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Authenticity

Historical Data Integrity and the Layered Materiality of Digital Objects

Abstract: This chapter investigates how digitality has affected the idea, concept, and meaning of authenticity of historical sources. A key question in media history is that of the historical authenticity of mediated representation of the past. Digitization affects the indexical relationship between past realities and their digital “appresentation” and therefore asks for a critical understanding of how digital infrastructures, tools, and technologies affect historical methodology and claims for a new multi-modal literacy.

Keywords: authenticity, data integrity, source criticism, indexicality, aura

Throughout twentieth-century cultural history, the idea of authenticity emerged when revolutions in media technology challenged prior modes of perception. The speed of communication (i.e., telephone), the precise mimesis of the world (i.e., photography), the nearby audibility of distant sounds (i.e., radio), and the dreamlike movement of pictures (i.e., film) changed reality along with the perspectives implemented by those “new” media.

(Zeller 2012, 75)

This quote resumes a theoretical and intellectual discussion, which material traces in forms of books and papers easily fill a library. The question of the so-called indexical relationship between reality and its mediated representations has been foundational for media theoretical reflections in the twentieth century (Cowie 2011). The complex relation between a “sign” and “the signified,” between an iconic or symbolic representation and its meaning in a given semiotic system and historical context, has produced a highly specialized scholarship in such different disciplines as philosophy of language, semiotics, film and media studies, art history, and literary sciences.

The notion of authenticity, originally referring to the Greek semantics of αὐθεντίας (authéntēs) meaning “to author / lead / rule,” has been at the heart of philological and historical thinking when discussing questions of reliability, originality, and credibility of historical sources. But, as Achim Saupe has shown, next to this “object-related authenticity,” the semantics of the term also refer to a subjective dimension. The development of the modern concept of authenticity has been closely linked to the history of the modern subject – staying true to oneself has turned into a key idea of modern subjectivity (Saupe 2016).

While the link between “saying” and “being” and the idea of an “authentic self” has long been the credo of moral conceptions of identity, post-modern theories have deconstructed the idea of single authorship, and constructivist approaches in philosophy and sociology of knowledge have questioned the idea of objectivity and truth and dismantled the “biographical illusion” of the fragmented self.

The aim of this contribution is not to deal with the many philosophical, semantic or even aesthetic reflections on authenticity as a key topos of modernity (Saupe 2017), neither to offer a historiographical discussion of the changing meanings and interpretations of the concept over time. Instead, this chapter aims at taking a slightly different approach to most of the other chapters of the book by transferring the concept of authenticity to the phenomenon of digitality. More specifically, I want to discuss the impact of digitality on the idea and practice of historical source or data criticism and to what extent the specific mediality of digital representations and their staging of the past influence our historical imagination and/or experience of history. Digitality characterizes itself through the duality of digital materiality and the digital as symbolic form, and both dimensions have to be historicized in their own right. In the area of the symbolic, the question of the authenticity of the digital must be located in the tradition of heuristic and epistemological debates on truth, credibility, and originality of historical sources or testimonies. On the other hand, questions of material authenticity of digital media, i.e., of their integrity, exactness or permanence, must be discussed in the context of technical authentication processes and institutional authentication discourses. Both dimensions will be briefly sketched out in the following in order to then address questions of the significance of the digital for the historical imagination and experience and the question of “aura” in digital representations of the past.

If the “aura of the authentic” can be qualified as the “myth of modernity” (Sabrow 2016, 30), the aura of the virtual could be qualified as the myth of the digital age. The mass digitalization of historical testimonies and their online availability on the Internet has brought about a new turn in the longing for the authentic, the original or the genuine. Even though the term “digitality” explicitly refers to the intertwining and networking of analogue and digital technologies and life worlds (Stalder 2016), the equation of the digital with the “non-material,” the “virtual” and thus “non-real” dominates in general usage. The omnipresence of the digital – both material (for example in the form of smartphones or tablets) and symbolic (i.e., as the socially dominant socio-technical imagination) – reinforces the longing for the supposedly authentic, whether in the field of culture, technology or historical experience. The transition from the “age of scarcity” to the “age of abundance” (Rosenzweig 2003) has led to a renaissance of the analogue, even on a popular cultural

level – “retromania” and “technostalgia” have become catchwords of this movement (Boym 2002; Reynolds 2011; Sax 2016).

1 Traces without Traceability: The Historian’s Belief in “Sources”

The longing for an “authentic historical experience” is by no means a contemporary phenomenon of our digital and virtual age. As Frank Ankersmit has shown, this “desire” of being as close to the past as possible has emerged as an intellectual ambition during Romanticism and ever since inspired philosophical reasoning about history as an intellectual and scholarly endeavor (Ankersmit 2005). This desire for an authentic historical experience obviously cannot be realized – history as historical writing can only take place in the present – which only increases the yearning for a transcendental experience. It was only towards the end of the nineteenth century that the university-based “science-history” gradually came into its own. It rests essentially on three pillars: firstly, on the ideal of objectivity; secondly, on the authenticity of “documentary sources”; thirdly, on the professional behavior of academically trained historians (Barrelmeyer 1997). Even today, these three elements still form the basis of the epistemological identity of historical scientific research – the highly problematic metaphor of the “source” has lost nothing of the pathos, which has resonated since the time of European humanism with the call of the motto “ad fontes.”

Indeed, in the words of Achim Landwehr, it is a question here of a true “faith in sources” (“Quellenglauben” in German): the historical source has been treated as a relic, which derives its truth from the singularity of the testimony it gives about a past event (Landwehr 2016). This function as guarantor of the truth and reality of the “source” remains largely intact, despite the fact that a “source” is never connected to a causal relationship, but always to a correlation between the image, the representation and the historical reality. The art of source criticism lies precisely in the ability to reveal the complex relationship between the past and its medial representation, i.e. to discover the different levels of the indexical relationship between past reality and its written, pictorial or sonic documentation. The historian’s sources – generally subdivided into different genres – are thus already based on narrative conventions, which are primarily due to the materiality of the representations (Droysen 1974).

This is due, firstly, to the material (e.g., hieroglyphics carved in stone), secondly, to the technical properties of the documentary media (e.g., the wax plate

of Edison's phonograph for early sound recordings, or the influence of collodion mixture for coating glass plates in early photography) and, thirdly, to the narrative means of expression of various media (the length of a telegram sent in the Morse code or an epitaph differs markedly from that of a newspaper article or a television or radio program). The "decoding" of the external (material) and internal (content and formal) qualities of these "traces" of the past and their interpretation as a representation of a past reality are the tools of any qualified (media) historian (Ginzburg 2001). To understand and interpret the intrinsic relationship between the "truth of the art" (the artistic and literary quality of a historical source) and the "truth of the fact" (the historical evidence) is the very fundament of the hermeneutic tradition of humanities in general and of the method of historical source criticism in specific (Palmer 1969; Michel 2019).

2 Reality Effects and the Narrative Conventions of Factual Storytelling in History

The claim to truth in historical narrative is therefore based on strategies of objectification and verisimilitude, which aim to make the narrator as invisible as possible. Among the most important stylistic elements of this strategy are the footnote and the proscription of the "I" and the use of a narrative meta-perspective, which gives the historian the role of a universal and, above all, uninvolved observer. This narrative "habitus of objectivity" creates what Roland Barthes has called the "effect of reality" (Barthes 1968). This effect of reality as a result of narrative conventions and a repertoire of scientific styles is, as it were, the literary expression of methodical objectivism and thus contributes to the linguistic confirmation of the scientific requirement of the work of historical reconstruction. Even if there are still some historians today who cling to the positivist ideal of objectivity, a large part of today's historical community agrees that it cannot be a question of seeking historical truth in historical science: "To do social science is not therefore to find the truth", as Ivan Jablonka put it, "but to construct reasoning, administer proof, and formulate statements with a minimum of solidity and explanatory relevance" (Jablonka 2014, 183). "Dire du vrai" – and not "dire la vérité" – history is about the production of evidence-based arguments, not about telling the truth.

What about the "authenticity" of such historical narratives then? In the production of a historical narrative, which Siegfried Kracauer once compared to the technique of film editing, narrative techniques such as fading, changing of lenses, rewinding or fast-forwarding allow for a change of perspective and rhythm, and can help to create "thick descriptions" (or close-ups) or to produce a distanced

bird's-eye perspective suitable for macrohistorical reflections (Kracauer 2014). The technique of “zooming in” on a character, or a particular historical actor, allows for the individualization, psychologization, and emotionalization of history with a capital H, and masters virtually all popular and historical television formats and film productions as a stylistic means. The transmission of history in popular forms and formats is largely based on the dramatization and emotionalization of the narrative and the sacral revaluation of the period witness as the guarantor of historical authenticity. Event television of history has emancipated itself in docudramas, docufictions, and reconstructions of the “veto power of sources” (Jordan 2010) and plays effectively with the combination of fictional and factual narrative models. The indexical quality of the moving image, combined with original sounds, background noises, and the authoritative voice of a narrator, produce a “reality effect,” whose suggestive power is greater than that of written descriptions (Delage 2006). As the British film specialist Elizabeth Cowie convincingly demonstrated in her book on the documentary film “Recording Reality, Desiring the Real,” photographic or film recordings paradoxically give rise to two different and apparently contradictory needs (Cowie 2011). On the one hand, our fascination with revisiting original recordings can be seen as part of our scientific appropriation of the world – the sense of sight being considered since antiquity as the most objective sense, by the distance it puts, yet providing sensory access to our immediate environment. On the other hand, there is also a profound joy in looking that is part of our modern visual habits, a fascination with spectacle inherent in photography and cinema.

Documentary film and photography must therefore be considered as narrative formats, based on specific narrative conventions. Like textual representations, it is the narrative conventions that justify the right to “non-fictional truth” (Tagg 1993; Ellis 2011). These conventions influence our perception so strongly that we have great difficulty in detecting “false” or “fake” audio-visual recordings – even if they clearly represent nonsense. Many films or television programs are the skillful result of a staging that plays with the apparent visual evidence of audio-visual recordings: the “authentic style” of a live television program is systematically combined with the narrative conventions of documentary film. Both play with the viewer and his or her desire for reality. As I want to argue in the next paragraph, it is the intrinsic paradox of the mediality of all history – the fact that mediation enables immediacy – that continues to trigger the utopian thinking about “mediated immediacy” in the digital realm in very much the same way it did with any analogue media.

3 The Layered Materiality of Digital Objects

In fact, what happens when changing the physical nature of a source, e.g., when retrodigitising a family photo album with Polaroid pictures of the 1970s, turning a VHS tape into an mp4 file, translating a Schellack record into a compressed audio file, or scanning a book or handwritten letter and treating it with an optical character recognition software for making them searchable? In the field of historical studies, the question of the authenticity of digital sources – be it retro-digitized archival holdings, 3-D reconstructions of museum objects, spatio-temporal simulations of complex historical processes based on relational databases or large amounts of digitally born formats such as tweets or e-mails – is part of the hermeneutic tradition of modern source criticism (Föhr 2019). Even if clarifying the integrity of a digital source requires new technical skills and methods, classical questions of source criticism – such as the provenance or the credibility of a source – remain of central importance in the digital age. However, the enrichment of the historian's toolbox with digital aids, infrastructures, and techniques requires an “update” of classical source criticism to a digital form of data criticism that does justice to the dual reference character of digital sources as representations of historical events or processes and their mediality as fluid and unstable matter (Fickers 2020).

The first thing to abandon when thinking about digital representations as historical sources is the misleading idea of qualifying digitality as freed from materiality (Negroponte 1995). From an etymological perspective, the digital does not refer to the electronic or computer-based processing of information, but to the numerical representation of information in a finite series of discrete elements – ones and zeros. The measurement of the quantity of data in defined units – bytes and bits – dates back to the 1960s, when the American Standard Code for Information Interchange (ASCII) became internationally accepted. Data as “objects” and historical sources thus always have mass and momentum, i.e. their material properties determine both the costs and the physical possibilities of storage, retrieval and use (Strasser and Edwards 2017, 331). In order to make the information encoded in the bits and bytes readable and usable, transcription and migration, i.e. translation or decoding by computer programs (software) and the transfer of the data to different storage media (hardware), are required.

When we speak of digital sources or data, we are thus dealing with a “layered” or “distributed” materiality (Blanchette 2011), which is characterized by the interweaving of hardware and software environments. Johanna Drucker describes the principle of “distributed materiality” as follows:

Distributed materiality focuses on the complex of interdependencies on which any digital artefact depends for its basic existence. In a distributed approach, any digital “entity” is dependent on servers, networks, software, hosting environments and the relations among them [. . .] the distributed concept requires attention to the many layers and relationships of hardware, software, bandwidth, processing, storage, memory, and other factors. The distributed approach registers a shift from materiality grounded in a single feature or factor to an approach based on multiple systems of interrelated activity.

(Drucker 2013, paragraph 21)

4 Is the Concept of the “Original” Obsolete?

The principle of the distributed materiality of digital data poses a fundamental problem for historical source criticism, as it renders obsolete the idea of the “original”, whose symbolic capital is so deeply inscribed in the self-understanding of historical science (Landwehr 2016). If, in the course of retro-digitization measures, digitized archival documents are turned into digital copies, an ontological transformation of the “source” takes place, transforming the analogue object (e.g. a postcard) into a relational data conglomerate. As soon as the source is scanned, technical settings (resolution, storage format) as well as the metadata attached to the digitized material determine which software can be used to read the data in the future, to what extent it can be retrieved by search algorithms in OPACs, and how much storage and thus cost is required for long-term storage. Even during the production of digital sources – be it retro-digitization or the creation of digital born data sets – multiple coding processes take place that remain largely invisible to the user. In addition, the retrieval of digital data sets on the user’s own computer and the recontextualization of digitized data in online environments lead to further manipulation and overwriting of the original data.

According to Matthew Kirschenbaum, from a forensic perspective, every storage process means digital manipulation:

One can, in a very literal sense, never access the 'same' electronic file twice, since each and every access constitutes a distinct instance of the file that will be addressed and stored in a unique location in computer memory. Access is thus duplication, duplication is preservation, and preservation is creation – and recreation. That is the catechism of the textual condition, condensed and consolidated in operational terms by the click of a mouse button or the touch of a key.

(Kirschenbaum 2013, paragraph 16)

The same is true for digital documents on the Net: the dynamic and relational architecture of the WWW is responsible for the fact that when we retrieve archived Web pages, according to Niels Brügger, we are dealing with “digital

rebirths” whose information-technological, content-related and representational integrity is corrupted in multiple ways (Brügger 2018). What is depicted as a “digital source” on the computer screen or smartphone is thus always the result of a digital recoding and recontextualization inscribed in the software and hardware of the user technologies. “When working with digital objects it’s essential to remember that what they look like on the screen is a performance,” says Trevor Owens (Owens 2020, 6), head of the “Digital Content Management” department at the Library of Congress in Washington D.C.

In order to reconstruct the digital life cycle of a document made available online, a new terminology and new instruments and skills of digital forensics are required, which have so far hardly been included in the training of archivists or media historians (Rogers 2015). According to Matthew Kirschenbaum, the determination of authenticity in the sense of technical authentication of digital sources can only be achieved by checking the integrity and consistency of data. Kirschenbaum differentiates here between “forensic materiality” and “formal materiality” of digital objects. While “forensic materiality” refers to an official certification of the “authenticity” of digital objects, as is customary for the long-term storage of digital documents in state archives on the basis of the OAIS standard, for example, the term “formal materiality” reflects the fact that file formats pre-configure later possibilities of using the data (Kirschenbaum 2008, 132–156). If, in the context of “forensic materiality,” classical questions of source criticism can thus be discussed in terms of authentication strategies, this will hardly be feasible for the “normal historian” when confronted with the question of analyzing the “formal materiality” of digital objects (Ries 2019).

This shift in knowledge and competence from the critical historical method to computer and information science procedures provokes a break in the “control zones” of archival or historical science institutions and disciplines (Lagoze 2014). Just as the emergence of historical hermeneutics can be read as a mirror of the scientification of the discipline of history in the nineteenth century, the current debate on authentic storage, reproduction, and use of digital information must be interpreted as a discourse of professionalization in which archives and historical research re-explore and renegotiate fundamental criteria and concepts of scholarly practice. The authenticating authority of archival institutions is just as much a matter of debate as the critical competence of historians in dealing with digitized material (Hirtle 2000).

5 The Aura of the Digital and the Meaning of History

While the aspect of “object authenticity” in the context of digital source criticism, i.e. the technically induced change in authentication strategies, has been dealt with so far, I will now turn to the question of to what extent the specific mediality of digital representations and their staging of the past influence our historical imagination and/or experience of history. Do digital representations and narratives of history change our perception and interpretation of the past? According to Simon Reynolds, we have already

become victims of our ever-increasing capacity to store, organise, instantly access, and share vast amounts of cultural data [. . .]. Not only has there never before been a society so obsessed with the cultural artefacts of its immediate past, but there has never before been a society that is able to access the immediate past so easily and so copiously.

(Reynolds 2011, 21)

But does the digital abundance and online availability mean that our historical experiences change? As Wulf Kantsteiner (2018) and Todd Presner (2016) have shown using the example of Holocaust remembrance, digital media such as Twitter, Facebook, and Instagram or the virtual staging of contemporary witnesses in the “Visual History Archive” of the Shoah Foundation can have a direct impact on the perception and experience of authentic testimonies or places – for example during a visit to the Auschwitz-Birkenau concentration camp. The “selfie debate” of 2014 exemplifies the complex overlap between institutionalized commemorative culture and digital media practices: authentic on-site experience and synchronous sharing of one’s own “dark tourism” experiences in social media effectively merge into a new historical experience of digital memory culture. According to Kansteiner (2018, 119), the successful staging of “the authentic experience” in the digital age even requires the use of digital media.

If one accepts the sociological observation made by Hartmut Rosa (2005) that our present is characterized by increased rhythm and a higher speed of co-construction of our mediated reality, it seems but logical that our experience and imagination of the past – which is essentially mediated by the media – are also affected by this development. While the historical culture of the nineteenth century was characterized by the “sensual appeal” (Sabrow and Saupe 2016, 14) of historical novels or national museums, that of the twentieth century by the auratic effect of sound and image recordings, that of the twenty first century are shaped by historical network visualizations, “deep mapping” technologies and multi-linear timelines in virtual exhibitions or web-documentaries (Fickers 2017). Interactive interfaces and relational

databases, filled with thousands or millions of historical data of different genres, create a new historical sense that, according to Alan Liu, refuses the ideology of linearity in historical thinking.

We might say that the essential hermeneutic – or what we might today call algorithm – of Historismus was to interpret all the spatial (and political) barriers that impeded full-on human sociality as temporal delay. Civilization was the delayed action of sociality unfolding in historical time. [. . .] The temporality of shared culture is thus no longer experienced as unfolding narration but instead as 'real time' media. (Liu 2018, 29–30)

Dynamic visualizations of the complex relationship of historical processes and events generate a new historical knowledge, which Liu calls “hypergraphical knowledge”: “The digital age promotes hypergraphical models of knowledge that conform to a world view in which knowledge is conceived by default to be multiperspectival and multiscalar, distributed in its foci and relations, and (connecting all the disparate nodes and levels) ultimately networked”. (Liu 2018, 73)

When we as (media) historians approach such digital visualizations, i.e., the computer-based interpretations of the past, we perform a hermeneutic movement that has always been at the origin of a problem-based approach in history: we perform the diagnostic paradigm of searching for traces and simultaneously generate historical meaning by assembling them into a narrative – but now in the digital space of “retrospective divination” (Ginzburg 2011; Boucheron 2016). The fact that the “back end” of such performances of digital historiography often remain hidden or black-boxed is probably what constitutes their contemporary aura. As Walter Benjamin stated in his famous article on “The Work of Art in the Age of Its Technical Reproducibility”: “The trace is the appearance of a proximity, however distant that which it left behind. The aura is the appearance of a distance, however close that which it evokes may be. In the trace we get hold of the thing; in the aura it takes possession of us” (Benjamin 1982, 560). The invisibility or concealment of database structures, digital infrastructures, and software when interacting with computer screens and the interface of our smartphone therefore ask for a new form of critical reading of digital representations of the past. To deal with such “appresentations” (Knorr-Cetina and Brügger 2002) of knowledge and to be able to deconstruct the apparent “lure of objectivity” (Rieder and Röhle 2012) or “look of certainty” (Drucker 2013) of fancy word clouds, network visualizations, analytics dashboards, and heat maps. “If displays of data are to be truthful and revealing, then the design logic of the display must reflect the intellectual logic of the analysis [. . .]. Clear and precise seeing becomes as one with clear and precise thinking” (Tufte 2001, 53).

The mediation from world to data, data to visualization, and visualization to the eyes and minds of the “reader” ask for a new literacy of data infrastructures

and interface criticism that embodies new ways of seeing, knowing, and understanding (Gray, Gorlitz, and Bounder 2018). For media historians of the digital age, new skills – which are part of the broader framework of digital hermeneutics – are key when trying to understand the “codes” and “conventions” of digital representations of the past and to grasp the complex meanings of “authenticity” as a key concept of digital media studies and history. Such skills are not only quintessential for a critical deconstruction of digitally mediated representations of the past, but equally important for the reconstruction and recontextualization of the past by means of digital storytelling. A digital literacy which encompasses a critical understanding of both the “encoding,” “decoding,” and “recoding” of historical data seems to become ever more important in the age of “fake news” where the “semiotics of authenticity” are to be studied on the level of tweets (Shane 2018), comics journalism (Weber and Rall 2017), photoshopped images (Keller 2010), and audio-visual narratives online (Lees 2016).

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