

PARA-ARCHIVAL DATASCAPES

Since the Internet is transversive communication¹, its memory does not endure² but rather consists of a series of temporal units, with the archival paradigm being replaced by (algo-)rhythmic transfer.

Within the notion of cyberspace, „space“ itself is already a metaphor for something which might rather be described in topological, mathematical-geometrical terms. *Cyberspace* is not a new place (*locus*) of memory, but the transformation of *lieux de mémoire* into knots and nets of data transfer. While still being infrastructurally grounded in physical places and techniques, the virtual addresses exist in mathematical topologies only.³

With supremacy of selection over storage, addressability over sorting, archival terminology - or rather the archive itself - becomes literally *metaphorical* - a function of *transfer* processes. From location to pure address: „Only what has been stored can be located“ - rather *vice versa*.⁴ In this sense the Internet generates a „new culture of memory, in which memory is no longer located in specific sites or accessible according to traditional mnemonics, and is no longer a stock to which it is necessary to gain access, with all the hierarchical controls that this entails.“⁵ The matter of memory becomes an effect of techniques of recall. "The debates around the future development of WWW centre on the issue of whether the web is simply a technique of recall from a global archive, or whether it marks the beginnings of a new, inventive relationship to knowledge, a relationship that is dissolving the hierarchy associated with the archive." <ibid.>

As a machinic network of finite automata (a kind of techno-rhizome) the Internet does not provide for an organized memory; there is no central automat. The Internet is being defined by the circulation of discrete states only.⁶ Thus the net is conform with radical constructivism in philosophy: Phenomena are always being created actually, but not as permanent or storable entities.

The Internet *as* archive at all?

1 See Pierre Lévy, *Cyberkultur. Universalität ohne Totalität*, in: *telepolis. Die Zeitschrift der Netzkultur* Nr. 0, Bollmann Verlag, Mannheim 1996

2 Christoph Drösser, *Ein verhängnisvolles Erbe*, in: *Die Zeit*, 23th June 1995, 66

3 See Albert Lichtblau, „Cyberspatial Monuments of Memory“, 234ff, in: Gerfried Stocker / Christine Schöpf (Hrsg.), *Memesis. The Future of Evolution*, Wien / New York (Springer) 1996

4 Harriet Bradley, *The seductions of the archive: voices lost and found*, in: *History of the Human Sciences* Vol. 12 No. 2 (1999), 107-122 (113)

5 Howard Caygill, *Memo and the Internet: between memory and the archive*, in: *History of the Human Sciences* Vol. 12 No. 2 (1999), 1-11 (10). See Lisa Jevbrett's *visualization of the Internet by a coloured array of its fabric of IP-addresses*.

6 Gilles Deleuze / Félix Guattari, *Tausend Plateaus. Kapitalismus und Schizophrenie*, a. d. Frz. v. Gabriele Rick / Ronald Vouillié, Berlin (Merve) 1992, 31 u. 36

The term "archive" is applied to legal and administrative memory institutions. But in this should be differentiated from storage media. "The possibility of using a hypertext network as a universal archive is a dramatic development."⁷ But does such a net fulfill the criteria of an archive proper, and second, is such a network of archival value as such? The servers of *archive.org* (located at the University of Berkeley) undertake the memorization of the Internet as represented in websites, but the Internet is rather about links than about storage.⁸: "Das Internet ist nicht *per se* archivierungswürdig. Das Internet ist auch kein Archiv im Verständnis von ArchivarInnen."⁹

Even the primary effort of conventional archival labour is separation and exclusion rather than storage: "Le travail en archives oblige forcément à des opérations de tri, de séparation des documents. La question est de savoir quoi trier et quoi abandonner."¹⁰ What separates the internet from the classical archive is that its mnemonic logic is more dynamic than the culturell memory in the printed archive. Still, the Internet still orders knowledge: apparently without providing it with irreversible hierarchies any more (on the visible surface), but on the other hand the authoritative archive of protocols is more rigid than any traditional archive has ever been. Traffic overload in the computer networks led the Clinton administration to build a new, separate system - the Internet II, restricted to scientific (and military) communications.

The internet adopts the so-called *chaotic storage* method known from economy: "[T]he World Wide Web and the rest of the Internet constitute a gigantic storehouse of raw information and analysis, the database of all databases. <...> The more serious, longer-range obstacle is that much of the information on the Internet is quirky, transient and chaotically 'shelved'¹¹ - *organizational memory* rather than archive in the conventional sense.

Navigating (in) the archive

The archival definition of the basic unit of archives, the *fond*, is an "[e]nsemble de documents, quels que soient leurs formes ou leur support matériel, dont l'accroissement s'est effectué d'une manière organique, automatique, dans l'exercice des activités d'une personne physique ou morale [...] sans jamais le démembrer."¹² The internet "archive", on the contrary, has become radically temporalized. It is rather hypertemporal than hyperspatial. The difference between the classical archive and the Internet is its dynamic, no more just passive option. Such is the use of the term "archive" in the Internet itself,

7 Theodor H. Nelson, *Computer Lib - Dream Machines* [*1974], Redmont, Wash. (Tempus Books) 1987, 33

8 See Howard Caygill, *Meno and the Internet: between memory and the archive*, in: *History of the Human Sciences*, Vol. 12 No. 2 (1999), 1-11 (2)

9 Andreas Kellerhals-Maeder, *Archive in der schönen, neuen Welt. Auf dem Weg zu einer klaren Position*, in: *Geschichte und Informatik* 12 (2001), 89-108 (95)

10 Farge 1989: 87

11 Editorial: *The Internet. Bringing order from chaos*, in: *Scientific American* vol. 276 no 3, march 1997, 494 (49)

12 J. André, *De la preuve à l'histoire, les archives en France*, in: *Traverses* 36 (January 1986), 29

indicating its shift of emphasis on realtime or immediate storage processing, on fast feedback. Hypermail, e. g., has been a program that takes a file of mail messages in UNIX mailbox format and generated a set of cross-referenced HTML documents, so that the entire mail "archive" could be browsed in (literally) "a number" of ways.

There has been a definition of the function of archives in the internet in a narrower, precise meaning: "It was soon realised that each site providing its own anonymous *ftp* area with its won material would make it difficult to find and catalogue the information available. The answer to this problem was to provide archives; machines dedicated to the task of serving files via anonymous *ftp*. These archives collect together material from other anonymous *ftp* areas scattered through the Internet and present it in a single location. The job of the archive maintainers is to keep the archives up-to-date and to try and organise them in an orderly fashion."¹³

With Internet search engines like *Netscape navigator*, hyperspace remembered its essence in the etymological sense: cybernetics, that is: navigation of a ship on the basis of negative feedback steering.¹⁴ With symbolically coded voltage, the „taste of the archive“ as described by Arlette Farge has gone: „Elle est difficile dans sa matérialité“ <Farge 1989: 10>; by its organization in logical circuits, it still does not become amorphous. "Celui qui travaille en archives se surprend souvent à évoquer ce voyage en termes de plongée, d'immersion" <Farge 1989: 10> - a cyberspatial key notion indeed.

The power of archival memory resides not in the stored data, but in the external inventories which make data accessible at all. By making (once digitized) visual memory accessible *from within* (f. e. by search engines like QBIC which strive for image-based image retrieval by similarity or „query by image content“), a real iconic turn has been achieved. The technical dispositive gains power over the cultural imaginary.

To what degree is the Internet archivable?

Is there a cultural need for digital time-capsulas? The loss of websites from the Internet is symptomatic for the systematic disappearance of digital cultural commodities. "It will take many years before an infrastructure that assures Internet preservation becomes well established"; media archivology attends to the chance to trace an emerging new medium *in statu nascendi*. Otherwise, "the opportunity to capture a record of the birth of a new medium will then be lost"¹⁵ - memorizing the new-born internet in realtime.

The two bodies of Internet memory are both physical and topological. The *Internet Archive* "may provide the raw material for a carefully indexed, searchable library. The logistics of taking a snapshot of the Web are relatively simple. <...> The software on our computers `crawls´ the Net - downloading

13 "Information and archives on the Internet",
<http://www.hensa.ac.uk/www94/internet.html>

14 See Wiener 1948

15 Kahle 1997: 83

documents, called pages, from one site after another. Once a page is captured, the software looks for cross references, or links, to other pages. It uses the Web's hyperlinks - addresses embedded within a document page - to move to other pages."¹⁶

Archival temporality is fractioned into hardware: „We chose hard-disk storage for a small amount of data that users of the archive are likely to access frequently and a robotic device that mounts and reads tapes automatically for less used information. A disk drive accesses data in an average of 15 milliseconds, whereas tapes require four minutes. Frequently accessed information might be historical documents or a set of URLs no longer in use."¹⁷

Internet memory becomes differential, in terms of Delta-coding: „We plan to update the information gathered at least every few months. <...> In future passes through the Web, we will be able to update only the information that has changed since our last perusal."¹⁸ Such an "archive" can only be a selective mapping, a sampling of the Internet (while dynamic objects and the "secret Web" escape). „Still, the archive gives a feel of that the Web looks like during a given period of time even though it does not constitute a full record."¹⁹

Not only data, but their formats ask for preservation: "The Commission on Preservation and Access in Washington, D.C., researches how to ensure that data are not lost as the standard formats for digital storage media change over the years. In another effort, the Internet Engineering Task Force and other groups have labored on technical standards that give a unique identification name to digital documents. These uniform resource names (URNs) <...> could supplement the URLs that currently access Web documents. Giving a document a URN attempts to ensure that it can be traced after a link disappears."²⁰

Dissimulations of the cyberspatial techno-archive: virtual waste land

Internet communication has made the ("old European") user accustomed to the shift from a culture of storage to an accelerated notion of "delayed transfer" (a term keyed by Jack Goody).²¹ But there is a loss of the catechontic quality of deferral in cyberspace, undoing "tradition".

Hardware itself seems to be forgotten in metaphors like "cloud computing". David Gelernter formulates the ultimate goal of all software "to *break free of the computer*, to break free *conceptually*. <...> Cyberspace is unlike any physical space. The gravity that holds the imagination back as we cope with these strange new items is the computer itself, the old-fashioned physical

16 Brewster Kahle, Preserving the Internet, in: Scientific American, vol. 276, no 3 / March 1997, 82f (82)

17 Kahle 1997: 83

18 Kahle 1997: 83

19 Kahle 1997: 83

20 Kahle 1997: 83

21 See Stefan Iglhaut, Vom Archivieren zum Navigieren. Anmerkungen zu 'Deep Storage' und zum Medium der Verfügbarkeit, in: Deep Storage. Arsenal der Erinnerung: Sammeln, Speichern, Archivieren in der Kunst, ed. Ingrid Schaffner / Matthias Winzen, Munich / New York (Prestel) 1997, 174-176

machine. <...> every key step in software history has been a step away from the computer, towards *forgetting* about the machine and its physical structure and limitations – forgetting that it can hold only so many bytes, that its memory is made / of fixed-size cells, that you refer to each cell by a numerical address.²²

Against the totalizing vision of virtual storage, the Internet might actually reveals its impossibility of being an archive. „Dump your trash“ is a call to use the Internet as a virtual copy machine of information recycling²³; the server *sero.org* helps to turn webpages into a seemingly dusty inscription.²⁴ The company Imagex has created a machine called *Decopier* which sucks printing out of xeroxes to render an empty page. And a couple of artists have created artificial information deserts and voids in cyberspace indeed, such as Mark Napier (New York) with his project *The Landfill*, turning any content of webpages into graphical raw material. Once again, aesthetics turns out to be ideological, since it sublimely hides the digital truth behind the interface simulacra. The more radical version, though, is the cookie / program *ArchiVirus* created by Manu Luksch, Arnim Medosch and R. Steckel (to be copied from the internet on one´s own computer. Then it decomposes textual documents on the hard disk into its ingredients; alphabetically sorted, all the letters of a file appear on the screen, sense-less, but as a kind of raw material for composing new texts. This is a kind of *reverse engineering* of the archivo-literary phantasies developed by Leibniz and Jorge Luis Borges, from letters to litter.²⁵

22 David Gelernter, *Machine Beauty*, New York (BasicBooks) 1997, 22f

23 Joachim Blank / Karlheinz Jeron, *Information-Recycling*, in: *netz.kunst. Jahrbuch für moderne Kunst 1998/99*, Nürnberg 1999, 92-99

24 See **Baumgärtel 2000: 178**

25 See W. E., *Bauformen des Zählens. Distanzte Blicke auf Buchstaben in der Computer-Zeit*, in: Eckart Goebel / Wolfgang Klein (Hg.), *Literaturforschung heute*, Berlin (Akademie) 1999, 86-97