



Deliverable D2.5

Report on Digital Curation of Popular Culture Content

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1. Introduction

This document outlines the concept of curating the popular culture content, which we introduced in D2.4 Database of films, artworks, and other visual culture products (M24), in a multimodal way using recent technologies, while focusing on relations and relationality as key concepts within the Visual History of the Holocaust Media Management and Search Infrastructure (VHH-MMSI). The discussion evolves around the various relations existing between the different digitized assets that concern the visual history of the Holocaust, and is based on the premise that Holocaust-related images are constantly migrating, thereby forming relations with one another.

As such, the document stresses the need to implement a Taxonomy of Relations (T/R) as part of the VHH-MMSI's curatorial approach. In this deliverable, we introduce the T/R as an annotation and analysis model, and demonstrate the necessity and the advantage of interlinking digitized visual records as source material with post-1945 cultural assets to trace images that migrate in visual culture.

To create the T/R, we first identified existing models that conceptualize relations between texts, images or films in other disciplines, and created a preliminary list of key terms and concepts. In an internal workshop at HUJI in early July 2019 we discussed a comprehensive set of examples of visual relations extracted from various films as well as from some graphic novels. Based on our discussion of these examples we developed a first model for the T/R that also included a terminology for describing the transformation of visual compositions when migrating into popular culture. This model served as basis for our discussions at the Workshop "Taxonomy of Relations", organized and hosted by LBI in Vienna (Mo8, Aug. 19-20, 2019) with HUJI, OFM, LBI and external stakeholders participating. During this workshop we revised the original T/R model and transferred it into a new structure that corresponds to the needs of the annotation process. This new structure was implemented and tested during several meetings at HUJI in the following months.

We presented the result during the Workshop "Vocabularies", organized and hosted by LBI in Vienna (M11, November 21-22, 2019) with HUJI, JLU, MM, OFM, TUW and LBI participating. The T/R was also subject of discussions during the Workshop "Citavi", organized and hosted by LBI in Vienna (M14, February 13-14, 2020) with HUJI, JLU, CERCEC and LBI participating. Those discussion informed the preliminary draft of the T/R model as we defined it in an internal VHH-working paper in March 2020.

The T/R was revised and modified during the next months, after conducting a series of case studies. The main task was adapting it to non-filmic popular culture content, especially to the logics of graphic novels and artworks. Furthermore, we explored the implications of the T/R model for curating popular culture content.

The T/R was completed during a series of online Mini-Workshops, organized by HUJI, on August 19, 25 and September 3, 2020 with HUJI, OFM and LBI participating. These Mini-Workshops served the purpose to explore significant but challenging concepts related to

the T/R, such as “Relations and Relationalities”, “Remediation”, and “Loose Relations”. On the basis of these discussions, we revised and improved the T/R, and conceptualized it as core element of our approach to curate popular culture content in the VHH-MMSI. As we demonstrate in this deliverable, the T/R will serve as an important annotation tool in the VHH-MMSI, and it will also inform the development of the projected Relation Detection (RD).

This is a living document, and there will be adaptations of and extensions to the T/R. These adaptations are expected to occur even when the process of annotating relations in the VHH-MMSI begins.

Relation to other deliverables:

- D2.4 Database of Films, Artworks, and other Visual Culture Products (M24), serves as material basis for the T/R as model for curating popular culture content in the VHH-MMSI.
- D3.1 Definition of Engagement Levels, Usage Modes, and User Types (M12), describes and defines the curatorial framework for implementing the T/R in the VHH-MMSI.
- D3.2 Mindmap Visualizing Multimodal Curating (M12), visualizes the curatorial environment of the T/R.
- D3.3 Ethics Guideline (M12), defines ethical principles for relating historical visual records of atrocities and the liberation of concentration camps to popular culture representations.
- D3.4 Framework for Tool Kits, Best Practice Models and Future Network Activities (M24), demonstrates ways of using the T/R as analysis tool for (visual) research projects beyond the VHH-MMSI.
- D4.1 Controlled Vocabularies Specification (M14), integrates the T/R in the controlled vocabularies of the VHH project.

2. Disturbing images and their migration into popular culture

Based on digital and technological developments, including automated processes based on machine learning, the VHH-MMSI proposes a new relational approach to digital curation. This approach responds to the challenges posed by the migration of disturbing images captured by Allied cameramen and war artists (i.e., the VHH-MMSI's 'source material', or 'visual records of atrocities and the liberation of the concentration camps') into later representations. Examples of such images are manifold. These disturbing images include the footage taken by the Red Army during and after the liberation of the Majdanek (July 1944) and Auschwitz (January 1945) extermination camps. Soviet soldiers filmed Jewish prisoners in uniform standing behind a barbed-wire fence, piles of the personal belongings of those murdered at these sites, as well as the famous sequence of children revealing their tattooed forearms to the camera.

When British forces liberated the Bergen-Belsen concentration camp near Celle in Germany, British Ministry of Information official Sidney Bernstein suggested documenting the terrible living conditions in the camp, in order to show this film to the German public.¹ Bernstein's film was never completed and therefore not released at the time, but the footage depicting British soldiers using bulldozers to move corpses into mass graves, as well as images of the camp's former guards being forced to clear the ground started to circulate widely in documentaries, and indeed served as a visual model for several post-1945 representations.²

American cameramen filmed and photographed in the Dachau, Buchenwald, and Ohrdruf concentration camps in Germany, as well as in the Mauthausen camp in Austria, liberated by US troops in April and May 1945. Among the archived footage by US-camera teams are pictures of General Dwight D. Eisenhower's visit to Ohrdruf, interviews with former prisoners in Mauthausen, and a color film made privately by Hollywood director George Stevens in Dachau.

Initially, the collection of visual records created by soldiers from the Allied forces was intended to address audiences in the Allied nations, as well as the German population, and inform them about the unprecedented atrocities.³ These disturbing images helped viewers to imagine, if only in part and for a brief moment, what the Holocaust 'looked like' inside the closed camps. Consequently, these images had a major impact on the discourse of (post-) trauma, witnessing, and the mediation and memory of the past, as well as on the ability of images to testify to inconceivable sights. For example, presented as visual evidence of the Nazi atrocities, these disturbing images have been 'mobilized' into the

¹ Cf. Tobias Ebbrecht-Hartmann (2014) "Blicke auf das Grauen: *German Concentration Camps – Ein Film als Quelle*". *Medaon* 15, 1-5. https://www.medaon.de/pdf/MEDAON_15_Ebbrecht-Hartmann.pdf (31.12.2020).

² Cf. Toby Haggith (2006) "The Filming of the Liberation of Bergen-Belsen and its impact on the Understanding of the Holocaust". *Holocaust Studies* 12:1-2, p. 89-122.

³ Cf. Ulrike Weckel (2012) *Beschämende Bilder: Deutsche Reaktionen auf alliierte Dokumentarfilme über befreite Konzentrationslager*. Stuttgart: Steiner.

political sphere: Allied footage of liberation had a great impact on the outcomes of International War Crimes Tribunals; a significant amount of footage was screened in courtrooms at Nuremberg or Celle in the course of the trials against Nazi perpetrators, thereby helping prosecutors to convict Nazi officials accused of war crimes.⁴ Also in the political arena, the Allies' visual records influenced the postwar global debate on human rights (e.g., 1948 Universal Declaration of Human Rights).⁵

However, the powerful impact of the Allies' impressive visual archive rests not only on the functioning of images as "independent artifacts of historiographical research" but also as "sources of the history of memory";⁶ in other words, given their ability "to act"⁷—some would say "to operate"⁸—liberation films, footage, and paintings "generate an agency all of their own".⁹ This being the case, these disturbing images were soon edited into documentary films – most famously in Alain Resnais' 1955 film essay *Nuit et Brouillard* (*Night and Fog*).¹⁰ The adoption of the visual heritage of the Holocaust that is based on cinematic prototypes—the repeatedly screened film footage shot in the liberated camps shortly after the war, for instance—can also be seen in non-documentary films such as Steven Spielberg's blockbuster *Schindler's List* (U.S.A., 1993),¹¹ as well as in many other artistic works. Graphic novel artists like Art Spiegelman, for example, have used liberation footage as a model for their drawings, as does Holocaust survivor artist Boris Lurie, in the process reflecting on the power the visual records of liberation might have on the constitution of the collective visual memory of one of the darkest periods in modern history. Correspondingly, the circulation and migration of such disturbing images have sparked a lively debate among filmmakers and artists. This debate revolves primarily around the question of how such images should—or should not—be used. Claude Lanzmann, for example, famously rejected the use of any archival footage from the Holocaust or the liberation in his masterpiece film *Shoah* (1985). Philosophers, researchers, and educators have also joined this debate. Prominent contributors include writer Susan Sontag, who referred in her books on photography to her personal encounter

⁴ Cf. Hellen Lennon (2005) "A Witness to Atrocity: Film as Evidence in International War Crimes Tribunals". In: Toby Haggith and Joanna Newman (eds) *The Holocaust and the Moving Image: Representations in Film and Television since 1933*. London: Wallflower, pp. 65-75; Yvonne Kozlovsky-Golan (2006) *The Shaping of the Holocaust Visual Image by the Nuremberg Trials. The Impact of the Movie Nazi Concentration Camps*. Jerusalem: Yad Vashem.

⁵ Cf. Sharon Sliwinski (2011). *Human Rights in Camera*. Chicago: University of Chicago Press.

⁶ Gerhard Paul (2012) "Visual History" (Version: 2.0). *Docupedia-Zeitgeschichte* (October 29th): http://docupedia.de/zg/paul_visual_history_v2_de_2012 (27.11.2020).

⁷ Horst Bredekamp (2018). *Image Acts: A Systematic Approach to Visual Agency*. trans: Elizabeth Clegg, Berlin: De Gruyter.

⁸ Jens Eder and Charlotte Klonk (eds) (2016) *Image Operations. Visual Media and Political Conflict*. Manchester: Manchester University Press.

⁹ Jeremy E. Taylor (2020) "Introduction: Visual History of Occupation(s)". In: J. E. Taylor, *Visual History of Occupation: A Transnational Dialogue*. New York: Bloomsbury, pp. 1-23. Here: p. 4.

¹⁰ Cf. Tobias Ebbrecht (2010) "Migrating Images: Iconic Images of the Holocaust and the Representation of War". *Shofar* 28, no. 4: pp. 86-103.

¹¹ Cf. *ibid.*

with atrocity pictures as a crucial event that shaped her understanding of visual culture and atrocity alike,¹² and George Didi-Huberman, who sees in the disturbing images from the liberated camps, especially those of Bergen-Belsen, examples for the crystallization of the visibility of horror.¹³ Another contribution of this debate in action is Marianne Hirsch's concept of 'postmemory', which was significantly influenced by the fact that for many artists and filmmakers of the second generation from the Holocaust, the liberation footage was a powerful 'tool' that allowed them to visualize the experiences of their parents' generation (among them also Spiegelman).¹⁴

With the intensification of Holocaust memory as a key concern in Western societies,¹⁵ the visual history of the Holocaust has become a "multidirectional trope" that simultaneously "decenters the historical event" and "certifies its use as a prism through which we may look at other instances of genocide".¹⁶ The turn towards a transnational memory of the Holocaust—a turn that is not independent of the rapid development of digital technology—has only further intensified the migration of Holocaust-related images. This turn has provoked the need to rethink *how* these disturbing images are digitally preserved as well as curated. However, considering that the atrocity images captured by the Allies have become a multiplicity of visual placeholders for other (disturbing) 'missing images' (cf. deliverable D2.4, Database of Films, Artworks, and other Visual Culture Products, M24), the possibility of using digital developments to analyze which of these disturbing images have high migration potential, and how they are migrating, has not yet been sufficiently explored.¹⁷

¹² Cf. Susan Sontag (2003) *Regarding the Pain of Others*. New York: Farrar, Straus and Giroux; Susan Sontag (2007 [1973]) *On Photography*. New York: Rosetta Books.

¹³ Cf. George Didi-Huberman (2010) "Opening the Camps, Closing the Eyes: Image, History, Readability". In: Griselda Pollock and Max Silverman (eds) *Concentrationary Cinema: Aesthetics as Political Resistance in Alain Resnais's Night and Fog (1955)*. New York/Oxford: Berghahn, 84-125. Here: 90.

¹⁴ Cf. Marianne Hirsch (2001) "Surviving Images: Holocaust Photography and The Work of Postmemory". *Yale Journal of Criticism*, 14(1), 5-37; Marianne Hirsch (2012) *The Generation of Postmemory: Writing and Visual Culture after the Holocaust*. New York: Columbia University Press.

¹⁵ Cf. Andreas Huyssen (2003) *Present Pasts: Urban Palimpsests and the Politics of Memory*. California: Stanford University Press.

¹⁶ Andreas Huyssen (2000) "Present Pasts: Media, Politics, Amnesia". *Public Culture*, Volume 12, Number 1, Winter, pp. 21-38. Here: p. 24; Michael Rothberg (2009) *Multidirectional Memory: Remembering the Holocaust in the Age of Decolonization*. California: Stanford University Press.

¹⁷ Cf. Ebbrecht (2010) "Migrating Images", p. 92.

3. Curating disturbing images and image relations

The prevalent (yet simplistic) definition of ‘curation’ is: assembling, managing, organizing, and presenting a type of a collection, while ‘digital curation’ is commonly defined as the active management of data: maintaining, preserving and adding value to digital data with the goal of mitigating the risk of technological obsolescence or corruption, and to encourage their re-use (cf. deliverable D3.1 Definition of Engagement Levels, Usage Modes, and User Types, M12). However, with the strengthening of digital platforms as a new means of knowledge mediation, over recent decades various attempts have been made to re-define ‘curation’ among researchers from a diverse range of research areas and heritage sectors, including museum studies, media studies, and digital humanities, as well as by practitioners who work in the heritage and cultural sectors. Whereas in the past, curatorial practices have been strongly affected by the ethnographic practices prevalent in the nineteenth century museum, these recent attempts push toward a rather more inclusive and interdisciplinary definition of the concept. In museum studies, for instance, the museum is no longer seen as a place in which objects are merely arranged and exhibited, but rather as a “contact zone” for a powerful set of (postcolonial) relationships in which the “agency of display”—the way a collection is developed and preserved, and how it is communicated to the general public—is constantly questioned.¹⁸ Against this backdrop, and with the Internet offering new paradigms of communication and media distribution, online platforms have emerged as the new exhibition, publication and communication spaces. Such spaces now functioning as *digital* contact zones enable many new possibilities for interactive engagement with the media,¹⁹ and consequently, with the past. This in turn has led to some overlap between curatorship as a cultural and as a digital practice, as both are now aimed at interactivity and engagement from the side of the visitor, whether an exhibition visitor or an online user. Within academic research, this mostly means a growing tendency towards the participation of the visitor/user in the “experience economy”.²⁰

As part of this ‘economy’, it has become necessary to explore innovative ways of using new technologies, “which would place greater emphasis on agency and the relationship between the user’s identity in relation to learning history and developing socially inherited

¹⁸ Cf. James Clifford (1997) *Routes: Travel and Translation in the Late Twentieth Century*. Cambridge, Mass: Harvard University Press (in particular see Chapter 7: “Museums as Contact Zones”, pp. 188-219); Barbara Kirshenblatt-Gimblett (1998). *Destination Culture: Tourism, Museums, and Heritage*. California: University of California Press.

¹⁹ Cf. Charlie Gere (1997) “Museums, Contact Zones and the Internet”. In: David Bearman and Jennifer Trant (eds) *Museum Interactive Multimedia 1997: Cultural Heritage Systems Design and Interface (Archives & Museum Informatics)*, pp. 59-66.

²⁰ Cf. Ivan Karp, Corinne A. Kratz, Lynn Szwaja, and Tomas Ybarra-Frausto (eds) (2006) *Museum Frictions: Public Cultures/Global Transformations*. North Carolina: Duke University Press; Andreas Huyssen (2019) “The Metamorphosis of the Museal: From Exhibitionary to Experiential Complex and Beyond”. In: Ayşe Gül Altınay, María José Contreras, Marianne Hirsch, Jean Howard, Banu Karaca, and Alisa Solomon (eds). *Women Mobilizing Memory*. New York: Columbia University Press, pp. 47-64.

memories”.²¹ Controlled practices of re-experiencing, reenacting and secondary witnessing that dominated ‘classical’ commemorative forms for many years are no longer enough to mediate that past for a generation of youngsters born with smartphones in their hands.²² While several scholars argue against the late ‘arrival’ of the (conservative) Holocaust memory in the current digital culture,²³ it is no longer possible to ignore the leap towards an interactive and participatory online engagement and the “social media memory”²⁴, which Tobias Ebbrecht-Hartmann argues has gained a tailwind from the social distance forced on us by the Covid-19 pandemic.²⁵

Correspondingly, though it already begun pre-pandemic, the VHH project has aimed to redefine the concept of digital curation in favor of a new and more inclusive definition that will innovate curatorial work. This new understanding of curation is inspired by museum practices of cultural curatorship using digitized film and media collections, that will lay the ground for new forms of user’s experience and co-creation. The motivation behind this goal is “to turn what the camps were into something *legible*” from a contemporary point of view that recognizes the migration of Holocaust-related images.²⁶ Establishing new and sometimes unforeseen relations between various digitized assets, with the aid of technological innovations, the VHH-MMSI offers intensified engagement with the visual history of the Holocaust, including the possibility of a close inspection of the common narrative and visual patterns of migrating images. To achieve this, the VHH-MMSI follows two central approaches to curation that complement each other: a *comparative approach* and a *multimodal approach*.

The comparative approach is designed so that the user will be able to compare different digitized assets concerning the liberation of the camps and the discovery of other atrocity sites, such as films and film sequences, according to a variety of parameters and responding to their various intentions and goals. For example, the user can identify specific filmic strategies for presenting atrocities by comparing footage recorded at different sites. By reviewing and analyzing filmic depictions from different periods, the user can explore the changes in a specific place over time. He or she can even view the present state of the site with the help of geo-data, and can identify specific motifs and

²¹ Anna Reading (2003) “Digital interactivity in public memory institutions: the uses of new technologies in Holocaust museums”. *Media, Culture & Society* 25: 67-85. Here: p. 68.

²² Cf. Tobias Ebbrecht-Hartmann and Tom Divon (1009.2020) “Opinion | Let TikTok Creators Pretend to Be Victims of the Nazis. It Strengthens Holocaust Memory”. In: *Haaretz*: <https://www.haaretz.com/us-news/.premium-let-tiktok-users-pretend-to-be-victims-of-the-nazis-it-strengthens-holocaust-memory-1.9141182> (29.11.2020).

²³ Cf. Wulf Kansteiner (2017) “Transnational Holocaust Memory, Digital Culture and the End of Reception Studies”. In: Tea Sindbaek Anderson and Barbara Törnquist-Plewa (eds) *The Twentieth Century in European Memory: Transcultural Mediation and Reception*. Leiden/Boston: Brill, pp. 305-343.

²⁴ Lital Henig and Tobias Ebbrecht-Hartmann (2020) “Witnessing Eva Stories: Media Witnessing and Self-Inscription in Social Media Memory”. *New Media & Society* 1-25: <https://doi.org/10.1177/1461444820963805>

²⁵ Cf. Tobias Ebbrecht-Hartmann (forthcoming 2020) “Commemorating from a distance: the digital transformation of Holocaust memory in times of COVID-19”. *Media, Culture & Society*.

²⁶ Didi-Huberman (2010) “Opening the Camps”; Ebbrecht (2010) “Migrating Images”.

patterns common to various images by using features such as a split screen display. While the comparative approach is primarily based on comprehensive mapping, contextualization, and reframing of the Allies' visual records in a manner that may assist the user to track similarities and differences in respect to the repository's source material, the multimodal approach enables the user to relate original records to other digital assets, such as testimonies, texts, and other historical documents, as well as post-liberation digitized assets already affected—either implicitly or explicitly—by the migration of images from the original source material to popular culture. These include films, television series, graphic novels, artworks, computer games, internet memes, and other forms of representation that make use of the Allies' visual records, either directly or indirectly (see deliverable D2.4 Database of Films, Artworks, and other Visual Culture Products, M24).

The combination and integration of both comparative and multimodal curatorial approaches within the VHH platform encourages participatory co-creation from the side of the user – an encouragement that further develops the repository through the curatorial activity of the user, who becomes a co-creator in the process. With the aid of technological innovations, the user is invited to learn, annotate, map, and combine film documents with other digitized assets from the history of the Holocaust (e.g., testimonies, historical text documents and photographs), as well as to co-create new interactive content, such as audiovisual essays, guided tours and online exhibitions (cf. deliverables D3.1 Definition of Engagement Levels, Usage Modes, and User Types, M12, and D3.4 Framework for Tool Kits, Best Practice Models and Future Network Activities, M24). What this means is that the VHH-MMSI, as a digital contact zone, functions as a 'living archive' in which multiple narratives can meet. Equally, with its foundations rooted in digital and technological developments such as automated processes that are based on machine learning and algorithms, on transdisciplinary research of the visual relations that exist between various digitized assets, and on the user's interactivity, this 'living archive' inexorably continues the migration of images between various digitized assets, further enriching the scope of the visual history of the Holocaust by strengthening the existing network of relations, as well as establishing new relations.

4. Relations and relationality as key concepts

Confronted with the dispersed nature of Holocaust related sources, relational approaches to the history of the Holocaust face significant challenges. Correspondingly, Arie Erez et al. emphasize:

The dispersal and fragmentation of relevant archival material is the arguably biggest stumbling block to endeavours to study the Holocaust from truly trans-national perspectives. [...] What is additionally required are lateral inter-linkages that virtually tie materials together that are related by either provenance or pertinence but physically dispersed.²⁷

Online repositories and archives enable new forms of engagement with historical resources. Similar to physical archives and collections, online portals were developed for integrating content and making it accessible for users.²⁸ Other than physical archives, digital repositories offer a variety of advanced search options through which users can interact with the digital environment, and in doing so engaging with the past through the selective encounter with and exploration of fragmented historical sources. Furthermore, online repositories can “virtually integrate and interlink physically fragmented and dispersed archival collection[s]”.²⁹ These elements lead to an intensified user experience of “connectedness between different materials”, an effect that results from the interplay of common controlled vocabularies, search and browsing functions and digital collections in a virtual (re)search environment.³⁰

This interaction with online repositories and archives through advanced search functions establishes relations on various levels. The users relate to the past through a relation with the digital infrastructure. This relation is established through resources that are related to annotations and interrelated through controlled vocabularies. As specific media objects, these resources also establish various relationships with other sources within and beyond the particular repository. They can be related to other media objects that share common genre characteristics (i.e., testimonies, historical photographs, documentary films), and they are interconnected by similarities concerning their shape and composition, thereby establishing iconographic relations. Furthermore, they share similar or even identical metadata information (i.e., a similar period of production or specific historical incidents or places they are referring to).

Our online repository and digital search infrastructure offer access to the history and memory of the Holocaust through a complex interplay of relations. Through the digitization of historical resources and their integration in the VHH-MMSI, the platform seeks to enhance user engagement through digital curation and co-creation. This user

²⁷ Sigal Arie Erez, Tobias Blanke, Mike Bryant, Kepa Rodriguez, Reto Speck and Veerle Vanden Daelen (2020) Record linking in the EHRI portal. *Records Management Journal*, 29.04.2020 (online).

²⁸ Cf. Tobias Blanke, Michael Bryant, Michal Frankl, Conny Kristel, Reto Speck, Veerle Vanden Daelen and René von Horik (2017) “The European Holocaust Research Infrastructure Portal”. *Journal on Computing and Cultural Heritage* 10(1), January 2017 (online).

²⁹ Arie Erez et. al. (2020) Record linking in the EHRI portal.

³⁰ Ibid.

engagement is based on several levels of relations that connect the user to the digital environment, the resources to the user, the sources to other sources, the preserved traces to historical places and thereby relate past and present.

Establishing relations is a key aspect of digital culture, which is defined by the interplay of “different algorithmic arrangements”.³¹ Most basically, the development of user-friendly computation technology is a precondition for relating users to specific content. Yuk Hui noticed a significant shift resulting from the digital engagement with objects transformed into data: a shift “from substance to relations”.³² This move corresponds to a significant attribute of digital culture, which Hui describes as “concretization of relations in terms of data and metadata”.³³

This evokes database technology and its relational logics. Relational concepts are the basis for database structures and indexing processes.³⁴ This directly results from “recombinatory potential of computer-aided database technology”.³⁵ Correspondingly, every interaction with digital technology establishes a relation that has a specific effect.

A crucial tool in this context is hyperlinks. Referencing data, such links are a key element of digital online engagement, and computational linking became a significant cultural technique that enables access and connectivity. Understanding links as a curatorial tool for establishing relations between different data and digital assets, relationality as a key element of digital infrastructures connects the functionality of digital repositories and search infrastructures to cultural curatorial practices.

Relations between different objects are a constitutive element of exhibitions as well as of visual narration and storytelling. The interrelation of objects, however, is also interconnected with the relationship built with the visitor of an exhibition. Stephen Greenblatt describes this relation to an exhibition of interrelated objects as *resonant*: “A resonant exhibition often pulls the viewer away from the celebration of isolated objects and toward a series of implied, only half-visible relationships and questions”.³⁶ Shifting our attention from the relationship between the visitor and the displayed objects to relations between different objects, this approach also resembles Georges Didi-Huberman’s concept of “interpretative montage”, which he describes as a method of

³¹ Yuk Hui (2015) “Towards a Relational Materialism: A Reflection on Language, Relations and the Digital”. *Digital Culture & Society* 1(1): 131-147. Here: 132.

³² Ibid, p. 137.

³³ Ibid., p. 140.

³⁴ Cf. Edgar Frank Codd (1982) “Relational Database: A Practical Foundation for Productivity”. *Communications of the ACM* 25:2, 109-117; Jason Farradane (1979) “Relational Indexing Part I”. *Journal of Information Science* 1, 267-276.

³⁵ David Gugerli (2012) “The World as Database: On the Relation of Software Development, Query Methods, and Interpretative Independence”. *Information & Culture* 47:3, 288-311. Here: p. 291-292.

³⁶ Stephen Greenblatt (1991). “Resonance and Wonder”. In: Ivan Karp and Steven D. Lavine (eds) *Exhibiting Cultures: The Poetics and Politics of Museum Display*. Washington/London: Smithsonian Institution Press, 42-56. Here: 45.

intersecting different memories, knowledge, testimonies and other sources.³⁷ As a precondition for rendering historical photographs, especially the disturbingly mute visual records from the Holocaust—and we might also add from its aftermath—*readable*, interpretative montage is a relational concept that connects a variety of material and immaterial entities. Didi-Huberman’s approach to analyze and interpret visual records from the Holocaust does not only explicitly refer to cinematic practices, it also borrows crucial aspects from cultural curation techniques. Even more, interpretative montage—although terminologically linked to analogue film—seems to imply a particularly digital logic. The idea of intersecting memory, knowledge, voices and visual objects corresponds to the idea of interlinking, and thereby resembles a digital curatorial logic.

³⁷ Georges Didi-Huberman (2008). *Images in Spite of All: Four Photographs from Auschwitz*. Chicago: University of Chicago Press, p. 89.

5. Towards a Taxonomy of Relations as an annotation and analysis tool

When analyzing visual representations that refer to visual records of liberation, we realized that the relations between the historical depictions and their use in other films are more complex than it originally seemed. The relational images continuously transform and repeatedly appear in different forms, genres and media: from fiction films to first person shooter video games, from art installations to graphic novels. For this reason, the corpus of historical imagery of liberation can be regarded as an organism, a corpus that continuously evolves, with new manifestations, independent from the original historical visual records, that at the same time still share different kinds of visual relations with the original photographs, paintings or footage. For that reason, we have developed a *Taxonomy of Relations* (T/R), in order to classify as well as describe the different image relations between the visual records of liberation and various manifestations of them, in different types of media. Like its corpus, the T/R is a living model, designed to describe and assist in articulating clear and complex, direct and indirect visual relations, between historical visual records and their visual references.

The T/R offers a pragmatic, formal, and analytical approach to annotate and analyze liberation and atrocity pictures, their synchronic and diachronic use, as well as its aggregation in circulating images of history. As a first step, the model suggests distinguishing between two types of initial relations that result from either a direct or an indirect use of historical visual records. Direct relations refer to the circulation of actual photographs and film footage originally taken by Allied camera teams in other cultural objects and artworks, while indirect relations refer to the inspirational use of the historical visual records in other artistic works. After recognizing the type of initial relations—namely, whether it is about direct or indirect use—the T/R distinguishes and respectively suggests two distinct sets of classification, of direct and indirect use. The corresponding pathways offer a classification of image relations by describing their various mediations, dramatic re-creations, modes of transposition, filmic, photographic and artistic technical and aesthetical conventions, editing techniques, and contextual, semantic and visual evocations. Various specifications are offered in both courses, describing and analyzing more and less intense relations between the original footage and photographs, and their migration after 1945.

Since the intensity of such relations varies from case to case, the different levels and modes of relations are structured through a set of questions that propose either a single answer or multiple options. In doing so, several relational attributes can be ascribed to a specific picture, frame or sequence that as closely as possible define its relational character. At the same time, the different categories of visual relations reflect strong as well as loose connections and, in some cases, aim at describing context-dependent, subjective analogies (and even interpretative analogies). Therefore, some clusters of relations consider potential intentions reflected in the visual depictions, while others include connotative assumptions concerning the relations that exist between perception and reception.

The T/R assists on the one hand in establishing connotative visual relations within the VHH-MMSI. In this context it serves as a tool for *annotating* visual content, closely following the guiding questions. On the other hand, our taxonomy offers new ways of *analyzing* complex image relations. For this purpose, the model and the definitions provide a useful basis for close readings of images in relation to other images, within sequential arrangements of images, their circulation within visual culture, and their connectivity. Used as a tutorial for establishing relations and applying relationality, the T/R also offers a useful model for curating visual culture content.

5.1. Structure and Definitions

Although it is structured through a set of guiding questions, the T/R is not hierarchical. It however mirrors the two distinct pathways (direct and indirect use) that correspond to cohesive but nevertheless specific manifestations of the original visual records. The two pathways overlap when it comes to the transformation of the original sources or respectively alternation of the recreations. Also, the diegetic purpose and its contexts are identical for both forms of relating to the original visual records.

The model itself visualizes the various levels and manifestations of relations, and is therefore easily applicable to the analysis of image relations. Furthermore, it provides a template for describing these relations that can also be used as a curational tool for establishing complex combinations of different representations.

The curation of image relations with the VHH-MMSI is mainly based on a combination of automated detection processes and manual annotation. This identification and annotation process, which is a crucial precondition for relating the different audiovisual and non-audiovisual assets to other sources, manifestations or representations, closely follows a set of guiding questions that are part of the T/R structure:

A. What kind of visual record depicted by Allied army units or journalists during the discovery of Nazi atrocity sites is used in the representation?

- a) Film footage
- b) Photography
- c) Drawing
- d) Painting

B. Is the visual record used in a direct or indirect way?

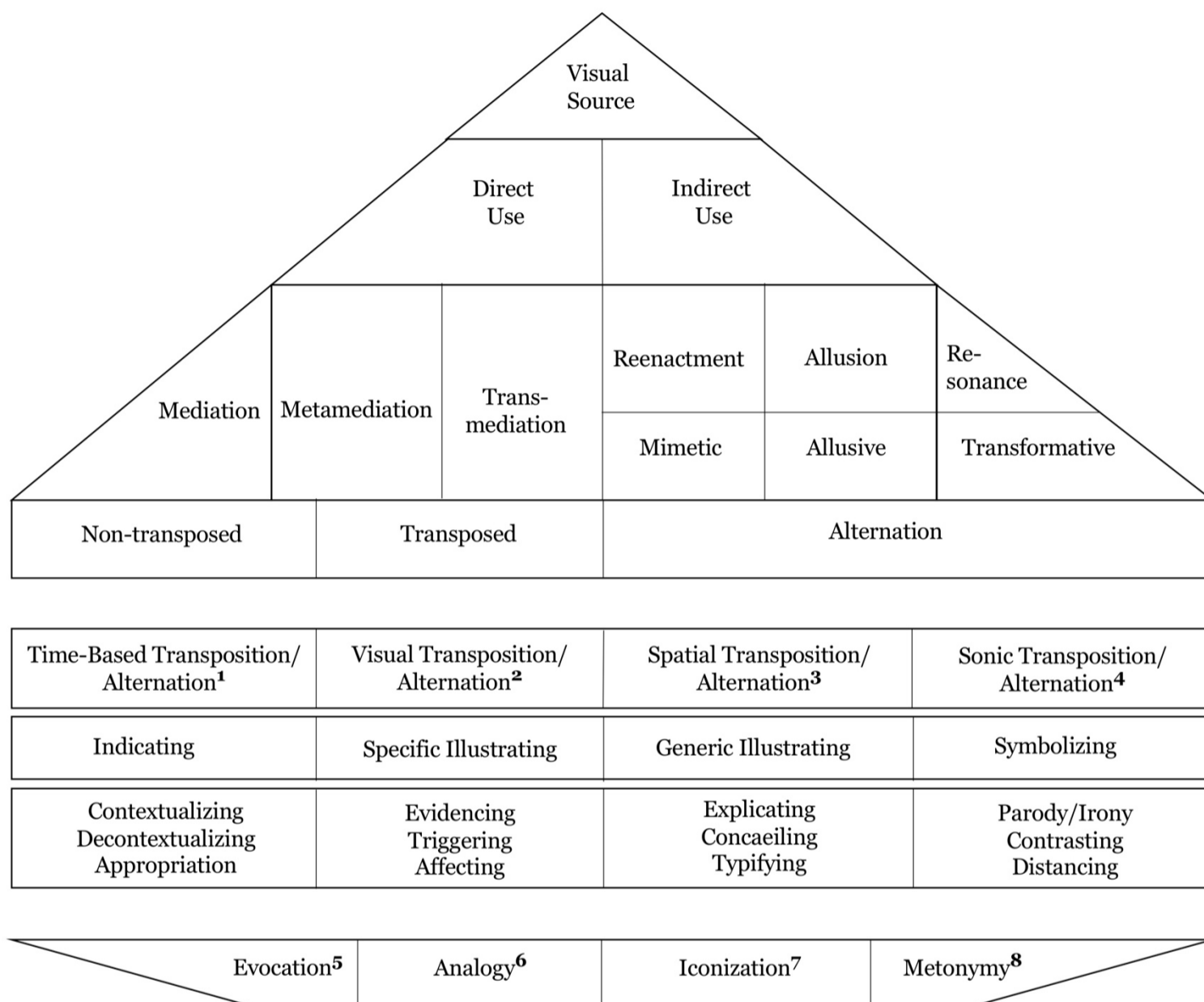


Figure 1, Taxonomy of Relations model
visualizing different levels of annotating and analyzing visual content

1. Slow/motion, Speed up, Freeze Frame, Animation, Rerun
2. Cropping, Aspect/geometry, Distorting, Blurring, Embellishment, Sharpening, Grain, Zoom-in, Image superimposition, Text superimposition, Colorization, Lighting, Multiplying, Kaleidoscope
3. Collage, Assemblage, 3-D
4. Voice over, Scoring, Foley, Muting, Dubbing
5. Compositional Evocation, Gestural Evocation, Verbal Evocation, Aural Evocation (only direct relations)
6. Compositional Analogy, Gestural Analogy, Architectural Analogy, Configurational Analogy (only indirect relations)
7. Compositional Icon, Contextual Icon
8. Compositional Metonymy, Generic Metonymy

I. Direct Use

Direct Use: Use of original visual records depicted by Allied army units or journalists that constitutes direct indexical relations with the visual source.

I.1. Were the original visual records directly edited in (unmediated), is the media experience itself been shown (mediated), or are the records used in a different medium (re-mediated)?

Mediation: Circulation of an original visual record in another work of the same medium.

Metamediation: Display of an original visual record in another work that clearly indicates its status as a mediated projection (e.g., screen projection, installations, display in an exhibition, on screens or an editing table, film frames, frames within other frames in paintings or illustrations).

Transmediation: Use of an original visual record or its hyperrealistic recreation in a different medium.

I.2. Was the original visual record transposed? (If yes, continue; if no, continue with question I.6)

Transposition: Visual or sonic modification of an original visual record.

I.3. Specify: In which dimension was the original visual record transposed?

Time-based transposition: Modifying the pace of an original time-based visual record by altering the frame rate and focusing on specific audiovisual elements and/or qualities, or animating the original still visual record.

Visual transposition: Reconfiguring an original visual record through techniques of adding, editing or polishing its visual content and/or quality.

Spatial transposition: Positioning an original visual record in a different spatial arrangement or transferring its spatial structure into a different physical or virtual space.

Sonic transposition: Adding and/or editing diegetic or extradiegetic sonic elements to an original visual record.

I.4. Through what technical/aesthetic means was the original visual record transposed?

If time-based transposition:

Slow/motion: Slowing down the temporal pace of a shot or sequence by reducing the frame rate.

Speed up: Fast forwarding the temporal pace of a shot or sequence by increasing the frame rate.

Freeze frame: Freezing a single frame for a certain duration of time, making it look like a still image in a sequence.

Animating: Creating an appearance of movements from a still image through the adherence of successive images.

Rerun: Repeatedly playing a certain shot or sequence either in a loop (direct rerun) or interrupted by other sequences (delayed rerun).

If visual transposition:

Cropping: Modifying an image's or film sequence's frame size and/or aspect ratio by cutting and removing the frame's edges, leaving only specific parts of the depiction visible.

Aspect/geometry: Modifying an image's or film sequence's frame by altering its size, its geometric lines, or its proportions.

Distorting: Changing the form of images or film sequences or parts of it in a distorting way.

Blurring: Obscuring an image or film sequence or parts of it creating a dim and indistinct look.

Embellishment: Correcting or improving the quality of an image or film sequence.

Sharpening: Clearing an image or film sequence or parts of it creating a sharper and more distinct look.

Grain: Modifying an image or film sequence, which stresses existing or adds new damages and/or mutations to the optical texture of the image (scratches, dirt, dust, water spots, etc.).

Zoom-in: Cutting and removing the edges of an image or film sequence by focusing on or highlighting specific elements (retroactive close-up).

Image superimposition: Merging two or more images or film sequences with other visual materials creating a distinguishable overlay of different visual layers in the new composite.

Text superposition: Overlaying an image or film sequence by creating a distinguishable textual overly in the new composite.

Colorization: Modifying the color or color grading of an image or film sequence.

Lighting: Modifying the lighting of an image or film sequence.

Multiplying: Repeating the same image or film sequence in different forms (e.g., cropped, zoomed).

Kaleidoscope: Adhering original visual records as symmetrical structures in a kaleidoscopic pattern.

If spatial transposition:

Collage: Incorporating various distinguishable materials or elements to a two-dimensional image.

Assemblage: Adhering different visual records to a three-dimensional arrangement (as a whole or in part).

3-D: Modifying one or more of two-dimensional images to a three-dimensional physical or animated space (as a whole or in part).

If sonic transposition:

Voice over: Appending asynchronous, diegetic and/or extradiegetic voices to the soundtrack.

Scoring: Adding diegetic and/or extradiegetic music, voices and/or other sounds to the soundtrack.

Foley: Inserting ambient sounds to the soundtrack.

Muting: Lowering the volume and/or timbre of sounds and/or voices of the soundtrack.

Dubbing: Embedding synchronous voices (e.g., translations) to the original soundtrack.

I.5. For which top-level diegetic purpose was the original visual record used?

Indicating: Displaying, tracing or enouncing a specific historic incident, place or person(s).

Specific illustrating: Illustrating a directly-related historic incident, place or person(s).

Generic illustrating: Illustrating a generally-related historic incident and/or event, place or person(s).

Symbolizing: Presenting general ideas, belief systems or concepts by suggesting a broader contextual relation.

In the context of:

Contextualizing: Exploring or retrieving an original visual record within the actual production context.

Decontextualizing: Detaching, hiding or blurring the context of an original visual record.

Appropriation: Reconfiguring an original visual record in a new historical, socio-cultural or genre context.

Evidencing: Emphasizing the indexical status of an original visual record.

Triggering: Emphasizing the mnemonic status of an original visual record.

Affecting: Emphasizing the physical or bodily impact of an original visual record.

Explicating: Use and/or transposition of an original visual record, which takes an implicit meaning literally by transposing it into a different context and thereby exposing a hidden subtext or an implied notion.

Concealing: Use and/or transposition of an original visual record, which covers, hides, overwrites or replaces another original visual record.

Typifying: Use and/or transposition of an original visual record, which emphasizes typical structures or patterns without relating to a specific historical incident.

Parody / Irony: Challenging or questioning the use of a specific visual record and/or reviewing past events in a comic or critical light.

Contrasting: Critically emphasizing the contextual and connotative contrast between different visual records and materials.

Distancing: Reflexively or critically using a familiar or an iconic original visual record in an unusual, irritating or alienated way.

I.6. Does the original visual record constitute an implicit relation to other original historical audiovisual sources and materials? If yes, how is the relation established?

Evocation: The use and/or transposition of an original visual source recalls a familiar visual depiction from the same historical context that features certain compositional similarities without directly speaking of or citing it.

Iconization: Use and/or transposition of an original visual record that has already become a cultural icon, or depicting it in a way that resembles another established cultural icon.

Metonymy: One original visual record refers to another depiction from a different context, which is closely associated through a similar composition and/or visual appearance.

If evocation:

Compositional Evocation: The pictorial and/or spatial arrangement resembles the composition of a familiar original visual record from the same historical context.

Gestural Evocation: Specific gestures, postures and bodily shapes resemble similar elements in a familiar original visual record from the same historical context.

Verbal Evocation: A direct verbal denomination in the voice over or an interview evokes relations to a similar familiar original visual record from the same historical context.

Aural Evocation: Added sound evokes relations to a similar familiar original visual record from the same historical context.

If iconization:

Compositional Icon: A composition that establishes an implicit figurative relation between original visual records and iconic images.

Contextual Icon: A specific thematic, visual or narrative context or other indicators that turn a historical visual record into an iconic image.

If metonymy:

Compositional Metonymy: A visualization that substitutes other original visual records because of their similar compositional arrangements or visual patterns.

Generic Metonymy: An original visual record that represents a whole genre of visualizations.

II. Indirect Use

Indirect Use: Reference to an original visual record depicted by Allied army units or journalists as a source of inspiration, without constituting direct indexical relations with the visual source.

II.1. What form of indirect use of the historical visual records is it?

Reenactment: A more or less authentic recreation of past events by the help of a historical visual record.

Allusion: Relation to a historical visual record that is evoked by a similar historical context or subject matter, and to which the dramatization refers by some inflections that would otherwise remain unintelligible.

Resonance: A repercussion or reverberation of a historical visual record in a different historical context or related to a different subject matter.

II.2. How is the indirect relation positioned in respect to the historical visual record?

Mimetic: Recreation of a specific historical visual record in a realistic style and based on narrative conventions and genre patterns, in which the original template is still detectable.

Allusive: Evocation of a historical visual record through compositional similarities without directly speaking of or citing it.

Transformative: Appropriation of an indirect reference to a historical visual record in a different context.

II.3. Was the recreation or evocation of the historical visual record altered? (If yes, continue; if no, continue with question II.7)

Alteration: Editing historical visual records as a whole or in parts, including adding visual effects or sounds.

II.4. Specify: In which dimension was the recreation or evocation of the historical visual records altered?

Time-based alteration: Modifying the pace of a film sequence or a still image by altering the frame rate and focusing on specific audiovisual elements and/or qualities.

Visual alteration: Reconfiguring an image or film sequence through techniques of adding, editing or polishing its visual content and/or quality.

Spatial alteration: Changing the spatial structure of an image or film sequence or arranging it in a different physical or virtual space.

Sonic alteration: Adding and/or editing diegetic or extradiegetic sonic elements to an image or film sequence.

II.5. Through which technical / aesthetic means was the indirect use of historical visual records altered?

If temporal alteration:

Slow/motion: Slowing down the temporal pace of a shot or sequence by reducing the frame rate.

Speed up: Fast forwarding the temporal pace of a shot or sequence by increasing the frame rate.

Freeze frame: Freezing a single frame for a certain duration of time, making it look like a still image in a sequence.

Animating: Creating an appearance of movement from a still image by the adherence of successive images.

Rerun: Repeatedly playing a certain shot or sequence either in a loop (direct rerun) or interrupted by other sequences (delayed rerun).

If visual alteration:

Cropping: Modifying an image's or film sequence's frame size and/or aspect ratio by cutting and removing the frame's edges, leaving only specific parts of the depiction visible.

Aspect/geometry: Modifying an image's or film sequence's frame by altering its size, its geometric lines, or its proportions.

Distorting: Changing the form of images or film sequences or parts of it in a distorting way.

Blurring: Obscuring an image or film sequence or parts of it creating a dim and indistinct look.

Embellishment: Correcting or improving the quality of an image or film sequence.

Sharpening: Clearing an image or film sequence or parts of it creating a sharp and more distinct look.

Grain: Modifying an image or film sequence, which stresses existing or adds new damages and /or mutations to the optical texture of the image (scratches, dirt, dust, water spots, etc.).

Zoom-in: Cutting and removing the edges of an image or film sequence by focusing on or highlighting specific elements (retroactive close-up).

Image superimposition: Merging two or more images or film sequences with other visual materials creating a distinguishable overlay of different visual layers in the new composite.

Text superposition: Overlaying an image or film sequence by creating a distinguishable textual overlay in the new composite.

Colorization: Modifying the color or color grading of an image or film sequence.

Lighting: Modifying the lighting of an image or film sequence.

Multiplying: Repeating the same image or film sequence in different forms (e.g., cropped, zoomed).

Kaleidoscope: Adhering original visual records as symmetrical structures in a kaleidoscopic pattern.

If spatial alteration:

Collage: Incorporating various distinguishable materials or elements to a two-dimensional image.

Assemblage: Adhering different visual records to a three-dimensional arrangement (as a whole or in part).

3-D: Modifying one or more two-dimensional images to a three-dimensional physical or animated space (as a whole or in part).

If sonic alteration:

Voice over: Appending asynchronous, diegetic and/or extradiegetic voices to the soundtrack.

Scoring: Adding diegetic and/or extradiegetic music, voices and/or other sounds to the soundtrack.

Foley: Inserting ambient sounds to the soundtrack.

Muting: Lowering the volume and/or timbre of sounds and/or voices of the soundtrack.

Dubbing: Embedding synchronous voices (e.g., translations) to the original soundtrack.

II.6. For which top-level diegetic purpose is the indirect use utilized?

Indicating: Recreating or evoking historical visual records in context of reflexive dramatization of specific historic events, persons or the production and impact of such visual materials.

Specific illustrating: Recreating or evoking historical visual records for the purpose of illustrating a directly-related historic incident, place or person(s).

Generic illustrating: Recreating or evoking a historical visual record for the purpose of representing a generally-related historic event, place or person(s).

Symbolizing: Recreating or evoking a historical visual record for the purpose of representing general ideas, beliefs or concepts through broader contextual relations.

In the context of:

Contextualizing: Restoring and elucidating the origin of specific historical visual records that serve as visual sources by visualizing their production and/or reception context.

Decontextualizing: Detaching, hiding or blurring the context of specific historical visual records that serve as visual sources.

Appropriation: Reconfiguring a specific historical visual record in a new historical, socio-cultural or genre context.

Evidencing: Positioning recreated or evoked historical visual records as authenticating verification.

Triggering: Recalling memories through recreated or evoked historical visual records as mnemonic catalyst.

Affecting: Utilizing the capacity of recreated or evoked historical visual records to evoke a physical or bodily reaction.

Explicating: Recreation or evocation, which takes an implicit meaning literally by transposing historical visual records into a different context and thereby exposes a hidden subtext or an implied notion.

Concealing: Recreation or evocation, which covers, hides, overwrites or replaces an historical visual record.

Typifying: Recreation or evocation, which refers to historical visual records for emphasizing typical structures or patterns without relating to a specific historical incident.

Parody / Irony: Questioning the conventions of dramatizing the past and/or reviewing past events in a comic light.

Contrasting: Emphasizing differences or suggesting conflicting relations by integrating implicit references to historical visual records in a different historical, social-cultural or genre context.

Distancing: Referencing familiar historical visual records in an unusual, irritating or alienated way.

II.7. How is the relation established?

Analogy: One or more elements resemble a historical visual record that is connected through a similar historical context or subject matter.

Iconizing: Recreation or evocation, which utilizes an already existing iconic status of the reconfigured visual records or resembles an existing visual icon.

Metonymy: One visual depiction refers to another depiction from a different context, which is closely associated through a similar composition and/or visual appearance.

If analogy:

Compositional Analogy: The pictorial and/or spatial arrangement resembles the composition of another historical visual records.

Gestural Analogy: Specific gestures, postures and bodily shapes resemble similar elements in familiar historical visual records.

Architectural Analogy: Specific spatial and/or architectural structures resemble those in familiar historical visual records.

Configurational Analogy: Production design, costumes and other accessories resemble those depicted in a familiar historical visual record.

If iconization:

Compositional Icon: A composition that establishes an implicit figurative relation between original visual records and iconic images.

Contextual Icon: A specific thematic, visual or narrative context or other indicators that turn the recreation or evocation of a historical visual record into an iconic image.

If metonymy:

Compositional Metonymy: A visualization that substitutes a historical visual record based on its similar compositional arrangements or visual patterns.

Generic Metonymy: A visualization, character or filmic object that represents a whole genre of filmic visualizations, characters or objects.

5.2. Functions and applicability

The T/R has two functions: on the one hand it serves as an annotation model, on the other it can be used as an analysis tool. While the former guides the annotation of visual objects that are identified using automated analysis, making it possible to interlink media objects with other images, the latter offers a terminology for interpretative, theoretical work on visual culture that explores the relations between various images and media objects. In the technological and curatorial design of the VHH-MMSI both functions complement each other. However, although they are based on the same model for identifying and describing image relations, both functions are distinct and can be applied independently. As an annotation model, the T/R can be applied to any digital collection of visual media objects and primarily serves the purpose to indicate existing relations between different assets in such a repository. As an analysis model, the T/R is not limited to the exploration of digital visual collections and can also be applied to any other kind of visual materials from different eras and related to other historical events.

Annotation model

Writing on visualization methods for media studies, Lev Manovich describes two methods that both rely on augmenting visual data with new information. The first allows to “manually add tags, or other kinds of annotations [...] using a natural language in which a researcher works in”.³⁸ This kind of manual annotation by a human operator can be done by using a controlled vocabulary. The second method is performed by machines, allowing “well-established computer techniques to automatically process and extract information about images and video”.³⁹ Yet, these two methods differ in their relation to the data; while manual annotations add information to the visual data, mechanical processing extracts information from the existing visual data.⁴⁰

The detection and annotation of image relations in the VHH-MMSI combines both these methods. Automated tools and human operators complement each other in the process of detecting and defining relations. The aim of our model is to annotate our visual data with the help of the T/R terminology, and thereby connect the various images through attributing qualified relations. In a first step, the automated *Relation Detection* (RD) tool analyzes the visual media content of the repository and suggests potential relations between different depictions and compositions. Based on these suggestions and on their own discoveries, the human operators can directly relate and compare media objects, confirm or reject relations, and qualify confirmed relations with the help of the T/R

³⁸ Lev Manovich (2012). “Visualization Methods for Media Studies”. Software Studies Initiative: http://softwarestudies.com/cultural_analytics/Manovich.Visualization_Methods_Media_Studies.pdf (27.11.2020).

³⁹ Ibid.

⁴⁰ Cf. *ibid.*

annotations. These annotations will ultimately assist the users in analyzing and interpreting visual relations on the basis of the suggestions offered by the VHH-MMSI.

The T/R provides an elaborate, variable yet fixed terminology for annotation based on a controlled vocabulary. As such, it rigidly follows the guiding questions so that each question, category and attribute suggested in the T/R will be assigned to each example. In doing so, the T/R serves as a guiding manual for identifying visual relations.

Analysis model

The functionality of the T/R model for analyzing and interpreting visual relations was loosely inspired by Aby Warburg's famous *Mnemosyne Atlas*. This unique project of visual curation had a similar purpose of demonstrating specific configurations of images, which appear in different contexts and thereby constitute a visual "afterlife".⁴¹ Accordingly, Naja le Fevre Grundtmann in her discussion of the digitization of the *Mnemosyne Atlas* emphasized: "As mediums of change, images were of great significance to Warburg insofar as they were the means of deciphering unexpected relations."⁴²

By offering similar ways of relating images automatically like Warburg did manually,⁴³ the T/R can serve as an interpretative model for a pragmatic analysis of complex image relations. As such, it assists in understanding and configuring the transformation of images, in order to explore the use and reuse of historical visual records. As analysis model, the T/R is applicable to individual research questions of users. As such, it is not limited to the relations between historical visual records and their later manifestations, but can also be applied to other visual relations between various media objects. By this means, the users can tailor the T/R to his or her needs, focus only on some of its elements and questions, relate to all of the definitions, or just to parts of them. Thereby, the users create a 'second order' of relations, based upon the 'first order' compiled by the combined automatically detected and manually qualified annotated image relations. As an analysis model the T/R thereby offers another layer of exploring and interpreting image relations, based on the relational approach of the VHH-MMSI.

⁴¹ Cf. Naja le Fevre Grundtmann (2020) "Digitising Aby Warburg's Mnemosyne Atlas". *Theory, Culture & Society* 37(5), 3-26. Here: 4. DOI: <https://doi.org/10.1177/0263276420906862>

⁴² Ibid., p. 12.

⁴³ Ibid., p. 6.

6. In-between images – Unfolding representations of the Holocaust

One of the major challenges in the establishment of image relations has to do with the selection of images: which images do we choose to annotate and analyze? To which images do we relate them, and why? Can we interpret images without reflecting the context of their presentation, and analyze them solely in relation to the historical visual records of liberation? Can we define relations between images, while disconnecting them from their original relational context?

We claim that an inherent part of image annotation and analysis is taking into consideration the context of using and displaying the visual depiction. Of course, when inspecting the use of images, originality comes into question, in particular when relating contemporary images to the historical visual records of the liberation of Nazi concentration camps. Therefore, it is necessary to analyze images not only in relation to these sources, but also take into consideration the relation to their new creation and presentation context, including other images, scenes and affiliated texts they relate to through succeeding shots, following pages, titles, etc. The overall context enriches the image with additional relations, since without taking into account this context, some images would have not been included in our research corpus at all.

In the following, we propose two approaches for image analysis which can be made with our T/R:

- the *single image approach*, which regards sequences included in a single image, and the relations this image bears with historical imagery;
- the *multiple image approach*, which regards the visual relations established between a sequence of allegedly independent images, that are actually co-dependent for identifying the visual relations of the image with historical imagery.

The two approaches are based on Didi-Huberman’s view of the interpretive montage as a method that also enables the creation of sequences. Writing on the four clandestine images taken by a Sonderkommando member in Auschwitz, August 1944, Didi-Huberman perceives the historical images as a montage. According to him, regarding a set of images this way distinguishes each sequence within the montage, granting it with its own difference; and at the same time provides a more holistic view of the images. As he contends, “the readability of these images – and thus their potential role in providing knowledge of the process in question – can only be constructed by making them resonate with, and showing their difference from, other sources, other images, and other testimonies”.⁴⁴ In this manner, the montage is regarded as something that may not be temporally coherent, but by adhering different images, it gives a wholesome view on them altogether, and a particular view on each image as well.

Drawing on Will Eisner’s conceptualization of sequential art in comic books, we also claim that the establishment of image relations does involve subjective interpretations, but it is

⁴⁴ Didi-Huberman (2008) *Images in Spite of All*, p. 120.

also based on the artist's original connotation. Dealing with the structuring of images and words as comprehensive means of storytelling, Eisner claimed that "the format of a comic book presents a montage of both word and image, and the reader is thus required to exercise both visual and verbal interpretive skills".⁴⁵ Creating a sequence, according to him, leaves little space for interpretation, as "in comics, the imagining is done for the reader. An image once drawn becomes a precise statement that brooks little or no further interpretation".⁴⁶ Regarding montage as sequential art grants us the opportunity to better understand and analyze popular culture representations that deal with the visual history of the Holocaust, and in particular with the historical imagery of liberation, which became a dominant visual symbol for the Holocaust as a whole. In this view, we regard images as sequences; taking their presentation context into consideration and analyzing the relations the image constitutes with historical visual records, while also reflecting this particular context.

Nevertheless, we also take into consideration the subjective, interpretive framework of each scholar using the T/R. Acknowledging the changing extent of the subjective prior knowledge of the visual history of the Holocaust of each user, and his or hers own subjective associations, it is most likely that different users will match different historical images to the contemporary images. What we wish to offer in the T/R is a method for identifying, classifying and analyzing image relations, considering its subjective uses. The central aspect we wish to stress in our T/R is the nature of visual relations: their complex, changing, creative, and yet also imitative character.

To demonstrate the two suggested approaches, two cases taken from Israeli graphic and poetic novels may serve as examples: a page from Michel Kichka's graphic novel, *Second Generation: The Things I Didn't Tell My Father*,⁴⁷ and a sequence of four pages from Merav Salomon's poetic novel, *A Family Visit to Berlin*.⁴⁸ In our analysis we demonstrate the theoretical as well as pragmatic use of the T/R, discussing how we establish image relations between the selected image and its context of creation and display, as well as the relations it establishes with historical visual records of the liberation.

6.1. The single image approach

Michel Kichka's graphic novel *Second Generation: The Things I Didn't Tell My Father* depicts his relationship with his father, Auschwitz survivor Henri Kichka, throughout his childhood in Liège, Belgium, and during his adult life in Israel. On page 9, Kichka portrays one of his nightmares as a child, covered in a blanket and crying, dreaming of his father as a corpse.⁴⁹ The inscription below him says, "the bad wind of history took my family and

⁴⁵ Will Eisner (1985) *Comics and Sequential Art*. Tamarac: Poorhouse Press, p. 8.

⁴⁶ Ibid, p. 122.

⁴⁷ Michel Kichka (2016) *Second Generation: The Things I Didn't Tell My Father*. Paris: Dargaud.

⁴⁸ Merav Solomon (2008) *A Family Visit to Berlin*. Tel Aviv: Third Ear Press.

⁴⁹ For the image, see: Nirit Anderman (29 May 2013) "Michel Kichka's Family Secret". In: Haaretz: <https://www.haaretz.co.il/gallery/literature/.premium-1.2032830> (29.11.2020).

spread its ashes all over”, and under it his family members who died in the Holocaust are portrayed being blown in the wind from the crematorium, as ashes. Below the crematorium, Henri Kichka is depicted lying between the train rails of Auschwitz-Birkenau and the Auschwitz I gate. The Auschwitz-Birkenau gate illustration is accompanied by a textual depiction expressing Kichka’s memory as a child – ‘at night I would dream nightmares. I dreamt that my father is lying dead between the chimney and the railroad’.

Overall, this page is composed from illustrations relating to four historical photographs taken in Auschwitz and Bergen-Belsen, creating together a dreadful image; a photograph of a crucified-looking corpse from the liberation of Bergen-Belsen,⁵⁰ a photograph of the Auschwitz I ‘Arbeit Macht Frei’ gate,⁵¹ a photograph of the Auschwitz-Birkenau entrance gate⁵², and a photograph of crematorium IV.⁵³ While the various parts of the image relate to specific historical photographs, we regard them as a sequence of images; a montage of illustrations which demonstrates an indirect use of a few iconic images, altogether bearing an intense visual relation with historical imagery, forming a vision of a child dreaming about his father as a victim. Kichka refers to these images self-reflexively, as he embeds them into his own family’s past, portraying his father as a corpse, surrounded by illustrations of historical photographs of Auschwitz; and his family members as ashes. By not depicting historical events from liberation, but rather evoking a similar subject matter in his images—growing up with survivors of Auschwitz—this image is related to this historical imagery by form of allusion, relating to the historical imagery, yet in a somewhat different context, and thus in an allusive manner.

⁵⁰ For the image, see: USHMM: “The bodies of victims in Bergen-Belsen concentration camp”.
<https://www.iwm.org.uk/collections/item/object/205195012> (28.12.2020).

⁵¹ For the image, see: USHMM: “View of the entrance to the main camp of Auschwitz (Auschwitz I). The gate bears the motto "Arbeit Macht Frei" (Work makes one free)”.
<https://collections.ushmm.org/search/catalog/pa1067785> (28.12.2020).

⁵² For the image, see: Wikimedia Commons,
https://commons.wikimedia.org/wiki/File:Bundesarchiv_B_285_Bild-04413_KZ_Auschwitz_Einfahrt.jpg?uselang=de (28.12.2020).

⁵³ For the image, see: Memorial and Museum Auschwitz-Birkenau: “Historical Pictures and Documents”.
<http://auschwitz.org/en/gallery/historical-pictures-and-documents/extermination,11.html> (28.12.2020).



Auschwitz, crematory and gas chamber IV, SS Photograph, 1943 (Courtesy of Memorial and Museum Auschwitz-Birkenau)



Michel Kichka, "Second Generation: The Things I Did Not Tell My Father." Paris: Dargaud / Europe Comics, 2016, p. 9. (Courtesy of Michel Kichka)



Bergen-Belsen concentration camp, 1945. By Lt. M.H. Wilson (Courtesy of Imperial War Museum, BU3760)



Entrance gate to the main camp of Auschwitz I, May 1945 (Courtesy of Instytut Pamieci Narodowej)



Auschwitz-Birkenau, 1945. (Bundesarchiv, B 285 Bild-04413 / Stanislaw Mucha / CC-BY-SA 3.0)

Figure 2, T/R – Single image approach: Michel Kichka’s nightmares as a child

Kichka makes transformative use of these images, as he combines them into a nightmarish montage of a childhood memory; he visually alternates the images, by connecting between them in the same composition. In addition, by aggregating his father’s image with that of a corpse, and his deceased family members with blown ashes, another form of visual alternation, Kichka utilizes the historical images already iconic status, for purposes of iconizing and symbolizing his father and family members as victims. The recreations of the images are representing Kichka’s difficulties in dealing with the Holocaust and in particular with his father’s and family’s past, thus making a generic use of the historical images, utilized for creating a general, horrified and disturbing impression of Kichka’s childhood dreams and experiences as a child. In this manner, Michel Kichka contextualizes the image, back to the imagined space of the concentration camps as perceived by him, both as a dreaming child and reflexively as an adult.

In doing so, the single image approach focuses on the analysis of a hybrid image; a montage of a few images, approached as a single image, that is also analyzed as such. In this kind of analysis, each visual relation is taken into account, by identifying the historical references, and the visual transformations they have gone through; yet the analysis of the montage is that of the image as a whole; a mosaic image, which altogether forms the impression of one, complex image.

6.2. The multiple image approach

Merav Salomon's *A Family Visit to Berlin* is a graphic novel made of 33 illustrations, all drawn in pencil and framed by equal squares, each depicted in its own separate page. Altogether, the illustrations form a kind of a visual travel diary of Salomon's family visit to Berlin, resembling the form of a photo album. The images are drawn with no related texts, except for the book's title and the author's name.

We analyze four images from the novel, pages 6-9, which portray individual images of bus handles, mountain landscape, white picket fence, and a human mouth revealing its teeth. Looking solely at the four images as independent images, it is hard to detect any direct relation to liberation imagery (an illustration of bus handles, for example, does not have anything to do with liberation imagery). Yet, regarded as a sequence, the images form together other, related meanings (bus handles + mountain landscape + white fence + a mouth showing teeth). In this view, and together with the title of the book and the author's Israeli identity, the images gain a contextual meaning that has to do with the visual history of the Holocaust, and in particular with liberation imagery. Overall, it is important to note that not only these four images, but also the rest of the illustrations in the book strengthen the Holocaust connotation, with illustrations of train rails, chimneys, number tattoos, barbed wires, etc.

We have identified visual relations between Salomon's illustrations and four historical photographs taken during liberation. The bus handles visually resemble photographs of gallows in the camps, and in particular a photograph of a gallows taken after the liberation of Ohrdruf, during the visit of General Dwight Eisenhower in April, 1945;⁵⁴ the illustration of mountain tops resembles images taken in Ebensee during liberation, also depicting the aerial mountain landscape, and in particular one depicting survivors with this landscape, next to the former roll call area, in May 1945;⁵⁵ the white picket fence, bears visual relations with camps' fences, such as the photograph of US Army Corporal Larry Matinsk handing cigarettes to survivors reaching their hands through the wooden fence, during the liberation of Allach concentration camp, on April, 1945;⁵⁶ and the illustration of a human mouth showing teeth resembles images of victims' extracted dentures and golden caps, such as the image exhibiting piles of objects as such, taken in Auschwitz in 1945.⁵⁷

54 For the image, see: USHMM: "During an official tour of the newly liberated Ohrdruf concentration camp, an Austrian Jewish survivor describes to General Dwight Eisenhower and the members of his entourage the use of the gallows in the camp": <https://collections.ushmm.org/search/catalog/pa7710> (28.12.2020).

55 For the image, see: USHMM: "Survivors mill around the former roll call area in the Ebensee concentration camp": <https://collections.ushmm.org/search/catalog/pa9108> (28.12.2020).

56 For the image, see: USHMM: "U.S. Army Corporal Larry Matinsk puts cigarettes into the extended hands of newly liberated prisoners behind a stockade in the Allach concentration camp": <https://collections.ushmm.org/search/catalog/pa5778> (28.12.2020).

57 For the image, see: USHMM: "Soviet film of atrocities shown at Nuremberg Trials": <https://collections.ushmm.org/search/catalog/irn616417>, FV2481, 00:01:16 (28.12.2020).

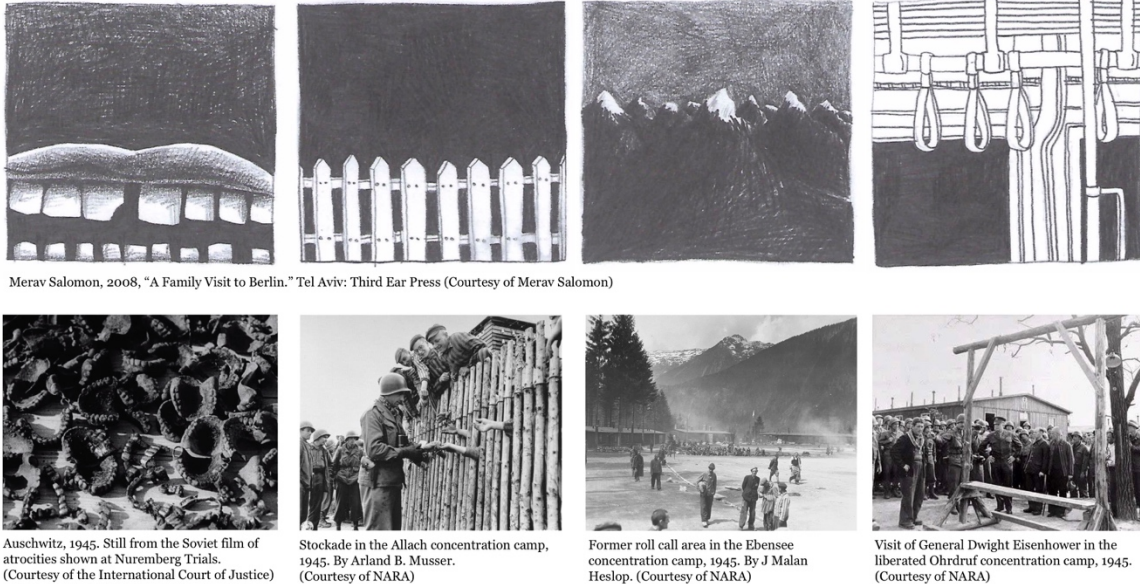


Figure 3, T/R – Multiple image approach: Merav Salomon’s family visit to Berlin

Analyzed as a montage of four illustrations, and bearing visual relations with at least four historical images, Merav Salomon’s sequence of illustrations is an example of the indirect use of historical imagery. Illustrating moments from her family visit to Berlin, a clearly different historical context than that of liberation, Salomon’s images resonate with liberation imagery in her own personal experiences, revibrating her own memories of the Holocaust.

In her illustrations, the historical images are transformed, as they are visually and spatially altered; the historical imagery is visually reconfigured through illustration, context and definitive, personal style; and also spatially, as the various visual memories of the artist which resonate the historical images are assembled into a collage of images, which together form a montage of visual images related to historical imagery. In this montage, Salomon is appropriating the historical images in the context of a contemporary family visit to Berlin, and by doing so, she is symbolizing her own impression and experience of Berlin through the eyes of a second-generation artist. Therefore, the four images make the implicit meaning of each image explicit. The adherence of the four images into one sequence exposes the deep context the images are stated in. As all four images relate in some manner to a historical image, they tell of the main subject matter: being an Israeli, second generation woman, visiting Berlin, and not being able to avoid a “second travel” to the visual memory of the Holocaust inventory of images. These relations are established by architectural and configurational analogies to the historical imagery, as spatial structures and objects resemble those in the historical visual records.

In this regard, the multiple image approach allows for a multifaceted analysis of a sequence of individual images. Regarding them as a montage enables the analyst to gain a comprehensive understanding of existing contexts, and to classify and analyze the complex visual relations which lie at the heart of these mnemonic works; as a whole made possible by the adherence of a few images; and as individuals relating to historical images, due to their sequential setting.

7. Detecting Relations – Conclusion

A basic assumption of the VHH project is that the historical visual records of atrocity sites and the liberation of concentration camps had and have a significant impact on how the Holocaust is remembered. The T/R serves as a multifaceted tool for identifying and interpreting the afterlife of the images of liberation in the visual memory of the Holocaust and their circulation in different media representations. It assists in addressing and answering significant questions: how did specific motifs, which were depicted by Allied camera teams during the liberation of the camps, become iconic by circulating in popular culture, to what extent did this migration into different contexts change the meaning of these tropes, and is it possible to detect the afterlife of liberation and atrocity footage and reveal the “biographies” of such visual tropes with the help of digital technology.

As a curatorial tool, the T/R emphasizes the “mobility” and “variability” of images as well as their potential of actively establishing relations. Therefore, the structure of this curatorial approach corresponds to a journey through the inventory of visual Holocaust memory. By reconstructing the intertextual relations between visual representations of the Holocaust, we also intend to explore the interdependency between specific cinematic techniques, visual evidence, and visual representations of the Holocaust.

As said, our idea of exploring the inventory of visual Holocaust memory by detecting image relations implicitly refers to Warburg’s *Mnemosyne Atlas*, as it intended to analyze the afterlife of images and how they re-appear in different contexts, although in case of the VHH-MMSI, the curation of image relations is primarily based on the use and application of digital techniques.⁵⁸ “To sample chaos, to make sections to retrieve from it [...] packets of images, and to make all of this visible on planes or on *plates of visual consistency*” – that way, Georges Didi-Huberman describes Warburg’s atlas.⁵⁹ He compares the structure of these planes to the net of a fisherman, thereby emphasizing the networked character of these packets (or samples) of images that establish certain relations marked by intersections similar to the knots of a net. Didi-Huberman identifies as a second model for Warburg’s “tool for gathering, or for ‘sampling,’ by means of interposed images”,⁶⁰ an archaeologist performing exhumation of relicts from the past. Both these models point towards the synchronic as well as to the diachronic dimension of Warburg’s practice of sampling images, which he intended as an analysis of the afterlife of antiquity through “visual configurations”.⁶¹

Warburg’s approach to study the “movement and impact of images”⁶² is on the one hand informed by logics of collecting, thus loosely resembling an archive, as well as by

⁵⁸ Cf. Grundtmann (2020) “Digitising Aby Warburg’s *Mnemosyne Atlas*”, p. 4.

⁵⁹ Georges Didi-Huberman (2011) “Sampling Chaos: Aby Warburg and the Photographic Atlas of the Great War”. *Études photographiques* 27, paragraph 3.

⁶⁰ *Ibid.*, paragraph 1.

⁶¹ Grundtmann (2020) “Digitising Aby Warburg’s *Mnemosyne Atlas*”, p. 3.

⁶² Molly Kalkstein (2019) “Aby Warburg’s *Mnemosyne Atlas*: On Photography, Archives, and the Afterlife of Images”. *Rutgers Art Review: The Journal of Graduate Research in Art History* 35, p. 50-73. Here: 50.

curational techniques and the modes of display in an exhibition. Furthermore, by sampling dispersed photographs of paintings and of objects to panels, Warburg's project answers in astonishing ways to our contemporary digital-visual culture:

Further, as the growing body of scholarship continues to suggest that the *Atlas* has in some sense come home, historiographically speaking, its resonance with contemporary discussions about the migration of digital images (especially digital photographs) and both the limitations and possibilities of digital archives remains to be developed. The movement and transformation of images, the special technological significance of photographs, and the fecundity of the archive are all key to Warburg's project, as well as to our increasingly networked, image-laden digital culture.⁶³

Our exploration of the migration of historical images, however, intends a qualitative analysis of image relations that would make visible certain patterns in the liberation and atrocity footage, its selection and iconization processes, and finally the transformation of certain tropes in a diachronic perspective. The T/R can assist in examining the original footage recorded by Allied camera teams in the liberated concentration and extermination camps in Germany and Eastern Europe, and in identifying and describing certain patterns and visual tropes. Moreover, as an annotation as well as analysis model the T/R is a unique tool for reconstructing the migration of these visual tropes and iconic compositions into popular culture, a process of establishing relations that can be examined in a diachronic perspective. Relying on the annotation of relations, it is possible to identify a variety of popular culture representations that refer to original visual records as well as to other, similar, representations in a variety of visual media.

Using the complexity of image relations as curatorial concept, our model can on the one hand identify and denominate different types of relations, and on the other hand expose particular ways of relating to atrocity footage within and beyond the visual memory of the Holocaust. By this means, the curatorial approaches deriving from the T/R can make visible patterns that are characteristic for the migration of certain images as well as the evolution and transformation of the visual history and memory of the Holocaust.

⁶³ Ibid., p. 52. See also Grundtmann (2020) "Digitising Aby Warburg's Mnemosyne Atlas", p. 6.

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