

# Total Archive: Picturing History from the Stereographic Library to the Digital Database

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## 1. Digital Database

Digital representation updates a longstanding fantasy that presence might be perfectly captured in a complete historical record, imagining that every type of information might be encoded into a shared language of ones and zeros and compressed into a universal archive. While contemporary aspirations of a “total archive” align with the seemingly unique potentials of new media, such hopes for digital technology recapitulate aspirations that have also attended cinematic, stereographic, and photographic representation. The same fantasies of historical capture have reappeared at moments of transition in visual culture, fantasies repeatedly re-shaped as new media alter how spatio-temporal order is perceived and how historicity is imagined.

In the discussion that follows I will suggest that contemporary ideas of the ‘total archive’ associated with digital media resonate with the archival imaginations attending emergent media in earlier historical moments—particularly photography in the nineteenth century. I begin by revisiting Lev Manovich’s argument that new media aligns with a “database logic,” a claim that became a cornerstone for the emerging field of new media studies<sup>1</sup>. I will then argue that contemporary ideas of the digital database echo earlier notions of the photographic archive. Specifically, I take up the example of stereoscopic photography, a form of visual representation that flourished in the second half of the nineteenth century. Stereoscopic photography could be considered the first truly global, visual mass medium, supporting the emergence of a popular visual culture that would grow to dominate the next century through other photographically based media. Stereoscopic photographs were usually produced, collected, and catalogued in numbered sets and organized into flexible viewing sequences on various topics. They model a photographic form of visual archiving that digital media seem to leave behind with new strategies of non-indexical coding, but they also offer an overlooked precursor to the archival logics that seem to emerge alongside more contemporary technologies.

Lev Manovich’s 2001 monograph *The Language of New Media* was one of the first attempts to articulate the formal and cultural logics of digital media. In it, Manovich argues that “the database” is “a new symbolic form of the computer age,” its “key form of cultural expression,” dominant aesthetic format, and a new way “to structure our experience of ourselves and of the world.”<sup>2</sup> Through what he describes as the “database imagination,” the representational logic of the computer “becomes the logic of a culture at large.”<sup>3</sup> Manovich argues that a “database complex” associated with new media reshapes our interpretation of reality: the “logic of a computer—in this case, the ability of a computer to produce endless variations of elements...becomes the logic of culture at large.”<sup>4</sup> As the database comes to be seen like a “model of what a world is like,” the world itself appears as “a structured collection of data,” “a collection of individual items, with every item possessing the same significance as any other.”<sup>5</sup> Under the sway of a database complex, we imagine that every individual object, person, resource, or nation might be liberated from concrete spatial and temporal connections, imaginatively gathered into abstract and mutable systems of equivalence, exchange, and interchangeability.



**An example of "database art": Pockets Full of Memories (2003-2006), by George Legrady, installation view at Cornerhouse Gallery, Manchester, 2005.<sup>6</sup>**

Manovich describes the database imagination as displacing a cinematic imagination, rewriting cinema's paradigm of temporal succession as a digital paradigm of co-presence. In the mode of juxtaposition he attributes to new media, "[t]he logic of replacement, characteristic of cinema, gives way to the logic of addition and coexistence. Time becomes spatialized, distributed over the surface of the screen. In spatial montage, nothing need be forgotten, nothing erased."<sup>7</sup> If the logic of cinematic time threatens a reified notion of historical progression, as Henri Bergson's critique of the cinematographical argued, then the temporality proposed by the database threatens to efface the self-differentiation of time, coordinating the mutually distinct moments that make up historicity as a spectacle of simultaneity in which everything could be encoded, stored, and retrieved.<sup>8</sup> Manovich does draw implications for historiography from his arguments about spatial montage and the database. Seeming to draw on Henri Bergson's descriptions of motion, he claims that "[j]ust as a human body moves through physical space, in a continuous trajectory, the notion of history as a continuous trajectory is, in my view, preferable to the one that postulates epistemological breaks or paradigm shifts from one moment to the next."<sup>9</sup> Manovich claims that the notion of epistemological breaks "articulated by Michel Foucault and Thomas Kuhn, in the 1960's, fits with the aesthetics of modernist montage exemplified by [filmmakers] Eisenstein and Godard...rather than our own aesthetics of continuity as exemplified by compositing" and the other digital forms of montage that he classifies as spatial.<sup>10</sup> For Manovich, the database imagination restructures the way historical time is thought to cohere, turning away from a notion of disjunctive progress that echoed cinematic montage to figure notions of complex simultaneity.

Attempting to articulate a genealogy of new media, Manovich suggests that computational media rediscover potentials that cinema suppressed in subordinating its discrete photographic frames into narrative continuity. Though cinema relied upon photography, Manovich opposes the way that cinema and photography structure multiplicity. Identifying "narrative" and "database" and as "two competing imaginations, two basic creative impulses, two essential responses to the world" that are always "competing to make meaning out of the world," Manovich aligns cinema with narrative and photography with database.<sup>11</sup> He claims that while "the medium of visual recording—photography—privileges catalogs, taxonomies, and lists," cinema's affinity for narrative subverts photography's affinity for the database when it organizes photographic image frames into linear stories.<sup>12</sup> Manovich describes the resurgence of "database logic" in new media as a rearticulation of photographic possibilities over and against cinematic possibilities; the photographic capacity for database that is suppressed by the linearity of the filmstrip and of cinematic narrative re-emerges as new "storage media—computer-controlled digital storage devices—privilege databases once again."<sup>13</sup> In Manovich's account of the database as a return of

photographic capacities cinema repressed, we might read the database as a reactivation of what photography structured as “the archive.”

## 2. Photographic Archive

As “universal machines,” computers seem able to model anything in the algorithmic terms that govern their own operation; anything digitally encoded becomes reducible to ones and zeros and potentially storable within the same archive. In the nineteenth century, this “database imagination” was anticipated by the photographic archive. The industrialization of photography and its mechanical reproduction of images forged a model of representation that has shaped how we now conceptualize digital data. The sense that anything could be photographed, and the idea that any photograph could be infinitely copied positioned photography as a kind of universal currency, a medium into which anything could be translated, circulated, stored, and exchanged. The idea that photographs perfectly recorded what they pictured supported the fantasy of photographic archives that could visually collect the world within the ordered logic of representation.

Between the advent of photography and the emergence of cinema, one of the most popular and widespread forms of photography was stereoscopic. In the second half of the nineteenth century, the stereoscope transformed visual culture and restructured the historical imagination by refashioning photography from a hobby limited to gentlemen, scientists, and portraitists into a global industry.<sup>14</sup> Inexpensive stereo photographs were produced, circulated, and collected en masse; they were often purchased in sets and viewed in collections. The apparent depth of stereoscopic images supported the assumption that photographs could capture and reiterate the world in its ‘actual’ dimensions. By suggesting that the whole world could be seen, consumed, understood, and even owned through photographic proxy, the mass-production and collection of stereographs suggested that the world’s actual spatio-temporal dimensions might already correspond to the dimensions of photographic representation.



**A Holmes stereoscope and a “Tour of the World” set of stereographs from the “Keystone Stereographic Library,” boxed in bound albums intended to look like a set of encyclopedias.<sup>15</sup>**

About ten years after the stereoscope had been introduced, and after introducing his own new model, Oliver Wendell Holmes wrote several anonymous essays in *Atlantic Monthly* that fueled the escalating fervor for the new medium.<sup>16</sup> Coining the term “stereograph” for a stereo card pasted with two paper photographs, Holmes associates the way of seeing offered by the stereoscope with a conception of visibility that is, itself, informed by photography.<sup>17</sup> The stereograph, in his argument, captures layers of visibility that are expressed by objects in the world. Invoking ancient theories of vision proposed by Democritus, Epicurus, and Lucretius, Holmes describes

"effluences" or "films" that are "perpetually shed from the surfaces of solids, as bark is shed by trees" and "packed like the leaves of a closed book" in the distance between seer and seen.<sup>18</sup> In his account, the world is replete with images, as if the very density and depth of the visible world was a proliferation of photographs waiting to be developed. For Holmes, photographic images share the ontological status of these "visible films or membranous exuviae of objects," such that a photographic representation of an object is essentially the same as extracting one layer of the actual, visible appearance of the object.<sup>19</sup> This photographic imagination anticipates the contemporary "database imagination" that would presume the world exists as information, appearing as patterns of data and algorithms that can be recorded and processed as such.

Claiming that objects extrude layers of visibility like bark or skin suggests a vital continuity between the actual existence of an object and its visible representation. For Holmes, this suggested that images could stand in for the objects themselves: "Form is henceforth divorced from matter... Give us a few negatives of a thing worth seeing, taken from different points of view, and that is all we want of it. Pull it down or burn it up, if you please."<sup>20</sup> This cavalier attitude toward material reality exaggerates the potential violence of 'seeing photographically,' articulating the stakes of the tourist, colonialist, and consumerist gaze that would objectify and master what it sees. Facilitating possibilities of collection, ownership, and control, stereoscopic images suggested that all the world's diverse sights could be captured and coordinated as an archive in which images were as valuable as their referents since value itself was reimagined in terms of being "worth seeing."

Rather than anchoring the visible "membrane" of the image to whatever interiority it manifests, Holmes imagines stockpiling objects by way of their images. He writes:

Matter in large masses must always be fixed and dear; form is cheap and transportable. We have got the fruit of creation now, and need not trouble ourselves with the core. Every conceivable object of Nature and Art will soon scale off its surface for us. Men will hunt all curious, beautiful, grand objects, as they hunt the cattle in South America, for their skins, and leave the carcasses as of little worth... The consequence of this will soon be such an enormous collection of forms that they will have to be classified and arranged in vast libraries...We do now distinctly propose the creation of a comprehensive stereoscopic library, where all men can find the special forms they particularly desire to see...there must be arranged a comprehensive system of exchanges, so that there may grow up something like a universal currency of these bank notes, or promises to pay in solid substance, which the sun has engraved for the great Bank of Nature.<sup>21</sup>

The manifold resonances of colonial violence in this passage echo through a series of equivalencies linking the visible world to a photographic archive to a system of monetary value and exchange. The way the printed stereocards act as "skins" standing in for "solid substance" resonates with the way that paper bank notes operate as tokens of actual value. In this metaphor, images become currency, and the world's spectacles are held in reserve as commodities, stored as sights for their economic value. Holmes' conception of "the great Bank of Nature" not only anticipates the "database logic" that Manovich ascribes to new media, but also draws out dangerous implications that carry over from nineteenth to twenty-first century imaginations of the total archive.

In distinguishing the "core" of any object from a "surface" that could be "scaled off" as image, Holmes's describes a system of visual representation in which real things are disregarded as merely "carcasses." The "enormous collection of forms" he imagines reiterates a Platonic ideal in which the significance is disjunct from material manifestation, positing an archive of images that replaces and systematically improves upon the actual world so it becomes easier to seize upon whatever one "particularly desire[s] to see." Rather than being organized by the spatio-temporal relationships of whatever it represents, this archive is organized by abstract systems of classification and exchange, ordered for the production of knowledge, use, and value. Such an archive was almost attempted by stereoscopic companies like Underwood and Underwood, who collected and numbered the world's spectacles within a combinatorial system that could organize views into variable sets and series on any given topic. "Cheap and transportable," their stereographs monetized anything photographable into the commodity form of a proprietary visual experience.

Holmes' metaphors anticipate the language Walter Benjamin would marshal nearly seventy-five years later to describe the destruction of "aura" in the era of photo-mechanical representation. Walter Benjamin is known for describing how cinema restructures perception in the twentieth century, as well as how it alters the terms through which the material world, embodied experience, and representation would interrelate. In his iconic essay "The Work of Art in the Age of its Reproducibility", Benjamin traces this transformation further back to the industrialization of photography. In a well-known passage, he echoes Holmes' notion of collecting photographic "skins" and his idea that visual reproduction enabled a system of general equivalence. After defining aura as "a strange tissue of space and time: the unique apparition of a distance, however near it may be," Benjamin argues that an ongoing "decay" of aura

rests on two circumstances...Namely: the desire of the present-day masses to 'get closer' to things and their equally passionate concern for overcoming each thing's uniqueness by assimilating it as a reproduction. Every day the urge grows stronger to get hold of an object at close range in an image, or, better, in a

facsimile, a reproduction. ...The stripping of the veil from the object, the destruction of the aura, is the signature of a perception whose 'sense for sameness in the world' has so increased that, by means of reproduction, it extracts sameness even from what is unique.<sup>22</sup>

Here Benjamin posits vision itself as a way of apprehending an object as "an image" but suggests that visual reproductions of objects facilitate this apprehension. For Benjamin, aura relates to spatio-temporal specificity; the violent desire to overcome difference seeks to strip away the material and historical particularities that condition how every phenomenon manifests itself in the world. His critique remains relevant, and perhaps becomes more so, in what has been called the "post-photographic" era of digital media, in which even the visual relationship between image and object gives way to the abstract equivalencies of data.<sup>23</sup>

In the critique of the stereoscope he offers in *Techniques of Observer*, art historian Jonathan Crary suggests that Benjamin's description of a perception that seeks to bring things closer echoes with the conceit of the stereo image, which seems to reproduce whatever it pictures as if within virtual grasp.<sup>24</sup> The stereoscope aimed to render a photographic representation as an actual view present in the embodied space of the viewer, a scene filling her entire perceptual field as if she already stood within it. If Crary is correct to associate the distance-collapsing mode of perception Benjamin describes with the illusion of proximity that stereoscopic depth produces, then we might go further to consider how the way the stereoscope combines two perspectives to produce one visual impression also performs what Benjamin calls a "sense for sameness."<sup>25</sup>

By seeming to bring the far near, and to invest static representations with perceptual life, the stereoscopic image seemed to overcome not only distance but time. In fact, the reality effect of stereo images may be as much about time as space, with spatial depth operating as a coordination of presence that connects viewer and viewed. To view a pair of images through a stereoscope is to see them merge into one simultaneous impression, even if they were not captured at the same moment. Effecting a perception of depth, the viewer triangulates a shared presence between her own moment of looking and the moments captured in the photographs. The way stereographs were felt to "transport" the viewer into the pictured place relied on this way that viewing stereographs activated the scene within the 'now' of the viewer. Popping out of the image plane, the volume of things seen through the stereoscope seemed to extend into not only the perceptual space of the viewer but also his perceptual time. By creating the perception of virtual co-presence, stereoscopic representation supported colonialist fantasies about collecting all the world's diversity and its historicity under the auspices of one coordinating point of view.

Antoine Claudet, for example, one of the first to practice and promote stereo photography, extolled the stereoscope as a form of visual archeology: "It introduces us to scenes known only from the imperfect relations of travelers, it leads us before the ruin of antique architecture, illustrating the historical record of former and lost civilizations; the genius, taste, and power of past ages, with which we have become familiarized as if we had visited them."<sup>26</sup> The idea that any visual appearance can be plucked from the world's actual coordinates and experienced anywhere suggests that moments in time might be plucked from their actual historical coordinates and reviewed anytime. The "general panorama of the world" that Claudet claims is given through the stereoscope, then, is not just a spatial representation of the world's spatial continuity but also a temporal representation of history itself such that the past, the ruin, the former and lost are rescued and preserved. In other words, stereoscopic representation inscribed a specific structure of historical relationship between the spectator, the experience of the image, and the photographed scene. Stereoscopic representation was structured by a conceit of simultaneity that echoes the fantasy of "nothing forgotten, nothing erased" that Manovich associates with the digital database.

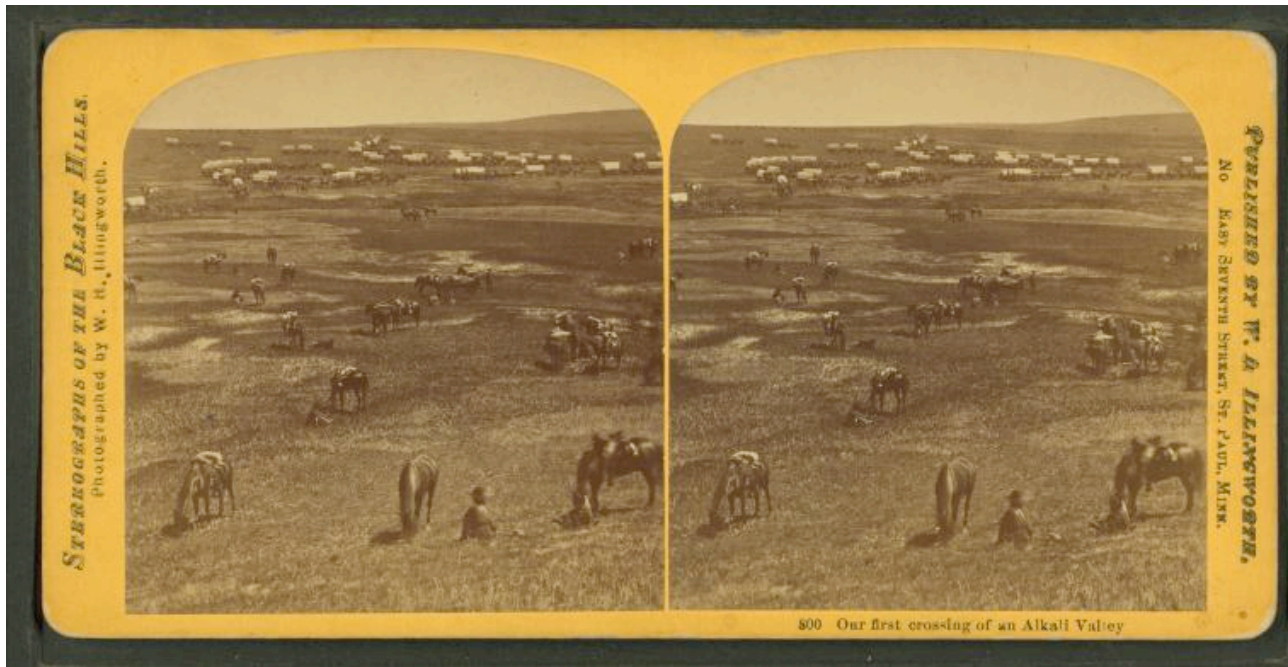
Writing in 1938, the eminent historian of photography Robert Taft offers a description of stereoscopic viewing that reveals how the fantasy of the total archive persisted through the era of cinema, after the stereoscope had become antiquated and before digital media emerged. He describes his own visual experience of a nineteenth century stereograph as an uncanny form of virtual memory. Claudet described stereo images that documented subject matter already deemed historical, photographs that served as a more accessible record of "the historical record" visible in forms like architectural ruins. But, looking at an 1874 stereograph that captured what was then a current event, Taft looks at the past itself as a ruin, and claims to access the past-present through a form of *déjà-vu*. He claims that "[p]laced in the stereoscope...there lies before the observer the original scene in *space*; all but color is there."<sup>27</sup> But, this space seems to represent for him a spatial manifestation of time.

Taft describes looking at one of the stereographs from an explicitly historical series titled "Stereographs of the Black Hills," which was published by the photographer W. H. Illingworth, documenting his experience accompanying General George Custer on an 1874 scouting expedition in the Black Hills of what was then Dakota Territory.<sup>28</sup> Taft narrates his experience of one particular image from this series:

I drop the print into the stereoscope and a third dimension is miraculously added. The foreground is no longer a level prairie—I am standing on a hill which drops abruptly to the plain below, whereon the train of wagons is traveling. At my feet each blade of grass, each stalk of weed, stands boldly forth in its own

position. My hand sways slightly and the illusion of motion is imparted—the grass ripples in the breeze. As my eye travels along the train of this elaborately equipped expedition, each wagon stands out distinctly, separated from its neighbor, each rider is a man in space and not his projected image. In the distance the long, even, and monotonous hills of the flat print are now a series of hills, gradually ascending through three distinct slopes into rugged mountains. It has been transformed from a record of the scene to the original scene itself. I have looked back over sixty years and can feel that I have lived before my time on this broad and treeless plain, in the burning sun of the Dakotas.<sup>29</sup>

For Taft, perceptions of volume, proximity, and depth seem to render objects in his own proprioceptive space rather than in representational space; they present themselves to him less as images than as things, less as items in a historical record than as objects with their own effect of presence. By the end of the passage, the shift in Taft's first-person-present account, from his position as a stereoscope user in 1938 to the position of an eyewitness within the 1874 scene, has taken on the tone of a Western romance. While he claims to virtually enter this scene, he seems to describe it as a fictionalized space of genre cliché, a "broad and treeless plain" under a "burning sun."



**Image 800: "Our first crossing of an Alkali Valley," from the set Stereographs of the Black Hills, by W. H. Illingworth (1874). Held in the Robert Dennis Collection of Stereoscopic Views in the New York Public Library**



**Unnumbered image: "Our First Grizzly—killed by Gen. Custer and Col. Ludlow," from the set *Stereographs of the Black Hills*, by W. H. Illingworth (1874). Held in private collection.<sup>30</sup>**

Emphasizing the material distinctness of each pictured object, Taft seems to maintain his own sense of separateness within the scene; if a form of being "is" taking place here, it seems to take place like the world of a film. The only interaction, when his hand movement "ripples" the grass, positions him as effecting the image from the outside, like a director turning on a fan to create effects of movement. Beyond a visual effect of presence, the historical resonance of this scene does not seem to be captured or conveyed here. This "elaborately equipped expedition" was a reconnaissance survey, part of a military campaign to forcibly expel the Dakotas from territory that would be the site of a gold rush a few years later.<sup>31</sup> Taft surveys the surveyors without feeling he is one of them; "standing" in the scene as a voyeur, he experiences the visual pleasure of revisiting a past in which the sun burns only as an image. If the past is not just its visual appearance, but all its historical dimensions, were really accessible in this image, if it were really not a "record of the scene" but "the original scene itself," one wonders whether Taft could so unequivocally celebrate "the device which thus so readily projects the past into the present."<sup>32</sup> Rather than accessing the past in its actual dimensions, Taft imagines a tableau "projected" into the dimensions of his present experience like a film scene or a virtual reality simulation. As he presumes to grasp this past moment in terms of his own embodied present, the broader political, geographical, and historical context within which this scene was actually embedded seem to slip beyond his grasp.

The fantasy that Taft, Claudet, and Holmes all associate with stereoscopic representation, the dream that it might enable a perfect capture of whatever it pictures, did not originate with stereoscope, but has shifted expression with each new, visual technology that has appeared to move closer toward this goal. What Manovich describes as the "database imagination" is only the latest iteration of an archival imagination that has kept pace with changing media technologies. Just as Oliver Wendell Holmes imagined a library of stereographs that could replace things themselves, the early filmmaker D.W. Griffith imagined a cinematic library, in which any historical event or aspect of existence could be seen directly.<sup>33</sup> As Holmes imagined that stereographs improved upon the 'evidence' given in painting and enabled a new form of "eye witnessing", Griffith imagined film could replay the past within the present as a first-hand experience, preserving its complete meaning rather than the meanings distilled through successively mediated accounts. As Holmes imaged a complete, stereographic archive, Griffith imagined a complete cinematic library, in which any event or aspect of existence could be seen directly.<sup>34</sup>

As a temporally unfolding medium, cinema's promise of temporal capture refigures the stereograph's promise of spatial capture. Like stereographic images, cinema seems to capture the actual dimensions of a specific place and time and reactivates these dimensions as a present-tense visual experience. If stereoscopic representation correlated with an idea of unlimited spatial visibility and supported a fantasy of the world as a storehouse of images to be collected and consumed, then film aligns with a logic of unlimited temporal visibility and a fantasy of historical legibility. The fantasies Holmes, Kracauer, and Griffith all describe could be collected under the idea that film critic Andre Bazin termed "the myth of total cinema," the dream of a complete representation that could replicate life itself in its tangible, visible, temporal, and spatial manifestation.<sup>35</sup>

Ideas of an infinite visual library, complete film, and comprehensive catalog of images are all forms of a fantasy that accompany the

very idea of representation; this fantasy does not adhere to any one media format but is refueled by, and finds new expression through, the terms that each new format offers. Each form of the fantasy of total representation, each dream of the total archive, strains anew against limits that no new technology can overcome. When such fantasies hope to overcome the spatio-temporal limits that vision and representation themselves impose, they threaten to substitute the map for the territory—to allow an abstract system of representation to appear as real as material relationships between people, places, and things. This threatens to superimpose logics of legibility and commodity value over alternative systems of meaning and value. It subjects actual bodies and landscapes to disregard and violence, as with Holmes' "pull it down or burn it up, if you please." Dreams of the total archive also do violence to historical perspective. Philip Rosen has pointed out how claims for a "digital utopia" that supersedes all previous media tend to construct a "historiography of conquest" that "avoids historical self-consciousness;" the promise of new media seems to rely on the future-directed rhetoric of "the forecast" and "disavows its own historical emplacement."<sup>36</sup> New media repeatedly take up the present moment and technology as a privileged fulcrum from which both the past and the future might more perfectly be seen, projected, and interpreted. This forgets the ways in which a present point of view is conditioned and limited by the technologies, ideologies, and material conditions that subtend it. Paradoxically, dreams of mastering historical perspective—perfectly capturing presence and seeing further into the past and the future—require and produce a myopic presentism largely blind to historicity.

### 3. Representing Presence, Visualizing History

Histories of media help correct fantasies about historical mediation. Looking back at the industrialization of photography in the second half of the nineteenth century from the perspective of a twenty-first century visual culture dominated by cinema, Siegfried Kracauer and Walter Benjamin offered important theoretical accounts of the ways that media technologies alter our perception of material reality by altering how spatio-temporal relationships are represented and understood. Siegfried Kracauer describes photography as atomizing the world's particulars, dissociating fragments of the visual world from the actual, contextual relationships that structure significance, and then archiving them within abstract systems of coordination.<sup>37</sup> He claims that with the rise of photography, "the world itself has taken on a 'photographic face,'" appearing already structured by, and "striving" to be absorbed within, the representational coordinates that govern photographic visibility.<sup>38</sup>

Kracauer describes a "flood of photos" that "sweeps away" dams, and a "blizzard of photographs" that renders everything as image, as if a layer of snow settling over everything obscured individual features into a unified, blank field.<sup>39</sup> Kracauer identifies the dams that photographs sweep away as the structures of memory, and the blizzard he describes is blinding: though it may register the shape of things, it "betrays an indifference toward what the things mean."<sup>40</sup> In his argument, photography would collect and reify both space and time, rendering not only the world's material, spatial, expanse but also its historical, temporal, extension in terms of a "comprehensive catalogue" of things and events in which everything could be accessed all at once. The verisimilitude of the photograph becomes a way of listing and storing something in an abstract system of artificial value. Using the language of industry he describes photography as a "warehousing of nature," a "general inventory," and "comprehensive catalogue."<sup>41</sup> He goes so far as to claim that photography "is a secretion of the capitalist mode of production," "assigned to" and issuing from the conditions of modern, industrial capitalism.<sup>42</sup>

Walter Benjamin offers a related critique of photography using similar eschatological terms, accusing photography of "flooding the market with countless imitations of figures, landscapes, and events" from the second half of the nineteenth century onward.<sup>43</sup> For Benjamin, the mechanical reproduction of photographs opens a floodgate for the mass circulation and consumption of images because it leverages the interchangeability between a thing and its picture into the interchangeability of every photographic copy in a system of commodity exchange. As Benjamin argues, this also "greatly extends the sphere" of what can be considered a commodity by "flooding" alternative systems of value that governed specific, spatio-temporal relationships of uniqueness, likeness, and exchange.<sup>44</sup>

Siegfried Kracauer argued that a uniquely "historicist" imagination developed alongside the medium of photography, fueling a fantasy that actual life could be atomized into visual fragments we could arrange and rearrange on the timelines structuring our changing visualization of progress. Kracauer claimed that "advocates" of "historicist thinking, which emerged at about the same time as modern photographic technology," believe that "they can grasp historical reality by reconstructing the course of events in their temporal succession without any gaps. Photography presents a spatial continuum; historicism seeks to provide the temporal continuum. [...] Historicism is concerned with the photography of time. The equivalent of its temporal photography would be a giant film depicting the temporally interconnected events from every vantage point."<sup>45</sup> The "giant film" Kracauer imagines figures time as a continuous series of interconnected events that could be seen, completely, from the present point of view of the historian. Writing in the era of cinema, Kracauer's claims for photography are influenced, as his notion of a "giant film" betrays, by the ways that the medium of cinema extends the photographic and stereoscopic fantasy of a total archive through its own, particular expression of this ideal.

Today, the aspiration of a total archive is recast through the ways of seeing and modes of coherence that digital technologies structure. As the photographic archive is refashioned as a digital database, everything that was 'catalogued' and 'warehoused' as image is re-indexed and stored as the countless ones and zeros of digital information. A collection of photographs, characterized by the quality of endless reproducibility, is reimagined as a database of information, and characterized by a quality of unlimited flexibility. If the



photographic archive was 'assigned' to its moment of industrialization, the database is discursively fit within its historical context of globalization: the total archive that was once imagined as an infinite library of photographs or films may now be imagined as information instantly available, in the nebulous form of data, everywhere and always. Extrapolating from new forms of stereoscopic 3-D and digital imaging, the historical perspective figured by what Holmes termed a "Bank of Nature," Griffith imagined as a cinematic library, and Kracauer termed a "giant film," may now be speculatively imagined as not only a database but a navigable, narrative 'virtual' world.

Each new fantasy of the total archive uses a new representational medium to re-imagine what constitutes unmediated experience and also what forms of representation and mediation constitute historical reflection. Holmes imagined an unlimited spatial visibility, as if images were layered in space like leaves of a book, and this supported a fantasy of the world as a storehouse of images to be collected and consumed. Kracauer's "giant film" is a fantasy of unlimited temporal visibility and historical legibility, as if history could be seen as a visual timeline of events that could be scanned in a kind of fast-forward or rewind. It incorporates the dimensional view of the stereographic library, imagining that the historian could see "from every vantage point" without moving from his own position within the present. Manovich's description of the digital database, with its logic of continuity and spatial montage, once again imagines historical visibility that is grounded in and works to constitute the point of view of the present.

Photographic, stereoscopic, and cinematic representation have all aligned specific forms of mediating visibility with fantasies of historical legibility. Rather than taking up contemporary technologies in efforts to more perfectly archive the present, we would do better to consider how structures of technical mediation condition historical perspective, shuffling possibilities of historical legibility by refracting our sense of spatio-temporal order. As digital media recast the problem of historical representation, they challenge us to remember how technologies of visual representation shape how history itself is not only archived but imagined.

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## NOTES

1. See Victoria Vesna, ed., Database Aesthetics: Art in the Age of Information Overflow, 1st ed. (Minneapolis, MN: University of Minnesota Press, 2007); Mark B.N. Hansen, New Philosophy for New Media (Cambridge, MA: The MIT Press, 2004).
2. Manovich, The Language of New Media, 218, 219.
3. Ibid., 236.
4. Ibid.
5. Ibid., 218-219.
6. The artist describes this project as follows: "Conceived as an installation on the topic of the archive, memory and audience participation..." "Pockets Full of Memories" is an interactive installation that consists of a data collection station where the public takes a digital image of an object, adds descriptive keywords, and rates its properties using a touchscreen. The data accumulates through-out the length of the exhibition. The Kohonen self-organizing map algorithm is used to organize the data, moving the images of the objects into an ordered state according to similarities defined by the contributors' semantic descriptions. The archive of objects is projected large-scale on the walls of the gallery space showing various visualizations such as the objects positioned in the 2D matrix, their movement over time, and textual descriptions. The audience can also interact with the data online to access descriptions of the objects and to contribute comments and messages to each object from anywhere in the world." Image and description from George Legrady's faculty page on website for the Media Arts and Technology Program at the University of California at Santa Barbara : <http://www.mat.ucsb.edu/~g.legrady/glWeb/Projects/pfom2/pfom2.html> (accessed October 25, 2012).
7. Ibid., 325.
8. Manovich's notion of historical continuity suggests a trajectory of progress that also conflicts with Walter Benjamin's dialectical view; Manovich advocates for a model of history that Benjamin metaphorically figures as counting prayers off beads strung on a rosary. See Walter Benjamin, "On the Concept of History," in Walter Benjamin: Selected Writings, Volume 4: 1938-1940, ed. Michael William Jennings, vol. 4 (Cambridge, MA: Belknap Press of Harvard University Press, 2006), 389-400.
9. Manovich, The Language of New Media, 285.
10. Ibid.
11. Manovich, The Language of New Media, 233-4.
12. Ibid.
13. Ibid.
14. On the role of the stereoscope in the history of photography see Helmut Gernsheim, The Rise of Photography 1850-1880: The Age of Collodion, (New York, NY: Thames & Hudson, 1988). On stereoscopic photography in general see William C. Darrah, The World of Stereographs, 2nd Rep. (Nashville, TN: Land Yacht Press, 1997).
15. Image taken from an online auction: <http://historical.ha.com/c/item.zx?saleNo=659&lotIdNo=15001> (accessed October 25, 2012). Stereographic sets are now collected as historical artifacts in their own right, and can fetch thousands of dollars.
16. Oliver Wendell Holmes, "The Stereoscope and the Stereograph," in Photography: Essays and Images, ed. Beaumont Newhall (New York, NY: Museum of Modern Art, 1980 [1859]), 53-61; Beaumont Newhall and Oliver Wendell Holmes, eds., "Doings of the Sunbeam," in Photography: Essays & Images, (New York, NY: Museum of Modern Art, 1980 [1863]), 63-78.

17. Holmes, "The Stereoscope and the Stereograph," 57.
18. *Ibid.*, 53.
19. *Ibid.* As Holmes was writing, only two decades after photograph's invention in 1839, celluloid had not yet been invented and the word film was not yet used for photographic negatives. Holmes' use of the word film still suggests, however, a relationship between the thin sheet of a paper photograph and a membrane of skin.
20. *Ibid.*, 60.
21. *Ibid.*
22. Walter Benjamin, "The Work of Art in the Age of Its Technological Reproducibility: Second Version," in Walter Benjamin: Selected Writings, Volume 4: 1938-1940, ed. Michael William Jennings, vol. 3 (Belknap Press of Harvard University Press, 2006), 104-5.
23. Mark Hansen, "Seeing with the Body: The Digital Image in Postphotography," Diacritics 31, no. 4 (Winter 2001): 54-84; William J. Mitchell, The Reconfigured Eye: Visual Truth in the Post-Photographic Era (Cambridge, MA: The MIT Press, 1992); Paul Virilio, The Vision Machine (Bloomington, IN: Indiana University Press, 1994).
24. Jonathan Crary, Techniques of the Observer: On Vision and Modernity in the Nineteenth Century (Cambridge, MA: MIT Press, 1992).
25. Benjamin, "The Work of Art in the Age of Its Technological Reproducibility: Second Version," 105. For Benjamin, if the stereoscope facilitates a violent assimilation of objects as images, this is less about its perceptual effect of depth than the status of stereographs as photographic reproductions. The depth effect of stereographs only supported a broader effect whereby a photographic image was increasingly taken as a stand-in for what it pictured, and whereby the interchangeability between object and image was leveraged into systems of commodity exchange. In his unfinished Arcades Project, Benjamin argues that "photography greatly extends the sphere of commodity exchange, from mid-century onward, by flooding the market with countless imitations of figures, landscapes, and events." See Walter Benjamin, The Arcades Project, ed. Rolf Tiedemann, trans. Howard Eiland and Kevin McLaughlin (Cambridge, MA: Belknap Press of Harvard University Press, 2002), 6. With stereoscopic photography exploding in popularity during this same time frame, and the proliferation of newly circulating, inexpensive, and collectible photographs around the globe, it is likely that many of the "imitations" Benjamin has in mind were stereographs. We might also consider how the stereograph's juxtaposition of images offers a more complex precursor to the notion of "spatial montage" that Manovich associates with digital media and which he traces back to photography.
26. "Photography in Relation to the Fine Arts" in The Photographic Journal, vol vi, June 15 1860.; as quoted in John Hannavy, ed., Encyclopedia of Nineteenth-Century Photography, 1st ed. (New York, NY: Routledge, 2007), 1339; and in Gernsheim, The Rise of Photography 1850-1880, 257.
27. Robert Taft, Photography and the American Scene: A Social History, 1839-1889 (New York, NY: Macmillan, 1938), 167.
28. Illingworth was paid by the United States Army as the official photographer of the expedition, which also included geologists and mining experts. Leading the 7<sup>th</sup> Cavalry and almost one thousand men, Custer was charged with determining a suitable location for a new military base, pushing further into areas occupied by Sioux tribes of Native Americans. He was also pursuing rumors of gold, and having found evidence to support them, his trip inspired a gold rush that would escalate conflicts with the Sioux in the area and lead to his death three years later at the Battle of Little Bighorn. For more on this expedition see "Its Equal I Have Never Seen: Custer Explores the Black Hills in 1874," by Dr. Brian W. Dippie, Columbia: The Magazine of Northwest History 19 (Summer 2005); and Indian Wars, 2002, Robert Utley.
29. Taft, Photography and the American Scene, 168-9.
30. In the center is Custer, wearing a fringed leather coat, holding a rifle, and tilting his shoulder and gaze toward the left with the proud pose of someone already looking toward the next adventure. Slightly behind three white men—each with a hat and bushy moustache—and at the tail end of the bear's extended corpse, sits an older man with darker skin, and long hair parted down the center, who also holds a rifle. Though he holds his gun more casually than Custer, and he is not Col. Ludlow, the bullets visible around his waist suggest he may have played an active role. Though the three white men blankly look left, out of frame, the fourth man, presumably their Native American guide, looks toward the camera with his lips in a still line, his eyes slightly squinted.
31. Darrah, The World of Stereographs, 94.
32. Taft, Photography and the American Scene, 169.
33. D.W. Griffith, "Five Dollar 'Movies' Prophesied," in Focus on D.W. Griffith, ed. Harry M. Geduld (Englewood Cliffs, NY: Prentice Hall, 1971 [1915]), 34-35.
34. *Ibid.*
35. André Bazin, "The Myth of Total Cinema," in What Is Cinema?, vol. 1 (Berkeley, CA: University of California Press, 2004), 17-40.
36. Philip Rosen, "Old and New: Image, Indexicality, and Historicity in the Digital Utopia," in Change Mummified: Cinema, Historicity, Theory (Minneapolis, MN: Univ Of Minnesota Press, 2001), 349.
37. Siegfried Kracauer, "Photography," in The Mass Ornament: Weimar Essays, trans. Thomas Y. Levin, Reprint. (Cambridge, MA: Harvard University Press, 2005), 50.
38. *Ibid.*, 59.
39. *Ibid.*, 58. MaryAnn Doane has pointed out the rhetoric of natural disaster in Kracauer's discussion of photograph; see Mary Ann Doane, The Emergence of Cinematic Time: Modernity, Contingency, the Archive (Cambridge, MA: Harvard University Press, 2002), 33. Revealing one of many interstices between Kracauer's thinking and his own, Walter Benjamin also uses the metaphor of snow to think about time, claiming that in Baudelaire's poetry "time becomes palpable: the minutes cover a man like snowflakes;" see Walter Benjamin, "On Some Motifs in Baudelaire," in Illuminations: Essays and Reflections, ed. Hannah Arendt, trans. Harry Zohn (New York, NY: Schocken, 1969), 184.

40. Kracauer, "Photography," 58.
41. Ibid., 61–2.
42. Kracauer, "Photography."
43. Benjamin, [The Arcades Project](#), 6.
44. Ibid.
45. Kracauer, "Photography," 50.

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**Author bio:**

[Brooke Belisle](#) researches and teaches the history and theory of digital media, cinema, and photography, focusing on connections between contemporary media art and nineteenth century visual culture. Her dissertation, "The Bigger Picture: The Panoramic Image and the Global Imagination," traces the aspiration of the "total view" through the concept and format of the panorama. She is currently working on the history of astronomical imaging from the first telescopes through early astrophotography to today's digital satellites.



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