Arts, in: Leonardo 21, No. 4 (1988), 445-452 (445)

form of narrative writing in the native tongue of the author. With the advent of the computer, it became possible to characterize these rules formally to a computer. <...> Noll´s simulation of paintings by Mondrian is one of the arliest examples of describing an artistic style as an algorithm."[23]

Optical configurations have existed as *images* sor far only when being in communication with the human beholder who privides the iconological sense. But what happens when an art historical image is not seen by a human but by a machine? It takes a human intervention to teach art historical value to computational images; therefore a guiding principle used in image processing is "to let the user do what the system cannot achieve by itself (e.g. the characterisation of a semantic concept)"[24].

The "cold" media-archaeological gaze: Pixel analysis

Ironically, it has been a painter in early 19th century, Henri Fox Talbot, who media-archaeolgically (by means of his invention of negative-to-positive kallotype photography) radically broke with the art historical and philosophical tradition and aesthetics of *mimesis*, iconological semantics and visual hermeneutics in his definition of photography:

„The picture, divested of the ideas which accompany it, and considered only in its ultimate nature is but a succession, or variety of stronger lights thrown upon one part of the paper, and of deeper shadows on another."[25]

In an interview at Berkeley University, Foucault once answered to a student question whether archaeology is a new method or simply a metaphor. The English versions reads like this: "We <...> have the word `la arché' in French. The French word signifies the way in which discursive events have been registrated and can be extracted from the archive. So archaeology refers to the kind of research which tries to dig out discursive events as if they were registered in an arché."[26]

From a computational point of view, this is not an archival metaphor, but what the micro-processor does in visual processing

23 Lauzzana / Pocock-Williams 1988: 445

24 S. Marchand-Maillet, N. Lasri, H. Müller, W. Müller u.T. Pun, The Reality of Automated Content-Based Image Retrieval Systems, in: W. E. / Stefan Heidenreich / Ute Holl (eds.), Suchbilder. Visuelle Kultur zwischen Algorithmen und Archiven, Berlin (Kulturverlag Kadmos) 2003; see further http://viper.unige.ch

25 Henry Fox Talbot, The Pencil of Nature (London 1844; Reprint New York: DaCapo Press 1969) o. S.

26 Document D 152 (Centre Michel Foucault): "Dialogue on Power. Michel Foucault and a group of students", in: Quid, Los Angeles: Simeon Wade ed., 1976, 4-22 (Circabook), 10

is in fact assigning the image its storage locations and prodiving them with addresses.

Similarly the media-archeologists of art works (whether "historical" or contemporary") studies the *non*-discursive conditions of an emergent discursive ("art historical") formation.

It is not the high resolution of image quality which is the crucial character of its digitized reproduction (or rather: transformation) but it is its addressability at every discrete pixel element.

This is a non-social and in-human approach, since it ignores the discursive implications and the painter's intention. Here, what is called Digital Humanities, turns out algorithmically "inhuman" (but in the best sense of Jean-Francois Lyotard's essay under that name). Face recognition identifies schemes, not individuals - but this happened with the painterly perspective in the Renaissance already which subjected the painter's subjectivity to the geometrical construction (Dürer's *Underweysung der Meßkunst*). For the first time, the memory of art from the past is - once translated into the computer - computable, allowing for algorithmic analaysis such as *pattern recognition* - in large amounts unreachable for the single human mind.

An artistic answer to academic media archaeology's *distancing algorithmic* approach to art history is artistic media archaeology itself. Media archaeological art derives sparks of insight and knowledge from close analysis of technology by aesthetic means (with installations as arguments), complementary to discursive academic argumentation (media theory). These are two branches emanating from one epistemological object (the "Y" model).

Truly media-archaeological art demonstrations have been Douglas Gordon's museum film installation *24 hours "Psycho"* or Angela Bulloch's dissolving single film frames into monumental three-dimensional pixel blocks. What is both epistemologically and aesthetically attractive in dissolving a historical pinting into its raw pixel fields is its formal, not hermeneutic analysis; the cybernetic fascination of discovering governing rules which escape the traditional author's intentionality is discourse analysis in the best Foucauldean "archaeological" sense.

In a rigorous materialist interpretation of Immanuel Kant's notion of *a priori* and Michel Foucault's *Archéologie du Savoir*, media archaeology "looks" at the image on the level of its techno-mathematical existence - be it the geometrical construction rule of Renaissance perspective, or the neighborhood of pixels in a digitally sampled and subsequently algorithmically manipulated painting such as Gustav Klimt's *Freundinnen* (one of the masterpieces of the Vienna secessionists) by the Georgian artist Tea Nili:

Fig.: Tea Nili, *Freundinnen (Gustav Klimt Series)*, 2014[27] [= Klimt-Freundinnen-Pixel-1-Nili.jpg]

While humans in this image still are trapped by the iconic figures, the digital ground only gets evident in further resolution:

Fig.: Klimt-Freundinnen-Pixel-2-Nili.jpg

When compared with its "original", this is media-archaeological image analytics indeed. As described by the curator Lily Fürstenow-Khositashvili: "This unusal reduction technique reveals the pixel grids - the underlying structure of each digitally photographed image."[28] This is a media-active reduction of visual iconology to its inherent logics, to its *arché*. Such algorithmically augmented experimental search comes close to "Digital Humanities" laboratories which count with the non-human gaze of digital image processing not as substitution but augmentation of traditional humanist (art historical) image analysis. "There's a significant difference between the way our brain perceives colour spectrums as compared to the way digital photography and computer software processes colour" (Fürstenow-Khositashvili).

There is an uncertainty equation at work, known to quantum physics as well as to cognitive psychology: We see either figure or ground. The closer we recognize the slight chromoatic modulations by close pixel analysis, "the contours dissolve in abstractions with vague outlines" (Fürstenow-Khositashvili). By reducing a painting such as Klimt's *Freundinnen* to its dominant colour pixels which are green-blue and reddish-orange, Nili reveals the painter's colour palette. According to Martin Heidegger, with spectography as scientific analysis of light into wave lenghts the colour itself disappears. The closer we look at the image in media-archaeological ways, the more its cultural semantic is lost, while - the other way round - iconological analysis of art historical works misses their "mediality".

The pixel manipulation is a personal interpretaion, a subjective appropriation of the original work of art - in the best tradition of print, copper and lithographic engravings as individual "critique" of the original, "printmaking as metaphor for translation" in terms of Ségolène Le Men.[29]

At the same time, the radical pixelisation is a reminder of the

27 From: Catalogue Tea Nili. Selected Work 2012-2014, edited by Lily Fürstenow-Khositashvili, Berlin

28 Lily Fürstenow-Khositashvili, Erasure. Afterword to the catalogue: Tea Nili. Selected Work 2012-2014, Berlin

29 See Ségolène Le Men, Printmaking as metaphor for translation: Philippe Burty and the *Gazette des Beaux-Arts* in the Second Empire, 88-108, in: Michael Orwicz (Hg.), Art Criticism and its Institutions, Manchester (UP) 1994, 88-108

"blind spot" in most art-historical presentation of images from beamers in lectures: this is not the real thing.

But which is the original work of art? The traditional answer of course is to refer and return to the original work of art - which is difficult unless one visits the actual museum where it hangs at the wall.

That is why Johann Joachim Winckelmann once turned from Nöthnitz to Rome: Not being critically content with (excellent) copper engravings of ancient sculpture, he wanted to investigate the original materiality "forensically" - the archaeological gaze as such.

Let us thus focus back to the painting itself:

Fig.: Gustav Klimt, *Die Freundinnen* (1916) [= Klimt-Freundinnen.jpg]

Photographies and slide projections in art historical argumentation still had an indexical relation to the physical painting. But its digital scan is not just another "technical reproducibility" in Walter Benjamin's sense, but a complete transsubstantiation of its epistemological essence: its informatisation, which makes it accessible for the most intelligent mathematical operations on the one hand, and exhaustive manipulation on the other.[30]

There is a "metaphysical moment(um)" (Eivind Rossaak) in the analog-to-digital conversion of material artistic images inherited from the past.

Let us therefore focus this momentum of digitizing a historical work of art.

Ce que se passe en moment du *sampling* (et quantisation / numéritasiation) analog-digital d'oeuvre: Parallel au regard humain sur l'art de passé, un autre "regard" non-humain (même un resultat culturel) a lieu:

With digitization, a dramatic metamorphosis takes place where hand-made art is transformed into computability:

Fig.: Diagramm-sample-and-hold.pdf

This is not just a further version of the "metaphysical" optical camera / material art work constellation, but an epistemological *transsubstantiation*. Digitalization can only be a filter of the material work of art, not the indefinite variability of the physical surface (or even essence) - even not by "oversampling".

30 For such reflections on the changing nature of the photographic image, see Jacques Derrida and Bernard Stiegler, Echographies of Television, Cambridge (Polity) 2002

Therefore computational theory nowadays strives for "physical modelling", reconstruction the object from its material basis, its physical "grains" - like the surface of a marble sculpture.

The oblivion of the algorithmic transformation of an art historical image into a mathematical function, from the point of view of media archaeology, is one of the most fundamental sins of art historical presentations. Who should be critical of the nature of the digital image in present culture if not the science of art history? What what if art history itself ignores here to reflect its own academic practice?

Therefore: *attention*, what we see here is not the Klimt original in its own materiality, but rather its digital simulacrum.[31]

In juxtaposing Gustav Klimt's *Freundinnen* with Tea Nili's pixelized interpretation on the computer screen, what we compare is a digital image with a digital image. Not Klimt's painting has been manipulated but its "binary photography", its informational reproduction, its "technical image" in Terms of Vilém Flusser.[32] According to his media philosophy, the alpha-numeric codification of an image is iconoclasm,

and at the same time accepting the language of digital economy. The binary "textualization" of a painting transforms it into a formal language which returns with the QR Code (a Barcode) which becomes "readable" by downloading a software scanner, commercially called very appropriately an "Imager", as an "App" on private iPads, iPhones, iPods or an Android Smartphone.

Images can therefore be "read" (deciphered" as texts (character strings), whereas *vice versa* conventional alphabetic texts can be transformed into statistical diagrams which look like images. Thereby a whole printed edition of Immanuel Kant's *Kritik der Urteilskraft* can be compressed into a statistical graph - but this is an image no more but a diagram[33]:

Fig.: TEXT-STATIST-KANT-ROCH.gif

Mapping of an image from the external world onto the memory of a digital camera *via* CCD sampling is already a translation of the physical world into an information which does not even fulfil the criterium of an archival document in its jpg format which is lossy compression. "As a result of radical image decomposition pixels and pixel groups arranged into chromatic colour orders emerge" (Fürstenow-Khositashvii).

---

31 See Jean Baudrillard, Pourqoui tout n'a-t-il pas déjà disparu?, Paris (Les Éditions de l'Herne) 2007

32 Vilém Flusser, Die Auswanderung der Zahlen aus dem alphanumerischen Code, in: Dirk Matejowski / Friedrich Kittler (Hg.), Ende der Schriftkultur, xxx

33 See Axel Roch, Texte als Bilder lesen, in: online journal *Verstärker*, xxx

The crucial question in digital analytics of cultural images is this: Does such an analysis reveal art historical meaning or rather the message of the machines itself? "The sets of patterns otained by means of gradual eraseure procedure", even if manipulated by the artist Nili by means of Photoshop software, "belong to the order of the machine. It's perception of colour is hypnotic yet dehumanised". "The rhythm of patterns in Nili's photographs <...>, the possibility of colour variations is strictly delimited by the software program" (Fürstenow-Khositashvili) which - in the precise sense of Foucault's definition of *l'archive* - governs what can be expressed and perceived. All would be different if the artist became a painter again, "painter" in a second order observation: programming the algorithm herself.

A picture which is computationally interpreted as an arbitrary, cultural, neg-entropic configuration of picture elements (or painterly strokes) can be set in motion by a color similarity sorting algorithm which step by step deconstructs its iconological meaning towards a histogram.

[A flash animation on the *Searching Images* project homepage expresses this guiding research assumption by algorithmic means:

Fig. *online*: www.suchbilder.de]

Such is the "surgical" gaze described by Walter Benjamin for the age of photography and film - a "cold gaze" which fascinated Ernst Jünger in his description of the painless body. But what makes it so attractive for the contemporary artists to elementarize and to alter an image by reducing it to the pixel level is not simply any visual artefact but the fact that it is the digital version (the information) of an art historical painting: "Citations from art history - the history of painting and film are essential in Tea Nili's oeuvre" (Fürstenow-Khositashvili). Is it cultural semantics which "begeistert" the techno-archaeological museum?

Visual analytics: Warburg vs. Manovich

With so-called digital culture, the alphabetic memory returns again - but this time from within the alphanumeric code which is invisible to most human users of such technologies. All of the sudden, on a few Compact Discs, the whole collection of an art museum could be addressed. Such digital sampling transforms the cultural and ethic essence of such a memory, and which are the mnemo-*generative* capacities of recorded data? By analog-to-digital conversion, the representations of art historical works can be stored on digital media not only for archival preservation or televisual broadcasting but in addition for *processing*; this allows the coupling of such cultual-aesthetic memory to

mathematical intelligence.

Art historical *ekphrasis* has so far been logocentristic. But there is a computational alternative to adressing images by words which is creating content-based descriptions from a digital image file itself:

"The content-based work most notable for arts and humanities focuses on the recognition and descripton of color, texture, shape, spatial location, regions of interest, facial characteristics, and specifically for motion materials, key frames and scene change detection. One goal of content-based work is to provide algorithms that can automatically recognize the important features contained in an image without human intervention in the process."[34]

This does not impoverish but enrich the world of artistic research and brings us to the research tools of so-called Digital Humanities, its limits and transgressions when compared with traditional studies of images.

- A non-historical approach to art works from the cultural past by mapping its photographic reproductions has been performed by André Malraux' *musée imaginaire* and Aby Warburg's noteworthy *Mnemosyne Atlas*. Warburg's method of tracing the tentatively "unconscious" cultural memory of visual gestures (derived from antiquity and re-activated in the Italian Renaissance) itself was performed on a technical medium basis, which is: black & white photographies of works of art which could be associatively arranged and re-configured on a black board at Warburg's Kulturwissenschaftliches Institut in Hamburg.

Fig.: A Photo szenario from *Mnemosyne* Atlas [= Mnemosyne-Atlas-Panorama.jpg]

Whereas the scholarly publication of Warburg's *Mnemosyne Atlas* inevitable freezes such dynamic reconfigurations in momentary snapshots, its digital publication at least allows for dynamic access to the single elements of such visual tables and their reconfiguration.

Probably the cultural *unconscious* memorizes images like a visual search machines indeed, whereas art history is the academic skill of identifying the iconological and semantic vectors in their thick cultural context. This can not be performed by a machine which can only operate with exact data. Turing machines in their strict syntax and therefore Artificial Intelligence necessarily miss the cultural semantic ambivalences.

Is this a deficiency to be eliminated by "cognitive" or "neuronal"

34 Donna M. Roman, Image and Multimedia Retrieval, Diskussionspapier des Getty Information Institute (vormals The Getty Art History Information Program), last revised: 1995-09-26

computing or rather an alternative to be cultivated to enrich the notion of cultural memory by non-human points of view?
The human brain itself operates by association which is explicitely emulated by similarity-based retrieval algorithms like the Kohonen Self-Organizing Map[35] which, in turn, has been applied by George Legrady's media art intallation *Pockets Full of Memories* in the Paris Beaubourg. The "historical" (evolutionary) order of visual motives is here replaced by minute recognition of differential values (the *Delta* drive):

Fig.: Legrady-Pockets-SOM.jpeg

Experiments with the art historical archive: Histogrammatology

Let us imagine "experimental archives" different from the well-organized institutional art historical image repositories. Electronically sampled analog images can be digiallty quantized and thereby transformed into a vast data set, to make them assessible to truly image-based search operations such as matching of similarities, object feature detection, statistical colour value comparision, entropy. Lev Manovich develops this approach in his essay "How to Compare One Million Images?"[36]

In an effort to achieve non-iconologic analysis of images, the *Active Archive* project of the Brussels based artistic research group Constant applied algorithmic processing of digital scans of the huge photographic archive of the Norwegean avantgarde author Ansgar Jorn.

"These digital images are made of pixels rich in color informations, but how can one 'order' by color? What is a significant color information? Contrarily to human intuition, for a computer, a white image is an image saturated with red, blue and green. <...> Ordering is then not only following the raw values coming from the digital objects but already transforming them in dialog with a certain understanding of human perception."[37]

Towards a new notion of "art" inherited from the past, the algorithmic analysis of paintings identifies a non-ocular aesthetic essence of images which can only be *art*iculated by computational, that is: informational means.

Looking at images the way a scanner does it results in a new art of the archive indeed: the experimentation with histograms for exploring the digital photo-archive.

35 See Teuvo Kohonen, Self-Organization and Associative Memory, Berlin / Heidelberg / New York / Tokyo 1984
36 In: Understanding Digital Humanities, edited by David M. Berry, Basingstoke (Palgrave Macmillan) 2012, 249-278
37 http://guttormsgaard.activearchives.org, "eleven orderings: guttorm guttormsgaard"

Fig.: Sorting images accordings to their color histogramms by Active Archives [= Histogramm-folder.jpg]

An image histogram is a media-archaeological, non-iconic way of looking at one and the same photographic picture. This tool is well know from current digital cameras where photographer *a priori* use them as an aid to show the distribution of tones captured. A histogram "acts as a graphical representation of the tonal distribution in a digital image. It plots the number of pixels for each tonal value."[38] By looking at the histogram for a cluster of images a viewer will be able to judge the entire tonal distribution at a glance" - a truly analytic form of *visualizing images*, revealing their immanent, implicit iconicity.

With the current digitalization of most concentional image collections, the temptation is there "[...] to replicate already known models like a database with standard field descriptors and an interface for public consultation mimicking the photo album."[39]

But the alternative media-archaeological approach takes the digital scan at its face value. Since the digitization of an image is not only a practical conversion from one format to another, "<...> the digitization changes the ontology of the archive itself. <...>. The DNA of a digital image is a matrix of pixels that can be manipulated mathematically and allows for a very different set of operations <...>"[40] when compared to the traditional iconological art historical approach.

Informational aesthetics: Entropy instead of (art) history

Media archaeology, when confronted with artefacts from "art history", does not historicize them but continues the cybernetic approach. Informational aesthetics (as developed by Abraham Moles[41] in France and Max Bense in Germany) had a media-archaeological *(avant la lettre*) way of looking at an art work from the past.

On the structural / structuralizing level, optical techniques (later: technologies) like the *camera obscura* have always already co-determined the individual work of art - but exactly not on the level of its individuality. William Turner's colour clouds are not directly an effect of contemporary media technologies but rather an *aesthetic* symptom of a new 19th century epistemology which in

38 http://sissv.activearchives.org/w/Histograms_in_the_distance (accessed January 5, 2015)
39 http://sissv.activearchives.org/w/Welcome_to_the_Digital_Darkroom (Abruf 11. Dezember 2014)
40 http://sissv.activearchives.org/w/Welcome_to_the_Digital_Darkroom (Abruf 11. Dezember 2014)
41 See A. Moles, Information Theory and Aesthetic perception, Urbana, Ill., 1966

other fields manifestated itself as statistical mechanics (thermodynamics)

Bense in his effort to reach "exact aesthetics" identifed the *aesthetic state* as the "energy" of an artistic object, resulting from the mathematically contrary components order and complexity as previously defined by Birkhoff.[42] According to Birkhoff, the "aesthetic measure" (M) equals the ratio of order (O) / complexity (C), oscillating around the borderline between O and C.[43] The less a work of art is redundant (responding to the already known), the more it is *informative* in the engineering sense as developed by Claude Shannon's in "A mathematical theory of communication" (1948). Therefore "entropy" as a measure in works of art is a category born from information engineering.

The art historian Rudolf Arnheim in his booklet *Entropy and Art. An Essay on Disorder and Order* once demonstrated what an entropic measure of a piece of art history <Poussin ?> looks like:

Fig.: Rudolf Arnheim, Successive "entropization" of a historical painting[44] [= ENTROPIE-ARNHEIM.jpg]

William Turner's painting *Rain, Steam, Speed – The Great Western Railway* from 1844 - which coincidantally is the year of the publication of Talbot's *Pencil of Nature* - already demonstrated a painterly alternative to the indexical claim of the photographic trace: painterly tempor(e)ality, physical entropy. His physical "medium" is color painting itself, not the referential illusion, a "flat" indexicality.[45]

Fig.: Turner-Rain-Steam-Speed.jpg[46]

For Arnheim, though, this was meant as a critique of the transfer of notions of information theory into the field of art, criticizing that the oveall concept of entropy as temporal vector ignores the art historically derived structure of form and suggests that we must (re-)turn our gaze to the "preserved islands of order everywhere"[47] - which chaos theory (Iliya Prigogine) would

42 Max Bense, Ästhetik und Programmierung, in: Bilder Digital. Computerkünstler in Deutschland 1986, ed. Alex u. Barbara Kempkens, München (Barke) 1986, 22-30 (22). See Fig. *Das physikalische Unordnungsschema im Verhältnis zum ästhetischen Ordnungsschema*, in: Bense 1986: 29

43 G. D. Birkhoff, A Mathematical Approach to Aesthetics, in: Scientia,September 1931, 133-146

44 From: Entropie und Kunst: Ein Versuch über Unordnung und Ordnung, Köln 1979

45 See Dieter Rahn, Das Auge der Malerei. Farbe und Natur bei Turner und Monet, in: xxx, 113-128

46 http://de.wikipedia.org/wiki/Rain,_Steam_and_Speed_%E2%80%93_The_Great_Western_Railway (accessed 11. Dezember 2014)

47 Rudolf Arnheim, Entropy and Art. An Essay on Disorder and Order, Berkeley / Los Angeles / London (Univ. of California Pr.)

call *strange attractors*.

As the most extreme exemplars "of what he saw as entropy gone mad" Arnheim referred to minimalism, experimental music and avant-garde film[48] - which is exactly where art history ends and contemporary art begins.

Truly media-archaeological de-historization results in the intellectualization of art from the past - in the sense of computational *intelligence* (information theory), replacing stylistic interpretation by, e. g., signal-to-noise ratios and entropy values.

Technical image reproduction and entropy: A xerographic *mise-en-abîme* of art historical paintings

Economical display of paintings according to their formats has not only be a practical concern in Baroque collections of painting but has become the subjects of paintings itself, in the genre of gallery images as literal *imaginary museums* as painted by Panini, Téniers, or Frans Francken II:

Fig.: Frans-Francken-II-Bildersaal.jpeg

When a photographic reproduction of this painting is subject to xerographical miniaturization which then in return is being magnified again, it is subject to gradual entropization:

Fig.: "Umzeichnung des Gemäldes 'Der Bildersaal' von Frans Francken II. Ausschnitte aus dem Prozeß einer fünffachen Verkleinerung und anschließender fünffacher Vergrößerung. Konzept: Ulrich Giersch"[49] [= 3 x Frans-Francken-Umzeichnung-Giersch (I-III)]

Whereas the machine has no criterium at what point a picture is not a picture any more but a shere random distribution of grey or color versions (the media-archaeological perspective), only to humans there is a threshold of figurative sens. Emmett William has experimented with the cognitive borderline between what can still be perceived as a meaningful image and an informal electro-static xerographical distortion;

1971, as quoted in: Susan Ballard, Entropy and Digital Installation, in: Fibreculture Journal 7 (2005); *online* http://journal.fibreculture.org/issue7/issue7_ballard.html (Zugriff November 2007)

48 Ballard ibid.

49 From: Ulrich Giersch, Zettels Traum. Fotokopie und vervielfältigte Kultur, in: Harry Pross / Claus-Dieter Rath (eds), Rituale der Massenkommunikation. Gänge durch den Medienalltag, Berlin 1983, 59 f

the American artist Ian Burn 1968 proved that even an empty paged, re-xeroxed a couple of time, generates entropic distribution of traces.

What do such operations add to a contextual knowledge of Frans Francken's *musée imaginaire*? Nothing; for that we still need art history as research skill. But to optical organs which look at such art museum pieces from outside historical discourse it allows to assign it a place in a cultural ~~historio~~graph of elementary shape distribution - dehistoricizing art history.

THE NEW MUSEUM: ALGORITHMIC SORTING OF IMAGES

Sorting images according to formats: The old and the new museum wall

Edmund Husserl a descrivé l'effet muséal des peintures qui representent soi-mêmes des galéries des tableaux:

"Un nom prononcé devant nous nous fait penser à la galerie de Dresde ... Nous errons à travers les salles ... Un tableau de Téniers ... représente une galerie des tableaux ... Les tableaux de cette galerie représentent à leur tour des tableaux, qui de leur côté feraient voir des inscriptions qu'on peut déchriffrer, etc."[50]

Nowadays it is the computer which "deciphers" such images as data-sets. When visual content of museums - once it hat been digitized like in Picture Disk editions of art historical works - becomes alpha-numerically addressable, new options of mobilizing the inherent information by intelligent algorithms is possible.

In fact the storage of picture content in computer memory adopts the "St. Petersburg hanging" according to spatial economy of formats rather than according to subjects or as historical unfolding in period rooms.

Digitally interfacing the museum from within: *Metasyn* and new options of sorting images in space

What happens if the user-friendly virtual interfaces which museums have created for the Internet public re-turns (into) the museum space itself? The Museum of Contemporary Art in Roskilde (Denmark) has experimented with *Metasyn* for example,

"an interactive visualization that gives visitors an insight into the collection <...>. The content of the visualization is based on

50 Cité par Jacques Derrida, La voix et le phénomène, conclusions finales

the museum's database and the analogue video and sound sequences that have been digitzed to date. The physical interface constists of a six-meter-wide, slightly concave screen and a handheld poiting device that rests on a cylindrical mount. On the screen, more than 1,000 physical objects from the ocllection and more than 2,000 digitized sequences originating from those objects are represented as icons in three-dimensional space. Using the pointing device, visitors can look around and nagivate quickly through the collection."[51]

"At the Macro level, the entire collection is presented in a diagram where a single selected object is put into the context of the whole. A horizontal timeline, spanning approximately a century, divides the digitized sequences in the upper hal from the physical objects in the lower" <91>. "It's possible to fly back or forth in time to hear and see how the ideas, styles, and use of technologies gradually change in the art works. <...> the naviation clearly reveals time-based delvelopment in the museum's various and changing areas of interest" <93>.

Art history and the (new) museum

What is called "history of art" already looks to me like a museum world. The museum played an active part in establishing the *dispositif* for the notion of art history. Friedrich Schinkel's Altes Museum Berlin was built almost under eyes of the philosopher Hegel who lived opposite at Kupfergraben. In his *Phenomenology of Mind* he had already compared the passage of "spirit" thrugh the epoques of history like a walk through a pictures gallery; this philosophical hallucination now became *dispositif muséal* of art historical arrangement of pictures.[52]

But all of the sudden, the non-iconological and non-historicist "Petersburg hanging" of pictures according to their formats returns with algorithmic sorting of digital images.

The chronological hanging of pictures and placing of monuments in cultural museums, such as started past 1800 in the Alten Museum in Berlin (in sight of Hegel's former house) is philosophically reflected in the final passages of Hegel's *Phenomenology of Mind*.[53] It is the historical (progressive, evolutionary) order of traditional museum object placement which is being de-constructed

51 Carl Emil Carlsen, Metasyn, in: Re.Action. The Digital Archive Experience, hg. v. Morten Sondergaard, Aalborg (Aalborg UP) 2009, 89-97 (89)

52 See Friedrich Kittler, The Museum at the digital border, xxx

53 Friedrich Kittler, Museums on the Digital Frontier, in: Thomas Keenan (Hg.), The End(s) of the Museum, Barcelona (Fondació Antoni Tápies) 1996, 67-80 (68)

by the recombinant computing power of the virtual, that is: algorithm-based museum, resulting in a kind of dynamic, never-final archive:

"Digital archiving could break up the alliance that the museum has maintainted with history or even historicism since 1800. The chronological sequence, as the emptiest of all kinds or order in which stored things are to be put, could be replaced by an order of co-presence once their combinatory connections were located."[54]

"[...] so too should digital archives give the museum combinatory power."[55]

The Media Lab at the Rijksmuseum Amsterdam has developed the Web Portal *Rijksstudio* to become one's own virtual curator[56]; and the Tate Britain in London has initiated the *Tate Collective*, a room in the center of the gallery as experimental space for virtual sorting of images, experimenting with other forms of picture display on the museum walls. The St. Petersburg hang for example connects closer to the visual experience in current Web 2.0 photo and video microblogging platforms like www.tumblr.com or YouTube.

The Virtual Curator which has been developed as software in the Rediffusion Simulation Research Centre at the University of Brighton is an authoring environment which enables the user not just to walk at random but to work within the metaphor of the museum. "The user has access to a museum store of objects that are unclassified. They are able to classify the objects and sort them into groups. <...> The software <...> offers the user an active role."

Andy Warhol once proclaimed: The best museum is a department store.[57] What is known in economy as "chaotic shelfing" for storing objects in magazins, corresponds with dynamic storage in Random Access Memories within computers. So let us media-archaeologically cultivate the informative dis-ordering of art history.

---

54 Kittler 1996: 75
55 Kittler 1996: 74
56 https://www.rijksmuseum.nl/en/rijksstudio
57 As quoted beforehand in the thematic issue "Leegte / Emptiness", in: Mediamatic 3#4 (Juli 1989), 195