NON-HUMAN MEMORY, TECHNO-TRAUMATIC MEDIA TIME: On asymmetries between historical testimony and storage-based forms of re-presencing

[Related to lecture at workshop Hebrew-University, Jerusalem, 29 / 30 April, 2015]

Media testimony and the indexical trace: from analog to digital

The focus of the following text will not be on asymmetries between historical testimony (which is related to human narrative and historiography) and technical recording, but rather concentrate on asymmetries between analog transduction and digital sampling of such testimony.

When human eye- and ear-witnessing is delegated to the technical apparatus in order to achieve "immediate" testimony, the anthropocentric notion of "memory" itself becomes metaphorical and needs to be replaced by its analysis as *bodyless recordings*. Not only does historical testimony change in that electronically mediated context; with digitization it risks to loose its historicity at all.

In his analysis of memory systems, Klaus Krippendorff differentiates between *memory involving records* which depend on (at least intermediary) fixation of records worth of remembrance and almost memoryless *reverberating circuits*. But in administration there is a third form of memory at work: *structual memory*.[1] The notion of such a functional memory, in times of media culture, needs to be extended to the technological condition itself, to its techno-archival infrastructure. Audio and video tapes are not simply carriers of recorded human testimony but *archiving* presence in non-human ways.

With increased technology-based contemporary witnessing, a different kind of testimony has arisen, de-coupling memory from the historical form. In that context recent trauma studies with their insistence on the non-historicized or even *non-historicisable* momenta of experience in human memory become vital not only in the psycho-analytic and desaster studies sense, but as an epistemological challenge. "Trauma" is that kind of shock in temporal experience which has not yet been (or can not be at all) digested by smooth memorization (*Er-Innerung*, in G. W. F. Hegel's terminology) and like a "transistor" (contracted from "transfer resistor") resists integration into historical discourse as the narrative ordering of sequential time.

In that context, media archaeology as specific method of media studies does not try the re-mediate technical storage with human memory but radically acknowledges that fundamental difference, even if subtle interlacings arise in a second step of analysis. Technological storage is radically inhuman in its originary techno-temporality, somewhat autonomous from the historiographical or even cultural frame.

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1 Klaus Krippendorf, Principles of Information Storage and Retrieval in Society, in: General Systems Bd. 20 (1975), 15-34

In a slight modification of Walter Benjamin's notorious term, the audio-visual electronic signal carries with it a "historical index": it waits to be technologically redeemed from its storage latency[2], just like after Henry Fox Talbot's invention of kalotype photography the negative waits to be developed into positive prints. What if the witnessing signals materialize into magnetic remanence on audio or video tape, waiting for re-play in electric induction? "Discourse analysis cannot be applied to sound archives or towers of film rolls"[3]; rather archaeological signal analysis by means of measuring media is required here. Popular music recordings like *Alan's Psychedelic Breakfast* by Pink Floyd, as a studio creation, start existing for a listener only when she or he puts the record on and presses Play. "Even if a recording has been released thirty years ago, it will stay out of our perceptual and temporal sphere until it will reach our ears and mind".[4] What if the recording technology itself becomes the witness?

Very soon after the first public appearance of cinematography, Boleslas Matuszewski proposed to create an archive of "living photography" recordings of "anecdotical" events, praising the technical impartiality against the idiosyncracies of personal testimony.[5] Since it is not yet hermeneutically filtered by the historical sense, technical recording - like the chronicles in ancient Rome and Medieval times - "recites events without distinguishing between major and minor ones [...].[6] Such cinematographic recordings were meant to be redemptive. "Nothing that has ever happened should be regarded as lost for memory.

In this respect, the creation of the Fortunoff Video Archive for Holocaust Testimonies at Yale University did not simply introduce a significant reconfiguration of the archival formation whereby the audiovisual takes the role of the textual; the symbolic regime of the archive which consists of scripture, words, inventories is transformed into signal processing. "This reconfiguration entails a profoundly different concept of the archivable; the audiovisual archive is designed to store precisely that which cannot be properly archived by writing - trauma."[7] But next to this trauma-preservation as content of video recording there is an ongoing co-traumatizing effect of the recording technology as signifier in itself.

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2 Walter Benjamin, Theses on the Philosophy of History, in: same author, Illuminations. Translated by Harry Zohn, edited and with an Introduction by Hannah Arendt [1968], New York (Schocken Books) 2007, 253-264 (Thesis II, 254)

3 Friedrich Kittler, Gramophone - Film - Typrewriter, Stanford (Stanford UP) 1999, 5

4 José Van Dijck, Remembering Songs through Telling Stories: Pop Music as a Resource for Memory, in: Sound Souvenirs, Audio Technologies, Memory and Social Practices, Amsterdam University Press, Amsterdam 2009, 109

5 Boleslas Matuszewski, Eine neue Quelle für die Geschichte. Die Einrichtung einer Aufbewahrungsstätte für die historische Kinematographie (Paris 1898), transl. from French by Frank Kessler, in: montage av vol. 7, no. 2 / 1998, 6-12 (11, note 1)

6 Benjamin 1968/2007: 254 (Thesis III)

7 Amit Pinchevski, in: The Audiovisual Unconsciousness: Media and Trauma in the Video Archive for Holocaust Testimonies, in: Critical Inquiry, vol. 39, no. 1 (Autumn 2012), 142-166 (165)

Of course a phonographic record is not human itself, neither is it the video tapes of Holocaust testimonies. But both kinds of signal still keep an indexical relation (in Charles S. Peirce's terms) to the human survivor. The wave forms of the recorded sound and image are based in the analog technology; this allows for the assumption of testimony being an anlog trace of what has happened. But what if such indexical auditive or visual recordings are being digitally sampled? Digital data are not bodyless themselves (they are still very physically implemented as voltage levels) but radically codify the recorded human body and replace the indexical affect by signal intelligence. Media archaeology therefore replaces Benjamin's hot theologial view with cold analysis.

"The 'born-analog' films persist as analog masters or 'originals' in the archives, and / they require that we give attention to how they are connected to other media at the time of their production <...>."[8] They preserve the historical context. But their digital conversion de-couples them from this material link to the historical past in favor of the software present of today.

Media-archaeological analysis rather concentrates on the deep epistemological implications, than to the most obvious effect of digitization in audio-visual testimony archives which is its becoming "online" *via* the Internet. By their almost immediate accessability such records loose their archival authority which requires the user to personally turn up and authorize himself. "Online" memory has no *locus* any more. The new media-archival memory is an almost spectral superimposition of two technological conditions: electronic signal recording and its bit-coded informatization. Communication engineers will respond that according to the sampling theorem the authentic signal can be fully reconstructed (as long as the bandwidth is limited). But inbetween (and sublimely unnoticed by human perception), by its binary informatisation, the signal is subject to a complete "transsubstantiation" (in terms of Christian liturgy). Flesh becomes word again - in the sense of bit-streams. Since to human senses the difference between analog and digital media testimony might not even be noticable, it requires a different kind of epistemic (rather than simply visual) "insight" which makes us look at such digitized testimony with suspicion.

"Videotestimonies" in Holocaust memorization

Traumatic memory is most prominently associated with survivors of the Holocaust. While this specific trauma, with the passing away of the survivor generation, is about to be re-turned into the symbolic order of the familiar historical discourse, the media-archaeological perspective points to the entanglement of traumatic memory with the non-historical time sense of the involved technologies.

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8 See Trond Lundemo, Digital Returns: the Archive of the Planet and the "Rhythm of Life", in: Kjetil Jakobsen (ed.), The Cosmopolitics of Visual Memory: Albert Kahn’s Archives de la Planète, Bristol (Intellect), conclusive remarks (forthcoming)

For the human audience of mediated testimonies, the co-traumatising irritations of memory do not come from the drama of the historical event exclusively, but more sublimely from the recording media themselves. The traumatic, that is: non-historicizable past is modulated by a fundamental technologically induced trauma. The principal agency of desaster memory still is the *human* capacity. With the passing of the still living generation such remembrance is delegated to non-human memory agencies such as institutional archives or technical audio and video recording. All of the sudden, a technological *eigenzeit* and its specific forms of temporalization start to determine this remembrance from performative (the human) to the operative (the technological).

The idea to videotape the testimonies of Holocaust survivors was initiated in 1979 by the television producer and psychiatrist Dori Laub. It soon took shape as the "Holocaust Survivors Film Project. "Despite the name, filming was conducted from the start in videotape."[9] When in 1981 the Fortunoff Video Archive for Holocaust Testimonies has been created, the original recording format was three-quarter-inch U-Matic videocassettes with a running time of one hour and seven minutes. Due to deterioration of the magnetic tape, the original videocassettes have been stored in a temperature-controlled room in the Yale archives which is a "secret" archive (if not *genizah*) of a new type. The video testimonies available for viewing at Yale have therefore been VHS copies of the originals.[10] This vulnerability of material signal carriers to physical entropy is counter-acted neg-entropically by digitization ("information" in terms of Shannon). This leads to a different kind of memory-in-the-present which becomes a function of numerical values - re/counting instead of telling. Once the records have been digitized and can be coupled to *online* media, the former tension between long-time storage and immediate dissemination collapses. The technological transformation of media witnessing from an electronic analog assemblage to digital signal processing allows for new forms of time-axis manipulation, simulation and referential illusions such as the 3-D virtual testimonies" by scanning the oral history performances of Holocaust survivors for interactive re-play.

Holocaust- and technology-induced *traumata* in parallel lines

Is there a possibility for mediated testimony to let the audience share co-witnessing? Geoffrey Hartman, one of the founders of the Yale Archive, declared the essential meaning of video testimony to listen and to restore a dialogue.[11] But traumatic experience, once being recorded by testimonies on audiovisual technologies or transmitted by radio or television, is not simply "mediated"; a significant shift and essential transformation takes place, modulated by the sub-traumatizing effect of technologically induced "presence" itself.[12] Especially in video testimony, *any* mediated experience (not

9 Pinchevski 2012: 145

10 Pinchevski 2012: 145, note 7

11 Geoffrey Hartman, The Longest Shadow: In the Aftermath of the Holocaust (Bloomington: Indiana UP, 1996), 133

12 See Geoffrey Hartman, Memory.com: Tele-suffering and Testimony in the Dot Com Era, in: Raritan 19, no. 3 (2000), 1-18

only the Holocaust) becomes a non-historical experience which is the true McLuhanite "message" of the cathode-ray and magnetic tape-based technology. Apart from the historical testimony, a subliminal traumatic affect results from the medium itself. It is the *mediaura* (Samuel Weber) of the video technology as well which is traumatically at work; therefore the Holocaust video testimonies should not be reduced to the audio-visual content. The overall impact rather results in a cybernetic coupling of an electronic storage medium *(techné)* with the sensation (*aisthesis*) of the viewer.

There are three levels of time-related traumata to be discussed here: 1. the so-called "historical" experience by the victims which are being discussed in an emphatic psychoanalytic discourse; 2. the recording of testimony by technological media which leads to what Marianne Hirsch has called deeply mediated *postmemory*, the second generation Holocaust memory as received and transmitted by video testimonies, photographs, and films.[13] This results in a shift of the traumatic experience which is media-archaeologically deeply rooted traumata of irritations of re-presencing *from within* technologies like the phonograph itself - resulting into a kaskade of micro-traumatic irritations of temporal experience. This became most apparent in the present creation of traumatic experience by current "live" and "real-time" transmission itself (case 9/11). "The task of crisis-readiness is effectively that of vigilance, derived from the 'never again' imperative of Holocaust witnessing."[14]

"[...] videotestimony holds something that can never be fully narrativized. Recording and narrative are incongruous, as the one holds precisely what the other lacks: referentiality in the case of recording, chronology in the case of narrative. Whereas narrative constructs a sense of progress through time, recording captures the actual flow of time, along with the contingencies occasioned therewith."[15] Today we recognize a media-archaeological re-turn of the trauma which is de-coupled from the "testimony" discourse in two ways: a) from within technology, where defects of hardware and bugs in software equal the psychic defect; b) the "bodily" dimension in media-induced trauma, e. g. the capacity of electronic communication media to generate within humans "a sense of instant contact irrespective of both geographical and temporal distance"[16].

Digital retro-action and the difference it makes: Digital sampling of Holocaust testimony

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13 Pinchevski 2012: 156, note 31, referring to: Marianne Hirsch, Family Frames: Photography, Narrative, and Postmemory (Cambridge, Mass., 1997), 12–40, and "Surviving Images: Holocaust Photographs and the Work of Postmemory," in Visual Culture and the Holocaust, 215–46

14 Amit Pinchevski / Paul Frosh (eds.), Media Witnessing: Testimony in the Age of Mass Communication, Basingstoke (Palgrave Macmillan) 2009, 300

15 Pinchevski 2012: 153

16 Roger Silverstone, The medium is the museum. Ob objects and logics in times and spaces, in: John Durant (ed.), Museums and the public understanding of science, London (Science Museum) 1992, 34-42 (34)

The sampling of recorded voices once lead to its transsubstantiation into synthetic speech - the Vocoder. In that sense, current "Digital Humanities" experimentation with big sound data takes place upon the radical premise of the inhuman.[17] For digital computers which are Turing Machines, there is no sense of history at all, just discrete memories of present states and Markov predictability dependent on past states on the data recording tape. The modelling of the human unconscious as binary machine logics by Jacques Lacan and cybernetic neuro-science has undermined the self-understanding of a privileged human subjectivity; sampled voices and digitally sampled video recordings finally result in an ongoing irritation of presence not on the discursive but on the techno-mathematical level of intermediary storage which is micro-archiving the present.

The "digitization" of records considered for historical research transforms the authenticity claim of the documentary witness (be it texts, audio or video recordings). Evidence in the digital era is elusive. Let us differentiate sharply between electro-mechanic transduction (preserving the indexial reference) and digitization of the signal (lossing it) as testimonial trace.

17 See Todd Presner, The Ethics of the Algorithm: Close and Distant Listening to the Shoah Foundation Visual History Archive [2012], *online* http://www.toddpresner.com/wp-content/uploads/2012/09/Presner_Ethics.pdf