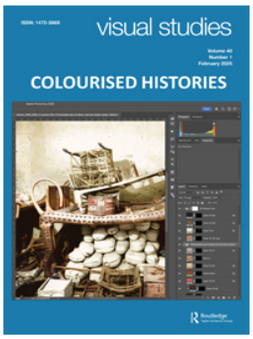

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The faces of Auschwitz: digital colourisation, ethics and the archive

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Colourisation describes the retrospective digitisation and addition of colour to analogue photographs and films that were initially recorded for use in a black and white format. Digitised versions of photochemical materials are increasingly the first point of public access to museum collections and film archives, colourisation can emphasise or diminish details that were considered salient to the photographer. In the case of Holocaust photography – particularly that produced by its perpetrators – colourisation can perform other functions, involving complex negotiations between past and present. Colourisation manipulates images so that they are not reproduced in the form that perpetrator-photographers created, kept or studied. In doing this, the digital editing technique of colourisation is pre-figured by other methods used by museums and film-makers to interrogate perpetrator-produced images and disrupt their ideological function. In this article, we explore the ethical implications of colourisation as it has been used in the Faces of Auschwitz *project, Marina Amaral's collaboration with the Auschwitz Museum. Amaral has colourised 21 registration photographs taken by the camp Political Department's Identification Service (*Erkennungsdienst*). We place this project in a lineage of films which also show and alter the registration photographs –* Ordinary Fascism *(dir. Mikhail Romm, USSR, 1965) and* The Portraitist *(dir. Ireneusz Dobrowolski, 2005) – as well as a film that uses colour slides taken by a German perpetrator* Photographer *(dir. Dariusz Jabłoński, 1998). We suggest that Amaral's colourisations take the form of an artistic intervention and re-mediation in a similar way to these films, rather than as the historical research which she claims it to be.*

This analysis focuses on Marina Amaral's colourisation of twenty-one registration photographs for the *Faces of Auschwitz* project. We examine the connection between the aesthetics of colour, empathy and experiential viewing practices as they have been shaped by the effects of digital media and the way photographic collections in twenty-first-century museums are accessed. Digital images are increasingly the form in which the public first encounter photochemical materials held in museum collections and film archives, from visible evidence of institutional records to newsreels and fiction films. The digitisation and editing of non-fiction photographs (glass negatives, lantern slides, prints) and films (reels and fragments of 16, 35, 70 mm cellulose nitrate or acetate), which were recorded for use in black and white formats, has emerged as a method of interpreting archival materials for exhibition to new audiences. The digital colourisation of nonfiction photographs and films is one of the most recent and controversial of these methods.

Colourisation refers to the digitisation of black and white photochemical records to produce a greyscale image file, the pixels of which are converted into colour. Details of each image can be selected, masked (outlined) and composited, adding a layer of information or data onto a specific facet or object. Whilst the computer–based imaging colourisations of fiction films, including that of black and white Hollywood Studio classics commissioned

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by Turner Entertainment and Hal Roach Studios in the 1980s–1990s, incited polemical debate around questions of authorship, artistic expression, copyright and ownership (Edgerton 2000; Grainge 1999), the reception of colourised nonfiction films and photographs differs. The retrospective digital colourisation of institutional photographs (passports, police records, identification cards and documents) and newsreels footage, which often circulate in a cultural imagination as 'objective' and without a named author, has provoked criticism for overwriting the history of photographic technologies and practices. However, such evidence includes the use of photography as an instrument in persecutory institutional structures. The images may perform objectivity (flat lighting eliminating shadows that conceal, proscriptive positioning of the photographed subject), yet are complicit with the politics and ideology of discrimination.

The *Faces of Auschwitz* project tackles one of the more extreme cases of this kind of complicity: the registration photographs taken of prisoners at Auschwitz-Birkenau. The project, commissioned by the Auschwitz-Birkenau Memorial and Museum, takes the form of a web-based gallery of colourised versions of the black and white registration photographs, accompanied by a narrative about each individual, depicted in the form of a digital memorial that is intended to commemorate the dead 'at a time when the memory of the Holocaust becomes increasingly abstract and remote'.[1] The museum retains a vast collection of registration documents as photographic remains and visible evidence of the Holocaust. The twenty-one colourised files have been sifted from an estimated 1.1 million people who died in Auschwitz-Birkenau, most of whom were not photographed. The preserved photographs record '31,969 of men and 6,947 of women [whom] constituted only a fraction of a vast Nazi archive destroyed during the camp evacuation in January 1945'.[2] The work of the Auschwitz-Birkenau Memorial and Museum lies in the conservation, preservation and presentation of photographic and film records, sustaining source materials and interpreting them for new audiences.

Marina Amaral has suggested that colourisation in the *Faces of Auschwitz* project can 'bring these people closer to us. It bridges that historical gap and makes it easier for us today to connect with them emotionally. I think that's been a key factor in the project's impact' (Amaral 2024a). Similarly, Elizabeth Edwards observes that the use of digital colouring also 'diminishes historical distance' as it translates the black and white image into an aesthetic more familiar to a twenty-first century audience, even though colourisation overwrites the materiality of photochemical images, which can be read as a physical trace of past technologies and labour (Edwards 2019, 331–332). Other scholars of black and white photography have seen these traces as more significant bridges to the past than the colour that they 'lack' (Geimer 2021, 133–134). In 'The Colors of Evidence' Peter Geimer writes that the prevailing black and white aesthetic of documentary photographs remains without 'a fundamental dimension of reality – color' (2016, 1) yet insists that the assumption that such images are 'a technical failure that denies immediate access to past reality' overlooks their historical and material specificity as evidence (2016, 16). Further, in Allan Sekula's study of institutional photography, it is the figurative ambiguity of 'giving a color' that can refer to the duality of the image as evidence. The black and white photograph is both visible evidence and an act of 'elaboration or unmasking of truth' (Sekula 1986, 4). The black and white image, in this sense, is the detail that fleshes out meaning. Sekula's study does not find such monochromatic images to be lacking colours, but describes them as a likeness of the photographed subject that is both anonymised by the uniformity of process and specific to that time and place. Thus, newspaper reviews of colourised documentary films and institutional photography, which tend to align the construction of a 'natural colour' image with the space in front of the camera, bypassing or ignoring the technology and practices by which the image was recorded, rest on deeply problematic assumptions.

For these reasons, colourisation has been criticised as inherently a 'falsification' of history (Mark-Fitzgerald 2021). As we show, however, in the case of perpetrator images such as the Auschwitz registration photographs, how (or whether) they should be exhibited has been fiercely debated, and leaving them in their 'original state' (Mark-Fitzgerald 2021) is by no means the only solution that has been found. We place colourisation in the lineage of other film- and photograph-based media that have reworked perpetrator images, including two which altered the registration photographs: *Ordinary Fascism* (1965, dir. Mikhail Romm) and *The Portraitist* (2005, dir. Ireneusz Dobrowolski).[3] Like Romm and Dobrowolski, Amaral alters the visual hierarchy of information recorded in the black and white photographs recorded by the perpetrators of atrocities. Digital editing, 'cleaning', or colourisation of a greyscale image can emphasise, diminish, or embellish details. Colourisation nuances facial expression and finds different ways to visualise bodily injuries. Some of the choices made in colourising the registration photographs obscure the nature and history of these images, and the justifications offered rely on often implausible and problematic invocations of natural colour and empathy. However, the recreation of the colours perceived by the photographer in an archive of

perpetrator photographs might have some potential as a critical and ethical approach to a form of documentation designed to dehumanise the photographed subject.

PERPETRATOR PHOTOGRAPHS AND THE ARCHIVE

Photographs are central to public Holocaust consciousness at the same time as they are often viewed with caution by Holocaust scholars. Susan Sontag (1977, 19–20) writes about the shock that she experienced on seeing photographs of the liberation of concentration camps. Public exhibitions of these photographs took place very soon after the liberation of camps, in Trafalgar Square and in the Library of Congress, Washington DC, for example (Struk 2004, 131). And they have continued to be used, in museums and exhibitions, in educational material, and social media. The Auschwitz Museum's X/Twitter account frequently posts registration photos of prisoners alongside brief biographies (Dalziel forthcoming). Auschwitz has lodged itself in public memory as a set of images: some taken on liberation, especially the gates of Auschwitz I and of Birkenau, and others taken during the camp's operation, including the three-part registration photos which form the basis of the *Faces of Auschwitz* project.

Difficulties of identifying where images come from and what is in them (as well as a history of people distributing the photos often not taking much interest in those facts), ethical questions of how, and whether, to show people's suffering, and arguments about whether the event is representable at all have all haunted discussion of photographs of the Holocaust (e.g. Crane 2008; Didi-Huberman 2012; Struk 2004; Zelizer 1998). The fact, too, that the majority of these images were created by perpetrators has troubled many scholars. Photography was used by perpetrators to present, and even stage, events (Bruttmann, Hördler, and Kreutzmüller forthcoming). In many cases, taking photographs was part of the humiliation and violence – sometimes sexualised violence – inflicted on the people being photographed (Kinzel 2023; Struk 2004, 71–73). This includes the registration photos from Auschwitz: the rotating stool with which prisoners were repositioned consistently between frontal and profile shots could be used to make them fall over as they left (Brasse 2019, 43). Given these problems, some scholars have argued simply that perpetrator photographs should not be put on display. Photographs should be treated like the results of pseudo-scientific medical experiments, argues Susan Crane (2008). Janina Struk sees such images as effectively condemning victims to live out their last moments eternally (2004, 216). There are nonetheless powerful and recent arguments against these positions. For Susie Linfield, viewers can decide (or at least are not bound) to look in a way that simply replicates the perpetrator's gaze (2010, 87). Historians have argued that they simply require the contextualisation provided by archival research (Lower 2021); educationalists that with the appropriate scaffolding they can be used in teaching (Earl 2023).

There are also numerous examples of victims wanting their images to survive, either because they were in rare cases able to take the photographs themselves (Cognet 2019; Didi-Huberman 2012), or because they preserved perpetrator photographs as evidence (e.g. Fresco 2008). The Auschwitz registration photos were saved by the prisoners who had been tasked with taking them, Bronisław Jureczek and Wilhelm Brasse. When ordered to burn these incriminating images they packed the stove so densely with photographs and negatives that they would not burn (Struk 2004, 115–116).[4] Preserving and distributing a photograph that a perpetrator took was done to subvert that perpetrator's will. Displaying them, and doing so outside the context in which they were supposed to be used might be said to be in line with the desire of (at least some) victims.

Displaying them in a different way from the format intended by the perpetrator could plausibly be said to do similar work. While Lower and Crane consider finding and providing information about the photograph as key, there have also been attempts to address them visually, most notably perhaps by film-makers. Claude Lanzmann's famous refusal to use archival photographs is only one of the ways that film has addressed perpetrator images. There are other examples of attempts to reuse them or present them in a way that works to 'pry them out' (Baer 2002, 160) of the perpetrator's control. We will discuss two key examples in Polish films from the turn of the millennium. In the first, *Photographer* (1998, dir. Dariusz Jabłoński), the focus is on a set of Agfacolor photographic slides taken of the Łódź ghetto by a German occupier. This will allow us to consider how colour has been used and discussed. The second, *The Portraitist* (2005, dir. Ireneusz Dobrowolski) is based on an interview with the Auschwitz prisoner and chief photographer of the *Erkennungsdienst* Wilhelm Brasse, and makes extensive use of the registration photographs that he took. This allows us to see another example of display choices for the same photographs as those colourised in *Faces of Auschwitz*. Together, and in the precursor of the Soviet film *Ordinary Fascism* (1965, dir. Mikhail Romm), they show that many of the issues that digital colourisation

raises have their history in other media, as Victoria Grace Walden and Kate Marrison have also suggested (2023, 28).

PHOTOGRAPHER

Perhaps the most famous set of colour images from the Holocaust are the diapositive Agfacolor slides taken in the Łódź ghetto between 1940 and 1944. The photographer, Walter Genewein, an Austrian-born member of the Nazi party, was the head of the financial department of the ghetto administration. Genewein acquired a colour camera looted from a Jewish owner, and made personal use of it to record everyday scenes in the Łódź ghetto that seem nonetheless often to have been posed for his benefit, many showing the forced labour undertaken by the inhabitants of the ghetto. His family sold the images in 1987 after his death, on condition of anonymity, but his authorship was established by the time the images were exhibited at the Jewish Museum in Frankfurt in 1990 (Freund et al., 1990). One photograph was described (but not included) at the very end of W. G. Sebald's novel *The Emigrants* (1992). The Polish director Dariusz Jabłoński's film appeared later that decade, in which the colour slides were paired with voiceovers including Genewein's own letters, some to Agfa, and contrasted with testimony from a survivor of the ghetto, Arnold Mostowicz, filmed in black and white. Scholars have differed on how Genewein's pictures of the ghetto might be read, what part colour plays in that reading, and how much of an intervention might be required to resist the perpetrator's viewpoint.

Colour seems to make no difference to Gertrud Koch's analysis of the hierarchy of gazes in Genewein's photographs. Koch pays particular attention to the bowed heads and lowered gazes of some Jewish workers, and argues that even when some of them look directly at the camera German dominance remains unchallenged (1992, 179). In contrast, Frances Guerin (2012) has argued that the slides show an inconsistent ideological vision, which is not straightforwardly aligned with an exterminatory imperative, but also allows details of the Nazis' secret murderous plans to sometimes seep in. The figures who look at the camera, she believes, are granted the possibility of agency through 'frontality of address' (2012, 128). Colour is not used as an aesthetic device in Guerin's reading, but as part of how Genewein attempts to achieve an objective record; this distancing effect, plus the distance in time marked by the colours' fading and shifts in balance (as well as other signs of wear and tear) gives viewers room 'to imagine and remember what lies outside' the frame (125).

Koch's essay was written prior to the release of Jabłoński's film, but Guerin too concentrates on the slides rather than their cinematic remediation, arguing that they do not require any technical intervention for their complexity to be made apparent. This position is adopted in response to Ulrich Baer, who focuses much more on the techniques through which *Photographer* de-familiarises perpetrator photographs and promotes a critical attitude among viewers. For Baer, the use of colour works against audience expectations of the kinds of images produced from this period (2002, 151). By contrasting a colourful past with a black-and white-present, the film flips conventions to make the audience more aware of their arbitrariness. The rostrum camera zooms in on and moves between parts of photographs, finding details that escape the photographer's control, and sometimes allows the viewer the sense of being confronted by the Jewish figures within the images. 'Jablonski's searching camera […] gingerly examines these images for a spot from which to pry them out of the Nazi's orderly collection and release them to our sight' (Baer 2002, 160). Brad Prager reads the film as if it had been colourised, claiming that Genewein's images seem 'unnatural and unreal', causing viewers to 'suspect that their color must owe itself to an artificial intervention, one that must have been made long after the war' (2015, 208–209). Prager assumes that such a feeling will lead viewers to treat the images with greater circumspection.

In this set of discussions about colour images and ways to read and re-present them, a number of key themes emerge. While Gertrud Koch and Frances Guerin essentially believe that these images can speak for themselves, Baer finds it more productive to read them against the grain in tandem with Jabłoński's interventions. All of them find it necessary to discuss the fact that some of the subjects' eyes meet the camera's lens. Guerin's desire to find agency in these moments may be overstated, but it is telling that Koch finds them hard to fit in her scheme of reading the photographs within an order of gazes. Colour, for Baer, Guerin and Prager, actually helps viewers achieve distance from the photographs, either through the noticeable changes it has undergone over time, or through the way it works against viewer expectations.

THE PORTRAITIST AND ORDINARY FASCISM

Ireneusz Dobrowolski's film *The Portraitist* (2005) is based on interviews with the chief photographer of the registration photographs at Auschwitz, Wilhelm Brasse, a Polish prisoner of partly German heritage who refused to identify as German. The film not only provides information about the kinds of photographs Brasse took,

but also makes some effort to remediate the images, using a number of ways to interrogate them. At times, Brasse handles prints of the images. As he recalls the fact that many prisoners had been beaten before they were photographed, seven images of prisoners with black eyes and other wounds are shown (9:45-11:25). Dobrowolski animates the photographs using 2.5D parallax effect (Hallas 2023) to detach them from their backgrounds, adding a shadow. The camera appears to 'push in' on their eyes. Brasse also makes it clear that the most visibly injured prisoners were not photographed, ostensibly to return when they had recovered, but actually much more likely to die soon after, without any image taken.

Earlier in the film, as Brasse describes the process of photographing the prisoners, we see a sequence of eight frontal photographs, the outlines of the heads and shoulders blurred, hard cuts between them with the eyes at the same point on the screen (5:48-5:56). The effect is that faces change round the same pair of eyes. When Brasse says that he took 50–60 000 photographs, the film bombards viewers with perhaps 150 images in the space of six seconds, one face per frame, again blurred and matched on the eyes (6:13-6:19). In the final sequence in *The Portraitist* using the registration photographs, the images are much more cropped and blurred, with only the faces showing and only the eyes in focus and illuminated. The photos are enlarged, with the effect that they are '"emerging" from a dark void' (Łysak 2015, 107) and moving towards the picture plane.

Special attention is given to the photograph of Czesława Kwoka, a fourteen-year old Polish girl deported to Auschwitz and murdered there within weeks of her arrival. Tomasz Łysak observes that Kwoka's photograph has had a wide 'appeal to post-war audiences', with the photo featuring in many major Holocaust exhibitions (2015, 111n5). He implies that this appeal lies in their dual nature. She is attractive but also shows signs of being beaten. In one photograph she looks serene with 'her gaze […] turned upward', while in another she has 'a sheer look of horror in her eyes' (Łysak 2015, 101). 'Dobrowolski singled Kwoka out beforehand', Łysak concludes (102), as her photos are printed in a much larger format. As Brasse says that he remembers her well, and explains that she was confused and beaten by female guards. Kwoka's photograph, taken as she faces forwards, is also turned into 2.5D, the added shadow and reflected light source on the 'back wall' moving up above her left shoulder as the camera 'pushes in' on her face, her bloodied mouth in the centre of the frame (Figures 1 and 2).

Frances Guerin, in a similar way to Ulrich Baer, reads this moment as a way of wresting control of the photograph from the perpetrators.

> The film's spotlight on the photograph, the constantly shifting focal length, the soundtrack, Brasse's voice narration, all of these together challenge the fixity of the photograph in the Nazi archive. Indeed, these strategies bring the photograph alive, challenge the photograph as objective document, as [Kwoka] becomes more than the object the Nazis wanted her to be. The film's techniques reveal the potential of the image to erupt, to come alive, as it indeed does again and again in memory as we watch Dobrowolski's film. (Guerin 2010)

Dobrowolski's approach of emphasising the eyes has an important precursor in Mikhail Romm's documentary film, *Ordinary Fascism* (USSR, 1965). There are two moments in Romm focuses on the registration photographs: in the chapter which bears the same title as the film, and at the very end. The outline of the head and shoulders of each person is delineated (clearly cut out) from the background, displaced from physical context of the camp and from the sequence of three photographs.

Romm's commentary over the images shifts markedly in tone and focalisation. He starts with an ironised account of the bureaucratic necessity of photographing all the prisoners, before moving to a more poetic register in which he states: 'They are long gone from this world, but their eyes still live, their eyes still gaze at us'. He then returns to bureaucratic language of extracting the maximum value out of each prisoner: a free-indirect version of the perpetrator's perspective (1:39:33-1:41:16) (cp. Shafter 2015). The documentary film reframes each face and gradually zooms in on their eyes. The film pauses for five seconds on the most closely framed view of their eyes and then transitions into the next image. This emphasis on the identity of an individual and the continuity of their eyes as they are aligned with those of the ensuing image underscore the subjectivity of each person photographed. The transition from one still photograph to the next superimposes two faces and alignment of their eyes onscreen. The photographs edited into the context of the documentary film narrative become both evidence and critical of the insidiousness of fascism (Figure 3).

The repetitive format of the registration photographs – each facing the camera, a side profile, a third image with head covering – is a mark of the institutional repetition of the photographic process, yet the editing of the still images into documentary film – the use of superimposition of the front-facing portrait-style photographs – facilitates a visual effect in which the two images seem to touch – an effect that disrupts the position of photographer/perpetrator/camera. Romm

FIGURE 1. *The Portraitist* (dir. Ireneusz Dobrowolski, 2005) (8:09).

thus recontextualizes and refigures these pictures and the perpetrator's perspective on them, within and between image and voice-over.

Romm (1981, 309–311) and his fellow scriptwriter Maya Turovskaya (2006, 281) both tell of the use of the registration photographs in the film as a chance happening: that Romm caught sight of them in a corridor in Auschwitz and was the first to see what a close-up on the eyes could do. This last claim is not quite right. *Night and Fog* (1955) had included an extreme close up on the eyes from a registration photo, to signify shock at the 'first sight of the camp. It is another planet'.[5] But Resnais's film does not really consider the way the image was taken, or try to work against it. Turovskaya, however, reads the enlargement in her film as having 'disrupted' (*razrushalo* – this could also be translated as 'destroyed' or 'broken up') the photograph; the 'blow up' (she uses the English term) was an 'explosion' (*vzryv*) that released the 'latent content' and 'inner world' of the photographed prisoner in a way the photographer did not anticipate (Turovskaya 2006, 281).

Jabłoński's approach might be said to take a somewhat more sophisticated approach than Dobrowolski, whose techniques are quite heavy-handed and could perhaps even be called sentimental ways of manipulating the image.[6] Dobrowolski seems to want to give a feeling of actually approaching the person rather than simply staring more carefully at the image (hence using parallax effect), and frames the face so that the injury is central. But the film has nonetheless lent itself to a sympathetic academic reading. It

FIGURE 2. *The Portraitist* (dir. Ireneusz Dobrowolski, 2005) (8:09).

FIGURE 3. *Ordinary Fascism* (dir. Mikhail Romm, USSR, 1965) (1:40:25).

is hard to say why this approach of manipulation should be given such a distinct status from colourisation: like Amaral, Dobrowolski seems to be aiming at immediacy; like Dobrowolski, or like Romm, Amaral could be said to be disrupting a perpetrator image.

FACES OF AUSCHWITZ: AIMING FOR IMMEDIACY

These are not straightforwardly the terms in which Amaral herself presents her work, which place much more emphasis on historical accuracy. When asked recently about how much she took into account contemporaneous film stock (such as the Agfacolor used by Walter Genewein and at times by Wilhelm Brasse), she answered that:

> these film stocks offer valuable reference points for the colors of the time, however, they aren't my only nor primary source. Film stock can be unreliable due to the limitations of the technology or the way it captures light, so I rely mainly on written records, visual descriptions and physical artefacts like uniforms or badges to make sure that the colors I use are as true to history as possible. (Amaral 2024a)

Amaral appears here to be equating colour and history, seeing colour as a way of gaining some unmediated access to the past. History is a moment in the past – an event – rather than the passage of time.

Claiming to bypass all mediation in this way is implausible, but the different elements constituting that mediation merit consideration. These include the 'technical artifact' of the photographic image, which 'does not correspond to human perception' (Geimer 2016, 11), and the traceable effects of time (physical and chemical processes that occur with its passage). But there are also the circumstances in which that image was taken and held, which are part of the logic of the camp, and the way that it functioned. The fact that in evacuating the camp the Germans attempted to have these images destroyed shows that their function was to circulate within the context of Auschwitz and nowhere else. While the tendency of digital colourisation artists to work without sufficient recourse to the history of colour technologies and their use in this context is troubling, the approach to this last form of mediation might offer some possibilities. Although Brad Prager rightly cautions against a 'tendency […] to want to interact with the persons in [perpetrator] photographs, to save those who were, in most cases, on their way to death', and notes that efforts by our imagination 'to restore life to those depicted' must be balanced with the realisation that 'we cannot accomplish this goal' (Prager 2008, 19), the terms in which he does so show that the desire for direct contact stems from a will to resist the logic of the photographs. This itself has a potentially disruptive quality, in the same way as Romm's approach to the registration photographs.

Thinking that it might be possible to eliminate the process of mediation is also not unique to Amaral's practice. Several accounts and theorisations of the practice of interviewing survivors articulate the idea that doing so offers something like, the closest to, or even almost exactly, the experience that they underwent (e.g. Laub 1992; LaCapra 1997, 239). Indeed, rather like Claude Lanzmann's accounts of chance encounters with

survivors which say little about the fact that they had testified as part of other investigations (Chare and Williams 2019, 237–238; Lanzmann 2011) and Romm's own story of serendipitously discovering the registration photographs, Amaral too claims that she came upon the first photograph that she colourised entirely by 'accident'.

> I was searching for new images to work on when I stumbled upon Czeslawa Kwoka's photograph. It was a complete accident, as I hadn't seen any of these prisoner photos before, but her expression immediately caught my attention. I couldn't just move on. (Amaral 2024a)

Amaral's origin story shares a fundamental logic with that provided by Mikhail Romm. While details are different, at base both of them emphasise the chanceness of the encounter, and the independent discovery of a way to humanise the photographs by revealing something within them. In both cases, however, there are precursors to their use of images. It is likely that Romm saw *Night and Fog*, and perfectly possible for Amaral to have seen Kwoka's image remediated in some form – indeed, it must have appeared in some context online, based on the prevalence of Kwoka's image that Łysak notes.

Reading these approaches in this way brings out a potential contradiction, however: they are attempts both to get into contact with past events and to resist them. Using colour as a bridge to the past reality of Auschwitz needs to acknowledge the way in which colour functioned, and colour images circulated, within Auschwitz itself. Wilhelm Brasse provides evidence of this context.

COLOUR IN AUSCHWITZ

In his interviews, Wilhelm Brasse gave accounts of many other tasks beyond taking the registration photographs. As the only professionally trained photographer in the service, he was in high demand. He took portrait photographs of SS-men, and used his retouching skills on them. Brasse mentions a number of instances when he had to take photographs for people in Auschwitz carrying pseudo-scientific experiments. In one, the SS doctor Eduard Wirths ordered him to take photographs of women with heterochromia: differently coloured eyes. This was a topic that notoriously interested Josef Mengele, but Brasse does not mention his involvement. Perhaps unsurprisingly, Wirths was dissatisfied with the black and white photographs Brasse and a fellow prisoner took of 'just their eyes', and made them retake them with colour film (Brasse 2019, 73). In another case, Brasse had to take photographs as part of gynaecological experiments where again black and white film was judged inadequate, and colour shots had to be taken. Special colour film to be used in artificial light had to be ordered from the city of Katowice, and the negatives taken either there or to Gliwice to be developed (86-87). Brasse also describes taking photographs of flowers, which the head of the *Erkennungsdienst*, Bernhard Walter sold in the SS canteen. Walter wanted colour versions, so Brasse and his colleagues hand-tinted the pictures. Walter had to bring in aniline dyes so they could do so (89–90).

These very different incidents show a number of things about colour, photography and Auschwitz. The first is, straightforwardly, that colour was used in the camp – so making an opposition between an Auschwitz photographed in black and white and a present practice of bringing colour to these images is too simplistic. The second is that colour (and colour photography) was part of the classificatory, and dehumanising, process to which prisoners could be subjected – and used as part of a racializing logic. Mengele's experiments with eye colour (which may be what Wirths was ordering Brasse to contribute to) used colour and photography to study and categorise the imprisoned, a practice that descended from the use of colour charts by Eugen Fischer to racially classify people in Namibia by eye and hair colour (Schmuhl 2008). Even the flowers are more than simply some relief (however sentimental) from SS 'work'. Jacek Małczyński (forthcoming) has argued that the 'living laboratory' at Auschwitz extended to experiments with plants, which were 'subjects of biopolitics' alongside humans.

It is quite possible that these were the colour photographs Karin Magnussen, a researcher at the Kaiser Wilhelm Institute for Anthropology, Human Heredity and Eugenics, mentioned having had taken in Auschwitz (Schmuhl 2008, 379). The photographs were taken in March 1943, before Mengele came to the camp in May. Magnussen claimed to have sought Mengele out because she was aware of heterochromous individuals in the camp. Magnussen herself had developed an eye-colour table (Schmuhl 2008, 381; Weiss 2010, 114). Colour, therefore, works in tandem with other aspects of the registration photographs.

It is not clear what kind of camera or film was used for the instances of colour photography that Brasse specifically mentions. There is evidence of the use of Agfa film and cameras in both Genewein's letters and Brasse's testimony. Genewein wrote repeatedly to Agfa noting technical problems with the colour. Brasse had a

distinct memory of seeing film of the murder of Soviet prisoners of war, also taken by an Agfa camera (2019, 55). This film stock, and its colour balance, also had an ideological dimension (AGFA 150 Years 2023; Diecke 2024, 30–47). Agfacolor was marketed as a specifically German film stock, and compared favourably by the company's representatives to the 'un-Aryan' Gasparcolor, which they disparaged as the work of a 'Romanian Jew' (Alt 2013, 158).

The filmmakers Mareike Bernien and Kerstin Schroedinger have engaged with that ideological dimension in their film *Rainbow's Gravity* (2014), in a way that also illuminates the debate on Genewein's colour slides and *Photographer* that we have outlined above. As discussed, while some scholars are sceptical that such images can reveal anything of the truth of the event other than how perpetrators wanted to see it, others believe that it is possible to find in them some access to the reality of the event. These are essentially the two aspects that Bernien and Schroedinger, drawing on Georges Didi-Huberman, see in every image. Each image, they argue, is both veil – concealing the reality of the past – and rupture – allowing something of its reality to break through. Like Ulrich Baer discussing Jabłoński's film, they consider ways that as film-makers they can help to achieve these moments of rupture. They find it through their interrogation of colour in German Agfacolor footage, embracing mediation rather than attempting simply to bypass it.

> The rip that breaks through concealment, through the veil-image, can potentially be catalyzed by a reading again(st) and taking apart of these images. […] [W]e avoided showing original, supposedly authentic images in the film. We used found image libraries, DVD compilations, and pixelated copies instead. […] We dismembered the images, cut and enlarged them; we reappropriated them. We colored and discolored them, froze the images and turned them into stills. We sorted them according to color and sifted out shots of marching legs, red tones, or blue sky, for instance. We attempted to expose the ideological grammar of the Agfa color palette, no longer looking at *what* was portrayed in these color schemes but *how* it was portrayed. (Bernien, pp. 94–95)

Bernien and Schroedinger approach the issue of colour and history in a way that sees colour fundamentally bound up with the 'mediations' and politics of the time, and that there is no way to get outside (or inside) them. They can only be reshaped or displaced. Bernien and Schroedinger utilise pixellated digital copies and editing to disassemble an archive of Agfacolor dyes, film images, and narratives: such traces of photochemical production and digital glitches draw attention to processes in an act of 're-staging' to decipher the facture of a historically specific ideology.

DIGITAL EDITING, COLOURISATION AND THE ARCHIVE

The mutability of colour – its materials and meanings – is entangled with the prevailing black and white aesthetic of the photographic document. It is in this sense, that Geimer suggests that the affective potential of a photograph as 'historical document and as a medium of collective memory' (Geimer 2016, 10) coincides with the visibility of its material substrate (photosensitive emulsion, cellulose nitrate, paper) at the level of the image. Such anomalies are an indexical trace of production and use of the image, that is, a record and representation of the past. The potential of digital colourisation to reanimate the past 'diminishes historical distance', but differs from the indexicality of the photochemical image. The scratches and folds that register the shifting status of the photographic object – from registration document, to evidence of attempts to destroy records of atrocities – form an indexical trace of the duration of its use as archive of its past, an image that is both legible, incomplete (blurred, smudged) and an invocation of memory on the Auschwitz-Birkenau Memorial and Museum website. Digital colourisation tools vary (from those that are hand-crafted using software such as Adobe Photoshop to the use of generative AI as 'co-pilot', 'user-guided AI', or as a process that is predominantly automated) as do the techniques developed by Amaral and other artists and teams within commercial companies (Jordan Lloyd as Creative Director of Unseen Histories, Samuel François-Steininger as Director of Composite Films). The colourisation and digital editing of black and white images can synthesise photochemical records with those that were born digital for use on museum websites, yet the focus on the legibility of image composition tends to overwrite material traces of institutional control and bodily responses to this environment.

In her critique of generative AI colourisations, Amaral notes the 'ethics of modifying someone else's work': as a digital artist she differentiates 'AI–generated 'vintage' photos […] crafted with the explicit intention of deceiving people' from her own work, which she argues, can 'enhance our understanding of the past, making these moments in history feel more human, and more connected to our own lives' (Amaral 2024b) as she seeks to reproduce:

> the exact same colors – *or getting as close to that as I can* – that the photographer might have seen when pressing the shutter, I aim to prove that colorization, when done with a serious approach, can actually enhance our understanding of the past, making these moments in history feel more human, and more connected to our own lives. (Amaral 2024b)

Amaral acknowledges that some colours remain an artistic interpretation; the impetus is that 'Once the colours are applied, we feel like we're travelling back in time, and we are able to create a deeper and more intimate relationship with those historical events and historical figures […] they become real, flesh-and-blood human beings' (Barr 2018). However, the visualisation of past events, which might align the viewer with the photographer or perpetrator, is complicated by Brasse's status as prisoner working under duress.

The act and form of the registration photographs implies objectivity, yet politics are indexed in the entropy of materials, images and subject matter. The repetition of the composition across the three registration photographs emphasises commonalities between them within a uniform format, rendering differences visible. Each person turns their face toward the camera, their eyes staring directly toward the photographer and viewer. The blurring recorded when Salomon Honig and Aron Löwi were photographed remains visible against the armature holding their heads still and in one of the three images, the reflection of light distorts the appearance of Löwi's eye. The face, as privileged signifier of identity and as a trace of what happens elsewhere on the body, is usually imagined to offer insight into photographed subject, and so remains in tension with the proscriptions of institutional photography. The triptych of photographs, as a medium that André Bazin likens to a death mask, has the potential to unmask the blur of repetitive facial movements, bodily gestures, or stasis as indicative of trauma, underscoring the humanity of the imprisoned against the strictures imposed (Bazin 1967, 9–10). Such traces can be seen in the reflection of artificial lighting that obscures Löwi's eye as he moves and across the lens of Seweryna Szmaglewska's spectacles, her eyes concealed by the glass surface. In the photographic print, the sclera (whites of their eyes) and glare of light on spectacles retains the grey tone of the paper. These details, in their black and white form can be read as embodied and material resistance, registering movement that may stem from fear, discomfort, illness or unwillingness to comply, but all rendering the image less readable and usable by the system that generated it. These contingent forms are deictic of the vulnerability, humanity and specific to each person photographed. Yet in the colourised versions these are depicted as white – an absence of data – with injuries (bruises, broken skin) sketched in blue, purple or red. Does the absence of red from monochrome images of the wounded obscure meaning or disrupt the viewer's empathy with Löwi five days from his death or the suffering of a young woman interned in Auschwitz, her head forcibly shaved, her eye and nose bruised and swollen?

For the Faces of Auschwitz digital gallery, 14 of the 21 colourised sets of registration photographs are displayed in a slider viewer that allows the visitor to scroll back and forth across the black and white image, a gesture that effectively performs the act of colourisation.[7] The slider viewer facilitates an act of contemplation, a private encounter with the image, yet one that is problematic as it invites an aesthetic comparison that is suggestive of the unveiling of 'lost' colours. The temporality of viewing a still photograph, which Philip Rosen describes as the 'private scansion' (2001, 173–175) of the image, differs from those that are edited in to the social form of Romm's film. The duration of viewing the still image via the museum's digital gallery intersects with the indexical trace of the photographic image, as an imprint of the past, that is refigured by what Amaral proffers as a historiographical act of colourisation. The movement of the cursor embodies a gesture of viewing and enacts the curiosity and desire to know, to decipher meaning. Yet in scrolling back and forth, the slider is contiguous in its concealment and disclosure of the black and white and colourised version, so that no single area of each image is directly visible at the same time. As such meaning is contingent on the visitor's anticipation and reflection, within the contextual framework provided by the museum (biographical information where it is known, excerpts from diaries). On a superficial level, an aesthetic comparison implies that a blur of movement in photographed space, the accumulation of dust or watermarks that trace a history specific to that negative or print, might be an obstruction to the legibility of the image – and the articulation of colourisation as a form of 'restoration' – distract from the political and cultural history of photographic records, their use and attempts to destroy them. Yet, a selection of the photographs colourised by Marina Amaral retain the distorted shape of blurring caused by the movement of Salomon Honig's head as the camera's shutter clicked. The armature that held each person still while the photographs were taken, can be seen the colourised image of an unnamed girl.[8] In an article about Marina Amaral's colourisation of the registration photographs, Greg Evans refers to *The Portraitist* and cites Brasse's memory of Czesława Kwoka 'before he took the photos Czesława wiped her tears and blood away from her face, of which can now be seen in Marina's work' (Evans 2018).[9] Kwoka's blood is marked in red. The suggestion is that colourisation restores– makes visible –a human physiological and

psychological response to abuse, but also visualises a memory salient to Brasse as the photographer. Amaral notes that:

> In addition to my own moral questions about how to handle these photos, I needed to find public domain images. […] I found Czeslawa's registration pic. I kept thinking about the expression on her face for days, and at that moment I knew that I had to restore her photo and show it to as many people as possible. (Evans 2018)

Amaral's appeal to empathy through colour and colourisation has some potential to offer a critical perspective on the ideology embedded in perpetrator photographs. But what is perceived as the absence of colour might equally be taken as a prompt to consider other ways in which the photographic image needs to be supplemented, such as by text (e.g. Chare and Williams 2019, 79–84), or is inscribed in a set of other absences: Kwoka's own brief history in Auschwitz, other photographs that were destroyed, other prisoners who were never photographed.

The Auschwitz Birkenau Memorial and Museum, *Faces of Auschwitz* project includes the registration photographs of Katarzyna Kwoka, who was Czesława Kwoka's mother noting their adjacent prisoner numbers (26946 and 26947), interned on the same day to die within one month of each other (18 February 1943 and 12 March 1943). The memorial project draws attention to familial connections and the unnamed dead. Outside of the Museum's *Faces of Auschwitz* project, the registration photographs of Kwoka have been colourised by several different individuals and institutions, including two based in Poland: Mikołaj Kaczmarek and Mirosław Szponar. Each colourised image of Czesława Kwoka is a variant of the same 3 registration photographs. However, the use of colour and digital editing differs (Figures 4–7).

The digital editing and colourisation of the black and white image by three different colourists increases the contrast (shadows are darker, lighter areas emphasised) to differentiate the girl's variously pale skin from the darkened wall behind her. The images colourised by Kaczmarek and Szponar (Figure 6 and 7) also blacken the letter 'P' on the red triangle, which designated Polish political prisoners. The colouration of the background, which is dark blue-grey in the image of Kwoka, contrasts and so emphasises the coloured symbol. The representation of her eye colour varies from pale blue to dark brown, an aesthetic decision that does not acknowledge the Nazi ideology embedded in studies of eye and skin colour in the camps. The representation of her skin varies: moles are sometimes included; variations in flesh tone are depicted as dirt and used to emphasise the contours of her face or bloodied injuries. Elsewhere, they are interpreted as a suffusion of colour in her skin due to physical pain or distress. We note that these images may have been colourised by Kaczmarek and Szponar using AI, whereas Amaral, colourises each image individually using Adobe Photoshop. In other registration photographs, such as those of Walter Degen the background is grey, pale blue or a light brown colour. The colourised images vary in the degree of vulnerability they want to present and the extent of photographic and facial alteration that they enact. In their differences, the photographs show that they cannot all be accurate, but are the results of decisions, aesthetic as well as political.

FIGURE 4. Czesława Kwoka. Born 15 August 1928. Deported to Auschwitz 13 December 1942. Death recorded 12 March 1943. Marina Amaral's independent colourisation of Czesława Kwoka .

FIGURE 5. Czesława Kwoka. Born 15 August 1928. Deported to Auschwitz 13 December 1942. Death recorded 12 March 1943. Marina Amaral's colourisation (17 May 2018) of Czesława Kwoka for the Auschwitz-Birkenau Memorial and Museum Faces of Auschwitz project https://facesofauschwitz.com/gallery/czeslawa-kwoka/.

POLITICS OF GESTURE

The politics are perhaps most blatantly evident in the use of Kwoka's image by the Jan Karski Institute of War Losses as part of a campaign to demand war reparations from Germany (Grabowski 2024; Mrozek 2020).[10] Here, however, we want to focus less on the specifics of the political context and more on the ethical questions raised by a video which animates as well as colourising the black and white registration photographs.[11] In the video file, Kwoka's face emerges from a darkened screen, the edges of the frame remain masked, diffused in the blackness that conceals the armature instrumental to the photographs.[12] Her lip is depicted as having partly healed. The video file is, we believe, produced by AI. The unsteady and independent movement of each eye, the fluctuation in the outline of face is tempered by the dark background, but still visible. There are numerous AI programs, such as DeOldify, that report to 'restore' and colourise greyscale scans of black and white photographs, and those that produce 'Living Portraits' from a single still image. Mindy Weisberger has described a form of AI that applies gestures sourced from a dataset of multiple interview-style films on to a single still image. A dataset of facial expressions and gestures can be combined with the still image of the same person, or, an entirely different subject (Weisberger 2019). For example, data from newsreels from the 1940s could form a source for gestures to be mapped on to a 'Deepfake' photograph of a politician in the twenty-first century.[13] This form of AI tracks facial features from a single video or dataset of multiple video files (commissioned interviews or actors in fiction films) to add movement, which is visible as facial expressions and gestures, such as the tilt of a head, to a still image using markers such as the eyes, mouth-cavity, hair, and garments. There are other programmes that synthesize several static frames into the illusion of a moving image, but the process tends to produce noticeable artefacts or glitches. Such 'illustrative animations' can render 'different

FIGURE 6. Czesława Kwoka. Born 15 August 1928. Deported to Auschwitz 13 December 1942. Death recorded 12 March 1943. Colourised image of Czesława Kwoka by Mirosław Szponar @MirekSzponar 16 August 2022.

FIGURE 7. Czesława Kwoka. Born 15 August 1928. Deported to Auschwitz 13 December 1942. Death recorded 12 March 1943. Colourised image of Czesława Kwoka by Mikołaj Kaczmarek @KolorHistorii 12 March 2021.

personalities' according to which dataset is used. This indicates an underlying issue with the video file of Kwoka. We refer here to Nicholas Chare's essay on 'Gesture in Shoah'. In his analysis of Lanzmann's film *Shoah*, Chare explores the ways in which gesture, as embodied memory, traces cultural traditions and familial interactions to carry across generations through the continuance of cultural practices, yet, is also historically specific – that time, person and place. The emotional impact of gestures as non-verbal signs can be understood – 'felt in the present' – in the moment of viewing. Gesture, as an index of the trauma of the photographed subject, can of course invoke empathy.[14] However, the gestures and facial expressions in the moving image file of Kwoka, are synthetic, from a generic dataset that is historically and culturally offset from her specific experience. The illustrative animation overwrites the stillness of the photographic image, the stasis of expression or a trace, the blurred image, that is registered of repetitive nervous gesture deictic of trauma. Such photographic details recall Guerin's notes on the strategically fragmented form of *The Portraitist* which attempts to 'work through, and [propose] new orders of affective association' (2010). That the film is partial and provisional matters. A cohesive narrative, Guerin argues, can become a form of amnesia: it is the 'absence of incompleteness' that forgets 'what it claims to remember'.[15] This incompleteness – within a film as archive of institutional photography – is indicative of the varied subjectivities and identities of suppressed and resistant cultures that are historically specific, the effects of which can be traced across generations. While colourisation could make the history of the physiological and psychological effects of Kwoka's mistreatment more apparent, the construction of a more cohesive legible 'natural colour' image distracts from the gradual effect of the incomprehensible – blood that appears grey – in viewing the black and white images.

CONCLUSION

Marina Amaral's work for the Faces of Auschwitz project combines historical research facilitated by the Auschwitz-Birkenau Memorial and Museum with her practice as a digital artist invested in the potential of colour to convey emotion and appeal to empathy. In this context, the digital colourisation of historical documents finds a precedent in the critical editing of films by Mikhail Romm, Dariusz Jabłoński and Ireneusz Dobrowolski which seek to refigure the political and ideological oppression enacted by perpetrator photographs. The use of film editing and digital colourisation in the re-presentation of historical photographs in these instances is intended as a form of intervention that reveals or refigures institutional oppression by highlighting the signifiers of that infrastructure and tracing the facial expressions, injuries that otherwise remain subordinate to it. Amaral's work involves aesthetic and ethical choices even where these are presented as in keeping with teleological histories of photographic and film technologies in which each innovation retrospectively marks its precedents in terms of lack.

Whilst digital images, algorithms, colourisation technologies and techniques are neither benign or equal, the 'restoration' or cleaning of historical traces of the facture and use of the photochemical image have both aesthetic and ethical implications. Such alterations in the interests of the legibility of the image diminish the

significance of damage (smoke, folds, tearing) and the blurring, lens flare and under exposed photographs. These traces render the image of the body illegible, but act as the material remains of the vulnerable, defiant and injured, remediated through different formats and practices as markers of time. Neither is the construction of a 'natural colour' image over its black and white form a neutral act. Rather, the addition of colour selects details to be highlighted. The resulting emphases distract from other areas of the image, altering the hierarchy of visual information in a way that intersects with discourse on the ideological implications of skin, eye, hair colour and wounds. There is an antecedent and justification for doing so, yet it is vital that such interventionist work is declared. For example, the critical methodology – researching, cutting, projecting and refilming existing works to disrupt the politics of their initial form – developed by Bernien and Schroedinger utilises an archive of Agfacolor materials, texts and historic locations to offer a way of thinking specifically about a colour process and its ideological implications.

The Faces of Auschwitz project declares the act and date of the colourisation of each image alongside the black and white source image. The majority of the 21 registration photographs are also accompanied by historical information specific to the individual represented. Technical information about the black and white photographic materials – the film stock, camera, photographer – is integral to the provenance and history of each image, yet omitted from the digital gallery. As we have shown, the selection of materials and photographers form part of the historical context. The museum commission of colourised images differ from those undertaken independently – whether as an act of empathy, compassion, fascination or political campaigning – or those generated by AI which invest in the idea of a more complete restored image. The circulation – often on social media platforms – of retrospectively colourised versions of black and white images without this attendant data overwrites the use of the photograph as instrument and material trace of atrocity. It alters the temporality of viewing and the gradual realisation that incoherence in the black and white photographs matters. Colourisation and the invocation of empathy are political.

NOTES

[1] 'About: Faces of Auschwitz', Auschwitz-Birkenau Memorial and Museum https://facesofauschwitz.com – last accessed 1 June 2024.

[2] See https://facesofauschwitz.com

[3] It should be noted that there is also a history of reworking Holocaust photographs in art (see esp. Pollock 2010; Didi-Huberman 2019), but our focus in this article is on the related media of film and photography.

[4] Brasse's own account is slightly different, and puts more emphasis on chance and material elements, such as the fact that the fire was not burning but rather just ashes, and the film was non-combustible. But Brasse too recalls that they made efforts to save the photographs (Dobrowolska 2013, 228).

[5] Shot 74. The shooting script described this image as taken from a 'photo d'identité' from the Auschwitz Museum (Raskin 1987, 84). According to Hänsgen and Beilenhoff (2016), Romm and his team were familiar with *Night and Fog*.

[6] Hallas (2023) for example says that the 2.5D parallax effect is 'a near-ubiquitous technique that frequently descends into visual cliché' (56). However, it should be said that the technique seems to have been used only a few times before *The Portraitist*, e.g. in *The Kid Stays in the Picture* (2002) and *Riding Giants* (2004). The technique also seems to have been subtle enough not to be noted by Łysak or Guerin.

[7] The Faces of Auschwitz title page uses a darkened copy of Czesława Kwoka's registration photographs as the background. The selected 21 sets of registration photographs include nine women, three of whom are children alongside one boy. Two family groups are represented.

[8] See the Faces of Auschwitz, Gallery, Auschwitz-Birkenau Memorial and Museum. Aron Löwi https://facesofauschwitz.com/gallery/aron-lowi/ and a girl who remains unnamed https://facesofauschwitz.com/gallery/prisoner-2731/

[9] Wilhelm Brasse died in 2012, before Greg Evans' article or Amaral's colourisations of the photograph of Kwoka were published.

[10] The sponsorship of *Faces of Auschwitz* brings in other political dimensions. See especially: https://facesofauschwitz.com/2018/04/2018-4-8-faces-of-auschwitz-signs-sponsorship-deal-with-the-michael-frank-family-foundation/.

[11] Czesława Kwoka's image was also animated by Matt Loughrey, although the full video is no longer available online. See our discussion of Loughrey in the introduction to this issue.

[12] Jan Karski Institute of War Losses 2023. https://instytutstratwojennych.pl/en/news/194-poster-campaign-anniversary-first-transport-auschwitz.

[13] For example, a dataset of a specific actor's previous performances could be utilised as a source for gestures to be mapped on the still image of the same or another actor. The potential of this technology was the focus of the 2023–2024 SAG-AFTRA strikes in North America.

[14] Chare refers Dominick LaCapra to describe the ways in which empathy is different from 'full identification' with the photographed subject (Chare 2017, 49).

[15] Guerin 2010 refers to Sekula's analysis of the dehumanizing effect of police photographs, but not the affectivity of colour or the 'affective Truth' explored by Sekula in 'On the Invention of Photographic Meaning'.

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