15. Virtual Topographies of Memory

Liberation Films as Mobile Models of Atrocity Sites[1]

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Abstract
The films and footage, which the Allies recorded in the liberated concentration and extermination camps as well as at other atrocity sites, shaped the future iconography of the camps. Using imagery from various camps, later film compilations created "virtual" sites that served as typifying representations of "the" concentration camp. This chapter intends to review atrocity footage and its later use as constitutive elements of such virtual topographies. By analyzing the raw footage as it is preserved in archives dispersed around the world, early atrocity films, documentary compilations, virtual models, video games, digital tours, and online platforms, we demonstrate how the historical visual evidence of the camps turned into mobile virtual models of destroyed or lost visible traces of former concentration camps.

Keywords: Holocaust, concentration camp, archive footage, documentary film, digital memory, video games

Introduction

Shortly after British troops discovered and liberated the Bergen-Belsen concentration camp close to the northern German city of Celle in mid-April 1945, the site's topography fundamentally changed. After clearing the site, the British decided to burn the remaining camp facilities and bury the

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massive number of corpses they had found there to prevent the spreading of diseases. Roughly five weeks later, the huts and barracks were torched with flamethrowers in a symbolic act. Visitors to the memorial today can merely surmise the topographic dimensions of the former camp. They are greeted, in fact, by green meadows and woods, a landscape transformed into a commemoration site, while the remnants of the original compound are nearly invisible. Film footage recorded by British camera teams after the liberation of the camp—including films that depict the burning of the camp's barracks—is the only visible reminder of its topography today. It functions as a source for a portable model of the camp, a virtual site of memory, which was fundamentally transformed after the end of the war.

Before being recorded on film, the atrocity sites—especially at former concentration and extermination camps—represented "three-dimensional, authentic evidence" (Agde 2006, 23), which often served for direct demonstration purposes during the early visits by international politicians and journalists or local inhabitants. Research about the footage from the liberated camps mostly followed in the footsteps of this evidence paradigm. Scholars reviewed and analyzed visual depictions from the liberated camps—photographs and films alike—primarily as evidence, which was intended to prove the crimes committed by Germans in the name of the Nazi ideology either as part of the indictment in court proceedings and trials or as a visual accusation adressed to the German public and former German soldiers in prisoners of war (POW) camps. In this context, the shocking character of the footage appears less as evidence but instead as a moral accusation and a nucleus for shaming perpetrators and bystanders (Weckel 2012). The evidence paradigm, as opposed to that, is primarily based on the famous statement with which US Supreme Court Justice Robert H. Jackson introduced and legitimized the use of films as a "witness" in the Nuremberg tribunal:

> We will show you these concentration camps in motion pictures, just as the Allied armies found them when they arrived. [...] Our proof will be disgusting and you will say I have robbed you of your sleep. [...] I am one who received during this war most atrocity tales with suspicion and skepticism. But the proof here will be so overwhelming that I venture to predict not one word I have spoken will be denied. (Quoted in Douglas 1995, 450)

There is, however, another way to look at and understand those images, and that is as a transportable medium that represents an absent event at a

different location. As Jackson stated, "We will show you these concentration camps in motion pictures," as if the judges, prosecutors, and attorneys could visit and survey the sites through a film screening. Correspondingly, in his essay on the Nuremberg evidence film *Nazi Concentration Camp* (OMGUS, 1945), Lawrence Douglas evokes crime scene photography as a reference to the showing of atrocity films in court (Douglas 1995, 451). Crime scene photography is a significant mode of translating the visual topography of a crime scene into a transportable medium that can be analyzed by the investigators at a different place and a different moment in time. Thus, photography, but also drawings or films, serve as transportable assets that virtually evoke the crime scene to a distant audience.

Similarly, the film recordings from the liberated camps had the purpose of documenting the topography of atrocity sites and turning them into transportable assets that could then later constitute portable memories. This "virtual sum" of the atrocity sites, however, remained fragmented and "a puzzle with significant voids" (Agde 2010–11, 98). The filming, however, resulted in "exemplary images of visual violence," which served as cinematic "inventory" (Agde 2010–11, 104), significantly shaping the iconography of the camps. They were used repeatedly to represent "typical" atrocity sites. Using footage from various camps in a typifying approach, later film compilations then created a "virtual" site that served as a heterotopical representation of "the" concentration camp. This chapter intends to review atrocity footage and its later use as constitutive elements of such virtual topographies. These topographies dissociate themselves from the physical place and transfer the original material sites into a generalized virtual model. The outcome is a kind of prototype that affects the representation of atrocity sites within collective memory after the physical evidence of the crimes has vanished or was transformed by architectures of commemoration.

Film Topographies of Atrocity

The film *Dachau Concentration Camp* (FRG, 2021) by Clemens von Wedemeyer, Maya Schweizer, and Benjamin Meyer-Krahmer opens with a top shot of an aerial map of the camp. The camera slowly zooms into the map, which transforms into a 3D model that opens the view towards the camp's gate and an alley between the barracks. While delving into the model that had evolved from the map, the shot is superimposed with liberation footage filmed from a plane flying over the camp. The opening sequence thus emphasizes the connection between topographic mapping and the

filmic depiction of the atrocity sites. In combining digital modeling with the footage taken by Allied camera teams, the documentary realizes the potentiality implied in the atrocity footage to create film topographies of atrocity that would make it possible to access the cinematic preservation of these sites from distant places and times.

In many cases, the films made by Allied cameramen are the only visual testimony of the camp topography as it looked at the moment of liberation. From the Bergen-Belsen concentration camp, for instance, "a pictorial record of the camp exists from the moment it was liberated by the British army, to the moment it was razed to the ground" (Caven 2001, 205). The footage, which was originally intended to be used in a film that was never fully completed and only reconstructed in 2014 with the title *German Concentration Camps: A Factual Survey* (dir. Sidney Bernstein, UK, 2014), documented and preserved the conditions in the camp as found by the British after its liberation. Later research on the filming emphasized the intention to create evidence that could not be questioned or denied. The focus on civilians witnessing the shocking number of dead bodies or the use of panning shots to prove that the footage was not edited were seen as proof of this kind of visible evidence production. The panning shots, however, can also be conceptualized as attempts to measure and map the territory of the camp. Films from other locations further support this assumption that filming in the camps was also a way of exploring the topographies of atrocity sites and of preserving them for the future.

Cinematic mapping techniques such as panning or tracking shots that resemble the mode of touring through the camps are even more explicit in private films taken by Allied soldiers. In May 1945, Sergeant Raymond S. Buch from the 56th Armored Engineer Battalion of the US Army, for instance, filmed in the Mauthausen concentration camp in Austria. Overlooking the quarry, Buch measures the distances of the camp's site with the help of an extremely long panning shot. He then depicts the interior of the camp with the help of a panning shot alongside a barbed wire fence. Covering a 180-degree half-circle, Buch combines the two visual axes of a street next to the camp's fence in a single shot. He documents the former prisoners and the conditions in the camp in relation to its topography. Specific architectural structures such as the barracks and the fence as well as streets and walkways constitute the reference points of this cinematic mapping technique.

A similar technique of measuring and mapping the topography of a concentration camp with the help of a mobile camera can be seen in the opening sequence of Romuald Karmakar's documentary *Land der Vernichtung* (Land of annihilation, FRG, 2003), in which he explores landscapes of

Eastern Europe by mapping the places of Nazi atrocities and portraying the people still living next to them. Using a simple MiniDV camera, Karmakar walks along the fence of the former death camp Majdanek. The viewer hears Karmakar's voice counting the steps. The duration of the take and Karmakar's counting create an experience of a length of time in relation to the topography of the historical place depicted by the camera. Being confronted with the dimension of the camp's fence, listening to the constantly counting voice, and being bound to the point-of-view perspective, the mobile camera becomes an instrument for mapping the landscapes of German atrocities.

In the American films depicting the liberated Buchenwald concentration camp, Agde also identified this explorative movement: the cameramen recorded the site according to their own walkthrough through the camp. Their exploration of the atrocity site is thereby mirrored in the footage itself (Agde 2010–11, 102). The cameras primarily measure the site and include the buildings and structures as visual demarcations for a film topography. The understandable desire of the filming soldiers to give an overview on the site led to a couple of iconic images. A spatially structuring effect on the collective imagery of the camps can be attributed to the often used shots from the watchtowers overlooking the camp—some including a machine gun—that document the almost panoptic perspective these towers allowed for. In a similar sense, the aerial shot of Auschwitz showing rows and rows of barracks behind barbed wire gained iconic status. While the purpose of these shots was to illustrate the enormous dimensions of the camps, today they contribute to the visual memory of concentration camps with long rows of barracks and muddy alleys, which are echoed in feature films and computer games.

Another Signal Corps routine is the gaze into the barrack that initially often serves the purpose of showing traces of the atrocities but also allows the viewer to experience the architectural details and spatial dimensions of the barracks. However, the uncut footage of the Signal Corps shows an even more complete picture of the camps and the proceedings around the liberation than the first compilation films or the frequently used shots in documentaries allow for. The original footage preserves a precarious spatiality, as the camps were often only separated from the adjacent villages with their houses and gardens by barbed wire fences. Specifically, the shots that show how close the next villages were—a repeatedly occurring routine—did not become part of the collective imagery.[2]

2 It should be noted that despite the inquiring approach, almost none of the existing footage tries to record the gaze of the interned, for example, in terms of looking outside the barracks.

Transportable Sites of Atrocity

When *Die Todesmühlen* (Death mills, dir. Hanuš Burger, DE-West, 1945) was produced by the American Information Control Division (ICD)[3] during the second half of 1945, the Allies already had experience with re-education films about concentration camps. No less than seven such educational films had already circulated: three Soviet films (*Oswiecim* [Auschwitz, USSR, 1945], *Majdanek—cmentarzysko Europy* [Majdanek, cemetery of Europe, USSR, 1944] and *Kinodokumenty o zverstvakh nemetsko-fashistskikh zakhvatchikov* [Film documents of the atrocities of the German fascist invaders, USSR, 1945]), one French production (*Les Camps de la mort* [The death camps, FR, June 1945]), and three US films (*KZ*, *Deutschland erwache*, and *Nazi Concentration Camps*).[4] While the editing of *KZ*, *Nazi Concentration Camps*, and *Les Camps de la mort* was mainly oriented along a systematic approach of using Signal Corps footage to cover each liberated camp separately, *Die Todesmühlen* and its English-language version entitled *Death Mills*[5] transcended this concept and instead used the footage to construct a general portrait of a system of similar concentration camps. Analyzing these two films and their effect on the visual memory of the camps calls for a brief look at their differences. The English-language version *Death Mills* is unquestionably by far the better known and more easily accessible version today; hence, most scholars refer to this version as if it were simply an English dub of *Die Todesmühlen*. The attitude is supported by a title card at the beginning of the English-language version stating: "This is a translation of a film called *Death Mills*." Although the film could be perceived as a translation of *Die Todesmühlen*, this wording is misleading since the English voice-over has not just been translated but rather transformed for the specific purpose to inform members of the Allied forces about the camps. *Death Mills* explicitly addresses an Allied audience, and the voice-over warns the audience not to fraternize with these Germans lightly.[6] In contrast, in *Die Todesmühlen*, the German narration—especially towards the end of the film—becomes

3 The ICD was a department of the Office of Military Government, United States (OMGUS) during an early phase of the postwar American occupation of Germany following World War II.

4 SHAEF and the British military planned but never finished their own projects. The latter was later released in a shorter form as *Memory of the Camps* and the original production reconstructed in 2017 under the original title *German Concentration Camps Factual Survey*.

5 The Yiddish version *Di Toit Milen* (BArch B-71053) is using the score and, with minor exceptions, the editing of *Die Todesmühlen*.

6 "Today, these Germans who cheered the destruction of humanity in your land (…) plead for your sympathy. They are the same Germans who once said: 'Heil Hitler!'"

self-accusatory and addresses remorseful perpetrators and "*Mitläufer*" (supporters). The two films also differ slightly regarding the editing, the choice of material, and the pacing on a micro-level. Yet while they have different approaches in terms of audience identification, both versions are similar in the way they construct "the concentration camp." Hence, both versions will be referenced in alternation to acknowledge their differences, but they will be collectively referred to as "ICD films" when analyzing the strategy of constructing a portable memory of the camps, which both versions share. This approach offers an additional benefit that has been overlooked by scholars so far. *Death Mills* is not only an English-language adaptation of *Die Todesmühlen* that caters to Allied personnel. With regards to its basic visual concept, it is a revised version that makes a handful of edits. Therefore, a comparison of both films can help to understand the makers' original intentions concerning the construction of the image of a model camp.

As emphasized above, all earlier films such as *Nazi Concentration Camps* or *Les Camps de la mort* presented a series of case studies. Organized by chapters that each represented specific camps, the audience was supposed to draw the conclusion of a scheme and picture a network of many more such places all over Germany and in the former occupied territories. The narration of *Nazi Concentration Camps* invites its audience to take the individual and diverse cases as examples of equally horrible scenarios all over Europe, which a map of Europe in the opening title makes unambiguously clear. Contrary to that, both ICD films (*Death Mills* and *Die Todesmühlen*) present at least parts of the Signal Corps' and Soviet liberation footage in an already generalized and typified form. While the generically dramatizing music accompanying the German-language version partially obscures this, the repetitive score in the English-language version emphasizes the structural austerity of the montage, which is the main adjustment in comparison to the German-language version. In *Death Mills*, a simple and repeated march throughout the twenty minutes mimics the strict and redundant structure of the movie. The rudimentary musical score consists of a suspenseful walking bass figure plucked by an orchestral string section, a seemingly endless relay of descending and ascending steps that are heard on repeat over the course of the film. Undoubtedly, the march echoes the rhythm of the ominous procession of Germans carrying crosses in Gardelegen, which functions as a framing story of the film.

This representation of perpetrators and bystanders carrying crosses is ambiguous at the least and evokes notions of suffering and of "putting your trust in God in times of hardship." It is reminiscent of an almost ironic

comment on the self-victimization of Germans, and the heroic fanfare mocks it as a procession of self-pity. The ongoing marching score eventually connects the whole film with this framing story as if the procession walked along the stations the film shows. Additionally, the repetitive score adds to a leveling out of the often strong visual differences between the film materials. In the German-language version *Die Todesmühlen*, however, the score instead works against the categorial structuring of the footage. Here, the music supports a narrative formed by the voice-over that is merely illustrated by the images. While the earlier re-education films are visually consistent, with each chapter using material from one camera operator in a specific weather condition, the ICD films make use of the opposite effect. The introductory montage with barbed wire fences combines materials from Poland and Germany, intercuts footage from the liberation of Majdanek in the summer with snowy images from Struthof in November, and juxtaposes high contrast extreme long shots and blurry close-ups. This exact mixture defines the approach applied; it is not about the many individual camps but about "*the* concentration camp": an interchangeable place that is fenced in by barbed wire and watch towers, inhabited by poor, wretched, emaciated creatures in striped uniforms, lying within plain sight of the next village, while at the same time shut off from the world with large gates, furnished by signs in German or Polish and—seemingly intentionally—often situated in typical German landscapes such as hilly regions or at the edge of a forest.

These first images of the film show deserted places. They look like model camps, which emphasizes their virtual character. Only when the first gate opens, large groups of inmates, cheering at their liberators, come into sight. Then more gates are opened and several crowds of cheering prisoners, waving through barbed wire fences, populate the yards of "the camp." Exhausted inmates from several camps are carried away on stretchers, followed by a montage with half a dozen delegations visiting camps in Germany and Poland. The ICD films' montage combines US army officers entering the premises in Flossenbürg with the Eisenhower delegation visiting Ohrdruf as if it were the same event. While General Eisenhower and the Archbishop of Canterbury are identified by the narrator, the following montage combines footage of emissaries looking on and shots of devastated barracks or piles of corpses from other locations, intentionally edited in a random fashion. Similar attempts at a cinematic construction of "the concentration camp" are found in the introduction of Alain Resnais's seminal short film *Nuit et brouillard* (Night and fog, FR, 1956) ten years later. But the ICD films shift this construction of a virtual space to another level. Layer by layer, the camp is unveiled until the viewer reaches the gas chambers, and eventually the vaults

and sheds with innumerable items and possessions of those murdered. While the voice-over often identifies places and makes distinctions, the editing of *Death Mills* and *Die Todesmühlen* arranges and juxtaposes footage from various places and therefore creates virtual spaces. The piles of eyeglasses and dental prostheses from Lublin appear to be in the same room as the GI presenting the wedding rings or the men in overalls sorting the belongings of the dead in Buchenwald.

The films strictly adhere to the concept of typifying the footage. The passage with the belongings is followed by one of atrocities before the liberation, which is succeeded by a passage with perpetrators, a sequence about the dead, and then one about the survivors. Even the montage with those who survived further intensifies the impression of a virtualization of the camp by presenting a kind of typified emaciated survivor. Eventually, the last four minutes deal with civilians confronting the atrocities in Ohrdruf, Buchenwald, and other places; and again, this points to spatial aspects: the closeness of the adjacent settings, the final combination of all aspects: corpses, camps, survivors. Once again, the films intentionally cut from the gazes of people visiting Buchenwald to corpses discovered at a different place in order to illustrate the interchangeability of the sites of terror and the practice of confronting German denial with graphic images of the atrocities.

The changes made in the later English-language version *Death Mills* are telling corrections. While some of the differences are minor makeovers, the English-language version rectifies the typified montages further in at least two cases. Two shots of dead inmates have been cut from a passage with survivors during the liberation in the first half. The same happens in the second half of the film when a single shot with a survivor is cut from a sequence with corpses.[7] The most prominent correction, however, is the elimination of the emotionalizing score and its replacement with a connective, repetitive theme. All these changes show how important the categorizing structure of the footage was considered. Taking all these observations into account, one could conclude that both *Death Mills* and *Die Todesmühlen*—despite the opposing audiences they anticipated—aimed

7 Intriguingly this shot is visible in the video-recording of the showing of *Death Mills/Die Todesmühlen* during the Eichmann Trial. It is therefore likely that the German-language version was screened without sound in 1961. However, the same video also shows an animated map of Germany and Poland with locations of concentration camps, which has not been preserved in any of the known ICD films. So far, there is not any document proving that *Death Mills* had been screened at all. The succession of shots visible in the video recording of the Eichmann trial, however, leaves no doubt that this was the case.

at producing a virtual cinematic construction of "the concentration camp." Moving away from a case-oriented use in favor of a generalizing visualization, this utilization of film as a portable memory differs from evidencing or documenting. Instead, the memory of the camps is transformed into a transferable, virtual, heterotopic entity. Therefore, the compilation of images from several camps in documentaries, often criticized as random utilization, could also be understood as a continuation of this virtualization of the concentration camp as a transportable memory. While the criticism of the use of liberation footage, as Toby Haggith (2005) refers to as "illustrative wallpaper" in his analysis of the Bergen-Belsen films, is justified when this use is compared to the materials' specific documentary value, exactly this detachment might be one of the conditions of the construction of transportable memory and perhaps proves to be a successful and endurable approach within the context of the formation of Holocaust remembrances.

Intriguingly, the Soviet film about the concentration camp in Lublin from 1944 is titled *Majdanek* and not *KL Lublin*, as the camp was officially called by the German administration. This name was most likely given by the locals, referring to the location of the former Lublin ghetto Majdan Tatarski (Drubek-Meyer 2020, 17). This name, therefore, deprives the title of any geographical roots recognizable to audiences outside of Lublin. Arguably this could be interpreted as an early attempt to virtualize the camps, and more aspects hint to such an agenda. The Polish-language version of the movie even starts with a fictional sign referring to "Vernichtungslager Majdanek" with a skull and the runic insignia of the Schutzstaffel "SS" that was produced as a prop for the film. The movie's second title, *Europe's Cemetery*, underlines this generalizing approach, which arguably explains the absence of any reference to Jewish victims, a deliberate choice of the censors in Moscow, most likely also due to the wartime situation and Stalin's agenda. This typifying approach is also present in the unremarked combination of images from the Majdanek concentration camp and from the "Erfassungslager für beschlagnahmtes Feindvermögen"[8] located in Chopinstr. 27 in the city center, miles away from the concentration camp. The "Erfassungslager" was a central collecting point for "Effekten" from the extermination camps in Belzec, Sobibor, Treblinka, and the Majdanek concentration camp. Majdanek also had its own *Effektenkammer*, yet, as reconstructed by Natascha Drubek-Meyer, at least the close-ups in Majdanek were filmed in the store in the city (Drubek-Meyer 2020, 6). However, the

8 Sometimes referred to as "Lager" or "Materiallager Chopinstraße." See: http://www.holocaustresearchproject.org/economics/economicsgal/Chopin%20Street%20%20loot%20invoice.html.

footage of vast amounts of belongings being piled up in front of the barracks taken from *Majdanek* and also used in *Death Mills* most likely was filmed in yet a third location, the labor camp at the old Lublin airport called "Bekleidungslager Lublin,"[9] where less valuable items like shoes were hoarded. Hence, the virtualization of the camps had already started when the Signal Corps units began to film, and the utilization of the Soviet footage in *Death Mills* and *Die Todesmühlen* was an appropriation of footage that had already been stripped of its provenance in a prior attempt at virtualizing the camps.

Mapping Atrocities through Film

In light of a growing number of digital projects that attempt to reconstruct the history and memory of the Holocaust, including historical sites, virtuality is usually seen as synonymous with the digital. However, Victoria Walden recently suggested a different understanding of virtual Holocaust memory. She suggests that such a different understanding of virtuality "can help us to understand a particular methodology for remembering this past that persists across a range of technologies and forms" (Walden 2022, 626). By rethinking the notion of the virtual within the context of (visual) Holocaust memory beyond the distinction between analog and digital, the atrocity films from the liberated concentration camps can be conceptualized as a substitute for their lost, destroyed, or transformed materiality. This corresponds to Anne Friedberg's definition of the virtual as a "substitute" that acts as "an immaterial proxy for the material," and thus indicates a changing "relationship between the real and its copy, the original and its reproduction," which Friedberg describes as being of "secondary order" (Friedberg 2006, 8). The films from the camps serve as such a proxy. They constitute secondary order representations of atrocity sites that cannot be physically accessed anymore.

Their potential as a virtual substitute, however, can be realized in different ways. On the one hand, cinematic dramatizations such as *Schindler's List* (dir. Steven Spielberg, US, 1993) reenact atrocity footage or indirectly refer to iconic images and tropes in order to generate a generic topography of concentration camps (Ebbrecht-Hartmann 2015). Indirectly utilizing liberation footage that migrates into cinematic depictions of concentration camps, such as in the German film *Der Neunte Tag* (The ninth day, dir. Volker

9 The "Bekleidungslager" can be found in Globocnic's staff list: http://www.deathcamps.org/lublin/pic/globuslist.jpg.

Schlöndorff, FRG, 2004) about Dachau, contributes to a virtual iconography of the camps (Ebbrecht 2011, 202). On the other hand, films that not only utilize the actual footage but also indicatively contextualize and explore it, can help mapping Nazi atrocities temporarily, geographically, and visually, thereby realizing the potential of these films to create virtual topographies of memory. An example of that would be *1945: L'ouverture des camps en Allemagne* (1945: The opening of the camps in Germany, FR, 2013), an episode of the French TV series *Mystères des archives*, which deals in particular with the history of the liberated concentration camps by investigating Allied atrocity films. In doing so, *L'ouverture des camps* does not use the footage in an illustrating manner to create a generic image of the concentration camps. Additional markers emphasize attempts at indexing the images, indicating their temporality and locating them geographically. By precisely segmenting the footage and annotating it, the film turns it into a multimodal virtual reconstruction of the events in 1945. Based on the footage filmed at the Ohrdruf concentration camp near Gotha, *L'ouverture des camps* reconstructs a place that significantly shaped the global memory of the liberated camps, while the place itself was practically forgotten. The camp was erected on November 6, 1944, and was cleared by the Germans only six months later, shortly before the Americans arrived on April 9, 1945. After the war, the site turned into a military compound, first used by the Soviet Army and after German unification by the Federal Defense Forces, with nearly no material remnants in evidence of the camp's existence. Ohrdruf vanished from German memory, but with the help of the Allied films, it continued to exist virtually as a visual prototype of an atrocity site. *L'ouverture des camps* accesses the camp by depicting the former entrance gate followed by shots of barracks and piles of dead bodies. In this footage, specific sites are emphasized: a barrack—where the Allies discovered additional corpses—a funeral pyre, and a mass grave. Thereby, the film constructs a virtual topography, which is then geographically located with the help of an animated map that visualizes how Allied troops moved towards Germany. Visually exploring the footage showing General Eisenhower in Ohrdruf, *L'ouverture des camps* adopts the approach of a walkthrough that corresponds to the structure of Eisenhower's visit. Similar to a virtual tour, the film makes the camp accessible from a temporal and geographical distance while constantly emphasizing specific details and offering background information through reframing and augmenting the footage (figure 15.1).

The mode of a virtual tour is also prevalent in the next segment of the episode, which introduces the Buchenwald concentration camp. After entering the camp through an immersive tracking shot (which was most

Figure 15.1. Visual exploration of the footage organized as a virtual walkthrough in 1945. Still from *1945: L'ouverture des camps en Allemagne* (1945: The opening of the camps in Germany, FR, 2013), an episode of the French TV series *Mystères des archives*.

likely filmed from the top of an army truck), the voice-over locates the shots and explains the topography of the camp. In an attempt at explorative mapping, *L'ouverture des camps* continues to investigate the footage, focuses on details, and explains the historical context and structure of the camps, while an animated map locates different places and phases. In doing so, the film creates a multimodal environment for reconstructing the camp's history through reviewing and interrogating the historical footage in relation to the explanation and contextualization provided by the voice-over and additional visualizations such as animated maps that reinforce the film's character as a virtual substitute for a distant and inaccessible past.

Virtual Landscapes

A discussion about the virtualization of concentration camps must also examine digital virtual worlds such as the settings of computer games situated in concentration camps. The action-adventure first-person shooter video game *Wolfenstein: The New Order* is set in a contrafactual universe in 1960, in which the Nazis are still in power. Having joined a resistance group, the main protagonist, veteran William "B. J." Blazkowicz, infiltrates a concentration camp as a forced laborer during a secret mission. B. J.'s briefing and the deportation to Camp Belica is part of a five-minute video sequence that introduces the background story and outlines the spatial composition of the camp.[10] B. J. is instructed by the leader of his resistance group on how to locate and save Set Roth from Camp Belica. Roth is a

10 The video can be found on youtube: https://www.youtube.com/watch?v=ukjoGAS1G04 (July 3, 2024).

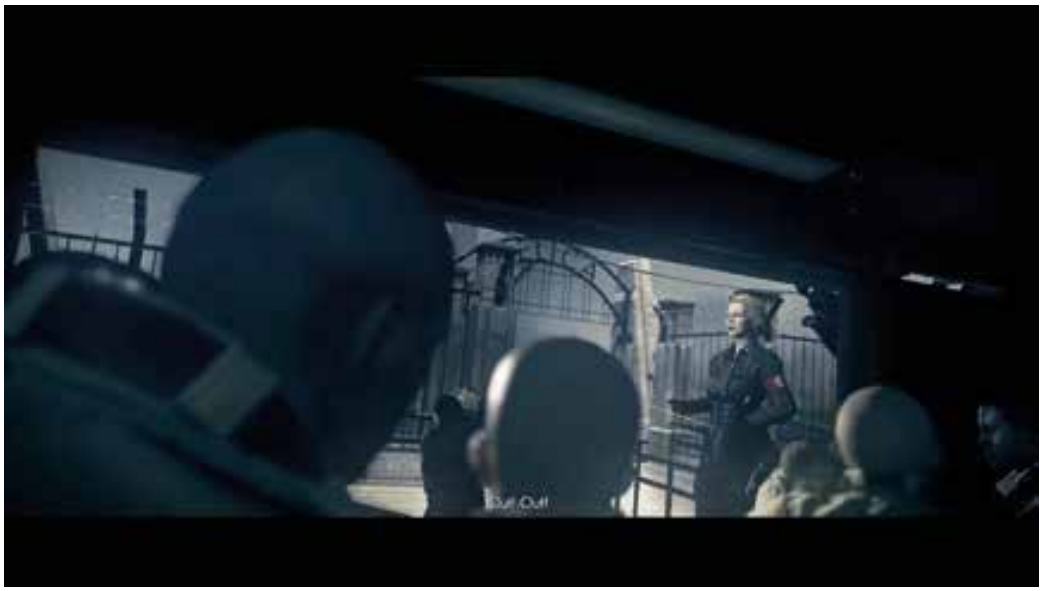

Figure 15.2. Arrival by cargo train in Camp Belica while looking through the doors at the camp gate. Screenshot taken from the computer game Wolfenstein: The New Order (MachineGames/ Bethesda Softworks 2014).

German Jewish scientist and a member of the Kreisau Circle captured in Łódź in 1941.[11] When B. J. starts the mission, the video cuts to the dark interior of a crowded cattle train. Doors then open, and a large group of prisoners with shaved heads pours out, welcomed by the beating of a sadistic female camp guard, Irene Engel,[12] and her assistant.

The prisoners are herded into the camp and then walk through a narrow aisle. B. J. is selected for work[13] and thrown into an empty room observed by a guard behind a glass pane. Here, a number is tattooed on B. J.'s right arm (Ebbrecht-Hartmann, Stiassny & Schmidt 2022). The overall insignificance of the number for the game itself points to a largely symbolic function that connects the game to the historical concentration camp system. This link is not merely evoked by the number tattoo but also by several other, primarily topographic aspects: the metal inscription on the gate that is reminiscent of the gates in Auschwitz and other camps, the location in Eastern Europe (Croatia), the segregation of the camp into "blocks" and the crematorium, the reference to Łódź, or the German Jewish descent of Set Roth to name a

11 Roth is believed to be a member of Da'at Yichud, an ancient Jewish order, predating all known religions and cultures. The inherent antisemitic allusions will not be examined here, but need to be acknowledged nonetheless. See https://wolfenstein.fandom.com/wiki/Set_Roth.

12 Irene Engel most likely refers to Hildegard Lächert or Irene Haschke, both infamous blonde concentration camp guards.

13 The selection refers to the one at Auschwitz and other camps, when persons "fit" for work were divided from persons "unfit" for work, who were sent to the gas chambers immediately after arrival.

few examples.[14] While arrival and disembarkation bring to mind perpetrator footage such as the often cited, iconic deportation materials from Poland or even the Westerbork film (Schmidt 2020), the camp gate—clearly visible at first glance through the train's open doors (figure 15.2)—evokes the memory of liberation films. This includes subtle architectural details such as the alley between the barbed wire fences known from the iconic footage with the child survivors from Auschwitz and metonymic signs such as the bunk beds in the barracks, piles of corpses, and other sights that can be traced to or understood as indirect uses of iconic images from the liberation films. Usually, the indirect or direct use of iconic images, such as the camp gate in a feature film, for example, functions much like establishing shots that frame the action. But since the computer game has to anticipate a nonlinear course of action that includes the possibility of a player roaming the site without completing the objectives, the designers integrated these references to iconic images of the Holocaust not only in the short introductory videos but into the regular gameplay, so that they keep reminding the player of the historical relation throughout the entire experience. Therefore, there is a second camp gate that connects the industrial plant with the yard in front of the shed with the bunk beds. Initially, this seems a little irritating but is surprisingly quite accurate in representing the division between industrial production, the systematic extermination, and the housing, typical of Auschwitz. However, neither the typical sheds, the barracks, nor the barbed wire fences surrounding the camp are part of the game design. All buildings are solid concrete or brick constructions. While in the embarkation scene the gate serves as a spatial orientation, it later appears as if re-spawned in a different spot of the camp area, where it affirms the anticipated Nazi concentration camp and the game's historical ties, which would otherwise risk getting lost in the futuristic warfare design the *Wolfenstein* series fosters.

The many relations to liberation footage traceable in the game design prove its importance for the collective virtual imaginations of concentration camps, which were migrating virtual images long before they were integrated into computer games. The 3D world of Camp Belica that is also accessible to the player independently from and beyond the game's diegesis[15] is taken from a heterotopical model of "the concentration camp" that has

14 Detailed information about the game's background: https://wolfenstein.fandom.com/wiki/. It should be noted that not all of the information given here also plays an evenly important role in the game. While for example the camp Belica episode explicitly mentions that Set Roth was captured in Łódź, it doesn't refer to him as Jewish. This information is provided by the game's authors in the accompanying documentation.

15 The game allows the player to walk through the camp without pursuing any objectives.

been shaped through the indirect use of liberation footage known from documentaries and feature films. Specifically, the possibility to aimlessly roam the site has strong resemblances to virtual spaces derived from crime scene photography that also allow free movement through crime scenes. Wolfenstein distinguishes two temporal modes (present and past) and two modes of perspective (objective "sideline" camera and first-person perspective). Those correspond to two modes of interaction: passive watching and interactive play. The game includes quite a lot of transitional "full-motion video" film episodes. They range from briefings and transitional car rides to erotic encounters and even psychotic episodes with a distorted perception of time and vision, and they apply classical cinematic techniques such as editing, camera movement, and sound design. A skilled player can complete a walkthrough in five hours. The gameplay is interrupted more than fifty times by full-motion video sequences amounting to roughly ninety minutes of film or one-third of the whole game. Games like *Wolfenstein* seem, therefore, to be at least equivocally a subject of computer game research and film studies.

While the main part of the game takes place in the diegetic present, B. J. also experiences some flashbacks. And while the game's dominant mode is the so-called first-person-shooter perspective, the introductory films and the flashbacks are mostly shot from an objective sideline perspective. The iconic or metaphoric images from the camps occur for the first time in the introductory video sequences, which evoke the style of a Hollywood feature film production through the use of cinematic techniques such as panning shots, handheld camera, the simulation of 35 mm objectives with short depth of field, and close-ups. Such cinematic context undoubtedly catalyzes the migration of images from the liberation films into the computer game. The combination of iconic concentration camp gate imagery and the reference to perpetrator films in the cargo train point of view, for example, reveals a certain familiarity of the game designers with the iconography of the Holocaust. But the image migration here goes beyond reuse. The gate of Camp Belica as a transition between the factory, on the one hand, and the barracks and crematoria, on the other, allows an integration of the iconic gate, which suddenly occurs as a three-dimensional artifact that can be accessed from two sides, therefore becoming part of the first-person game experience. This allows the camp gate to unfold its mnemonic capacity to a far greater extent compared to its first occurrence in the opening sequence. While most of the interiors consist of generic architectural assets such as stairs, hallways, doors, rooms, and windows with varying textures that no longer pierce the

gamer's attention during the repeated walkthroughs, iconic elements such as the gate with the metal writing or the smoking chimneys stick out and function as an orientation during the game but also have a contextualizing value by breaking through the immersive and to a certain degree numbing visual experience gradually. Hence, the camp gate is implemented and placed carefully as a subtle but repetitive stimulus within the otherwise rather mechanical and reflexively evolving gameplay. While Camp Belica explicitly refers to iconic images from the liberation films such as the camp gate or the bunk beds and even recreates the spatial organization of extermination and slave labor camps, it nonetheless also omits certain typical features such as the barracks or the barbed wire fence that allowed bystanders to see what happens in the camp from the outside. Camp Belica operates in secret and is surrounded by a concrete wall. Ultimately, the game designers perhaps shied away from placing the action in an Auschwitz replica. Nonetheless, the concentration camp iconography used in the architectural details triggers memories of terror that go beyond the game's diegesis. The outcome is a minimalistic digital model of a Nazi concentration camp, evoked by a few iconic images.

Virtual Ecologies of Memory

Other than video games such as *Wolfenstein*, geolocation-based digital applications that attempt to make visible and accessible the topographies of former concentration camps through online and onsite tools have chosen less immersive approaches. Some of those applications explicitly integrate liberation footage or use this as a source and reference for reconstructing virtual topographies of memory. Borrowing a concept introduced by Andrew Hoskins (2016), we discuss three such applications in the following as virtual memory ecologies. Hoskins offers "'ecology' as a holistic perspective for revealing and imagining memory's multiple connections and functions" (2016, 349). Hence, memory ecologies comprise the "multiple forms, flows and iterations" of memory processes (ibid., 353). Hoskins also reminds us that the term "media ecology" particularly refers to "the impact of our interactions with media, with others through media, and also increasingly the dynamic processes that occur between media" (ibid., 354). Based on these conceptualizations, we understand virtual memory ecologies as mediation of historical sites through digital technology with the aim of providing virtual access to a multimodal and multisensual experience of the particular place in relation to the memory of the Holocaust.

Together with the Bergen-Belsen Memorial, the Laboratory of Synthetic, Perspective, Emotive and Cognitive Systems (SPECS) in Barcelona has created a virtual 3D reconstruction of the former concentration camp and a mobile augmented reality application that can be accessed through a portable device while exploring the site (Pacheco et al. 2015). Both are based on a comprehensive database that interrelates a variety of documents, including texts, audio, photographs, drawings, interviews, videos, and geolocalized 3D models. Those models were created based on aerial photographs, maps, and drawings. The database "allows for the organization of and interaction with historical content items, as well as the association of these items to coordinates in the real world environment" (Pacheco et al. 2014, 2).

Thus, historical sources, including those that documented and mapped the camp in the state of its liberation, informed the digital applications on two levels: as a basis for the virtual reconstruction and as digital assets that provide additional contextual information for the users. As such, they help structure the virtual experience as "points of content" (POCs), with which the users can engage (Pacheco et al. 2015). Thus, the application "combines exploration of a site's physical space with a world-scale XR representation of the historical state and learner's active engagement with curated source material" (Blancas et al. 2021, 148).

The audiovisual installation *Here: Bergen-Belsen, Space of Memory* made the virtual model accessible for visitors at the site in a closed room next to the entrance. Visitors could experience two moments in the former camp's history: a virtual reconstruction of the concentration camp in September 1944 and the situation in April 1945 when the camp was liberated (Pacheco et al. 2014). Next to the virtual model of the camp, the installation contained additional sources, including photographs and films from the liberation and the distinct voice-over of BBC reporter Richard Dimbleby who reported from Belsen in April 1945. Thus, visible and aural sources informed the virtual creation and are attached to its visualization, which was kept rather abstract so as not to exaggerate an immersive experience. Visitors can also access the virtual structures from a mobile device, which augments the actual physical space of the memorial with an additional layer of visualizing building structures and the topography of the camp. Built-in sensors and GPS locate the device on the site, align the 3D model and the video view, and offer the possibility of navigating towards different points of interest (POIs) and exploring related POCs (figure 15.3). A top bar indicates the position of POCs in the 3D space. Users can access them and even share them with others, for instance, during a presentation after a visit. Drawings from prisoners, liberation photographs, and films thereby offer

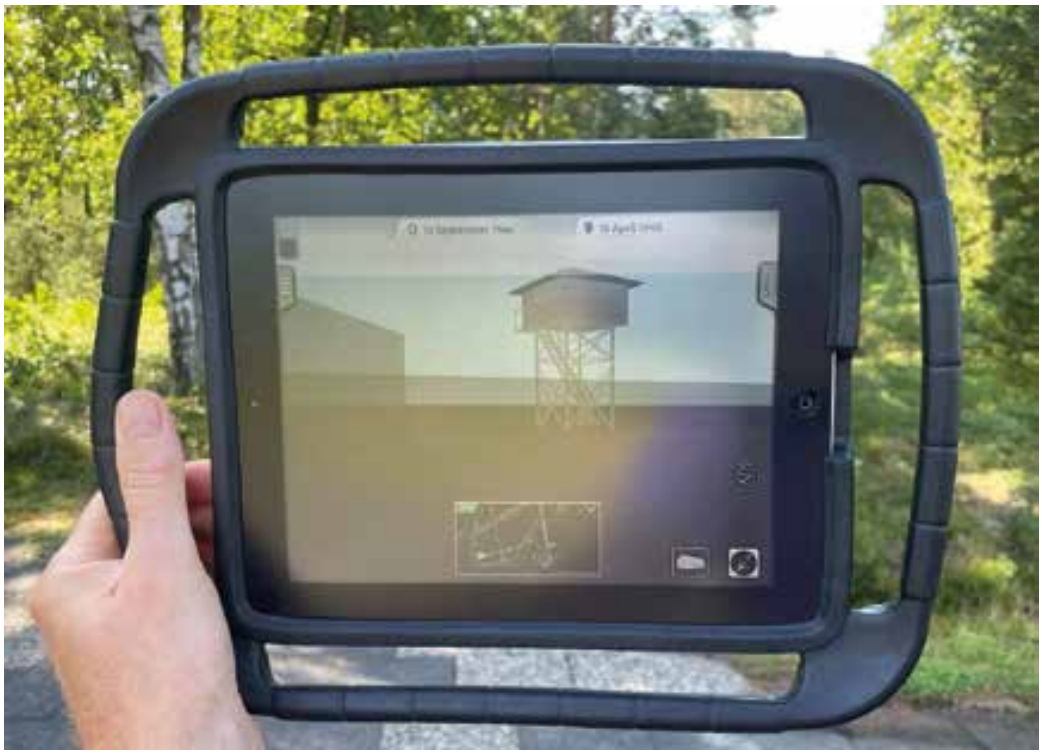

Figure 15.3. Augmented reality application in Bergen-Belsen that allows users to overlay the 3D buildings of the former camp on site.

an opportunity to compare and relate past and present by integrating the visual sources into an augmented reality environment. Hence, the sources, which are now geolocalized and thereby able to evoke a visual memory of a past that is not visible and accessible at the historical site anymore, become building blocks of a hybrid reality based on virtual models, technology, an interactive interface, and physical reality, which turns the memorial into a virtual memory ecology (Knoch 2021, 117).

The *Dachau: Die Befreiung/The Liberation*[16] VR and AR experience even makes it possible to superimpose historical liberation imagery on the contemporary physical reality of the memorial site. A mobile tablet application allows visitors to walk through the memorial and explore the history of the liberation in an audiovisual experience. Geolocalized photographs and a voice-over offer glimpses of the camp's conditions during the liberation in the present and provide additional context. Digital technology thereby assists in re-localizing the portable memories that were recorded by American camera teams at those places seventy-five years ago. Similar to a mosaic, those images are re-placed into the modern topography of the memorial,

16 *Die Befreiung/ The Liberation* is a product of Bayerischer Rundfunk for the use on and in collaboration with the memorial site in Dachau.

Figure 15.4. The virtual online tour *Die Befreiung/The Liberation* superimposes historical photographs on the present site and thereby creates a composite of past and present. Source: Archiv KZ-Gedenkstätte Dachau/Montage BR, Christopher Roos von Rosen.

thereby creating an oscillating effect of a co-presence of past and present. The web-based version of this application offers a virtual online tour that follows a clearly defined path starting at the entrance of the former camp with the superimposition of a photograph that was taken on April 29, 1945, the day of the liberation. Users can scroll through a text that contextualizes the places and the photographs attached to them (figure 15.4). While scrolling, the historical photographs blend into the pictures of the present site. Simultaneously, the users listen to a voice-over including testimonies from former prisoners, American soldiers, and visitors to the liberated camp.

The virtual tour combines historical storytelling with a proposed walking tour through the camp. All pictures refer to specific places and are interconnected topographically and through the narrative. The storytelling is multimodal in the sense that it combines different visual, textual, and aural elements. Other important sources are testimonies that help to contextualize the historical photographs and places and add a personal dimension to the virtual topographical experience. In doing so, the memorial becomes an interactive projection screen for multimodal engagement with the different temporal layers of the place. With its walkthrough structure, the multimodal storytelling, and the users' interaction by operating the interface—which reveals new visual composites and significant spots of the camp's topography—the Liberation app adopts elements known from the i-doc genre. Broadly defined as "any project that starts with an intention to document the 'real' and that uses digital interactive technology to realize this

intention" (Aston and Gaudenzi 2012, 125), i-docs are largely platform agnostic and flexible. They combine digital elements with documentary narration and allow for interaction and even participatory forms of cocreation.

With its innovative strategies in digitizing and curating historical visual records of atrocity sites and the liberation of the concentration camps, the research and innovation project "Visual History of the Holocaust: Rethinking Curation in the Digital Age" (VHH) aims to create interactive pathways through digital collections. It offers access to the visual history of the Holocaust through participation, collaboration, and community building. Creating a multilayered, dynamic, interactive, and participatory experience of space and time leads to multifaceted forms of engaging with the historical material through digital storytelling. Following the broad definition of i-docs, we could also conceptualize the VHH platform's interface, database, and search infrastructure as an interactive approach to documenting Nazi atrocities and the liberation of the concentration camps. As a multidimensional, data and metadata-driven, and query-based infrastructure, the platform allows users to encounter pre-curated and self-curated environments that combine different sources in order to explore the liberation of former atrocity sites. Thereby, films documenting the sites can be related to other documents and media and allow for interaction with the past event through digitized media assets. Users can view and investigate the historical footage with the help of a video player that allows for the manipulation of speed and frame rate. The player also includes a frame-based "film strip" feature that is synchronized with in- and out-frames of shots. It also provides information about shot size and camera movements that result from automated and manual annotation. The time-based annotation also includes the detection of relations between original footage and its later use in other films. A split-screen mode allows users to compare the source and carrier films. The relations annotated in the VHH media management and search infrastructure (MMSI) include direct uses, such as the utilization of liberation footage in Holocaust documentaries, but also indirect references, such as the fictional concentration camp gate in Martin Scorsese's *Shutter Island* (2007), which is modeled after the camp gate in Auschwitz best known from Soviet liberation footage.

With the help of these features, users can deconstruct and contextualize the virtual topographies of concentration camps, which documentary and feature films constituted based on the use and appropriation of liberation footage. At the same time, the platform allows users to locate the footage geographically with the help of geolocation references. An important tool for this geographical relocation and contextualization is an in-build map

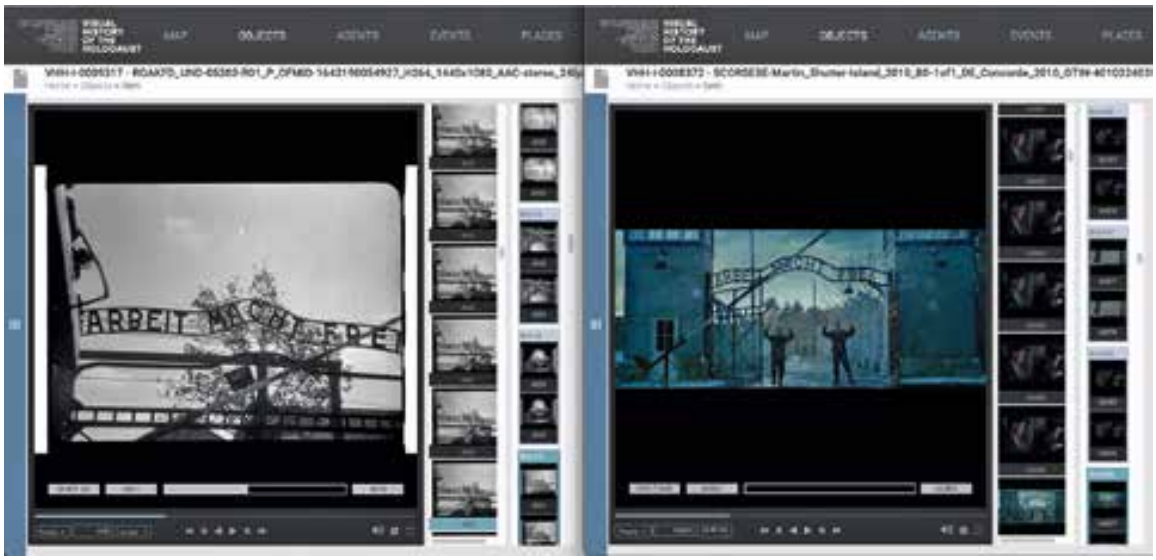

Figure 15.5. Multiple windows in the VHH MMSI document an image migration by displaying the original Soviet liberation footage on the left and its indirect use in *Shutter Island* (2007) on the right.

that interrelates different assets topographically. Furthermore, they can establish new connections to related sources such as dope sheets, interviews, and other historical documents. Turned into digitized, annotated, and interrelated digital objects (Hui 2016), a search infrastructure like the VHH platform can indeed turn the liberation footage into digital building bricks for virtually—though always only fragmentarily—reconstructing the vanished topographies of atrocity sites while also exploring, mapping, and deconstructing the virtual topographies of memory constituted through the use, circulation, and migration of the historical footage. Similar to i-docs, the VHH platform establishes virtual "roads where journeys take place" (Aston and Odorico 2018, 69), providing the infrastructure to navigate factual evidence from Nazi atrocities and the liberation of the concentration camps, which users can then actively explore and interactively engage with through a variety of features. The multimodal character of the VHH platform even intensifies this experience. The different kinds of media assets, which users can explore and interrelate, turn the navigating experience into a multimodal and therefore into a multisensual experience (Ebbrecht-Hartmann 2024).

Conclusion

The footage shot during and after the liberation of German concentration camps by Allied cameramen was of vital importance for the formation of

Holocaust remembrances, and especially for a shared visual memory of the Holocaust. It replaced a void left by the purposeful destruction and loss of perpetrator films at the end of the war, as well as by the destruction and vanishing of the actual crime scenes: the sites of the atrocities. Besides the incriminating, accusing, and shocking effect they had—particularly as part of re-education and atrocity films addressed to the German population as well as to viewers in Allied countries—these images were originally also intended to preserve the facilities and their topography in a moment of total transformation, a potential that soon would unfold. The camp gates, barracks, piles of corpses, bunk beds, piles of possessions, and barbed wire fences represented individual cases but also produced repetitive patterns. The atrocity film *Death Mills* (1946) was a first attempt to make use of these patterns in a typifying way, aiming at making tangible the enormity of the crime not by pointing to individual atrocities but rather by presenting it as a system executed in interchangeable locations. Along with typifying and generalizing the crime went the visual construction of a model concentration camp, a virtualization of the crime scene. While recent research on virtualization and the Holocaust has explored the connection between visualization and virtualization in the context of digitization (Leggewie 2009), the findings presented here suggest that a certain process of virtualizing the camps had started long before the age of digitization and that the opportunities of this process were perhaps anticipated by the cameramen from the Signal Corps and their Soviet colleagues, even if subconsciously. In contrast to current discourses of virtualization, early compilations of liberation footage hint at a process of detaching images from their original contexts in order to form a generalized concept of the camps. This process eventually prepared for the globalization of Holocaust memory and allowed for a transformation of the images of terror into a transportable memory that not only helped to reduce the complexity of the multifaceted crimes of exploitation and mass extermination, but also turned the Holocaust into a manageable and communicable memory.

Today, many of the sites of the genocide, which were demolished or significantly transformed after they had been recorded on film, have been turned into memorials. Virtual reality and 3D models were long deemed inappropriate for commemorating the Holocaust, and memorials, in general, were understood as places of mourning and remembrance rather than places of reconstructing and exploring crime scenes. This has changed insofar as today, films and photographs are also perceived as traces of individual fates, and the act of connecting visual documents and landscapes becomes an act of remembering in itself. Hence, in recent years, the liberation footage has

experienced a second type of virtualization in relation to historical sites that, compared to the typifying virtualization during the first formation of visual Holocaust memory, aims at the opposite effect. By projecting 3D models based on visual sources taken from liberation films and photo collections, a virtual model of the camps is evoked in relation to the current sites as multilayered memory ecologies that allow for the mapping, the exploration, decontextualization, and re-contextualization of the past in the present, while reducing the immersive experience to a minimum.

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