White Hot and Agfacool: Race, Heat, and Colour in *The Zone of Interest*

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There is something unsettling about the skin tones in Jonathan Glazer's 2023 Holocaust film *The Zone of Interest*. They are too white. When we first meet the Kommandant of Auschwitz, Rudolph Höss, his skin is almost literally, chromatically white (fig. 1). White people are not literally white—not even white supremacists like Rudolph Höss. Captured in a full-length shot in his swimming trunks by a bucolic lake, we are invited to survey Rudolph's perplexing complexion (despite his trunks stretching the sartorial limits of the high waist to hide most of his torso from view.) This complexion perplexes because, in this idealised world of rugged outdoor living in occupied Poland—of picnics, canoe trips, horseback rides, and wild swimming—Rudolph is far too white. In the shadowy curvature of his back his skin is a wan, grey-blue, eggshell tint, but his face and chest, under the full glare of the summer sun, take on hues we can match to off-white Pantone shades called things like, "Snow White," and, "Winter White," (not white enough to be "Brilliant White," but certainly not pink enough to be pink). It is too cold a white, too white a white, to be the colour of white skin.

Twice the film switches chromatic registers to black-and-white, and the skin tones are still too white. Captured using thermal cameras that render the warmest parts white and the coolest black, the skin tones in these greyscale sequences radiate white heat. We see a local Polish girl clandestinely hiding food for the prisoners of Auschwitz at night (fig. 2). The sky in these sequences is a milky grey. Semi-transparent, silver trees line the horizon. Smoke from the distant crematorium and steam from a train

Figure 1. *The Zone of Interest* (Jonathan Glazer, 2023, UK/US/Poland)
Hereafter all images are from Glazer's film unless otherwise captioned.

freighting prisoners festoon the inky sky with brilliant white plumes. These luminous whites are the same shade as the girl's arms, legs and face, which all radiate light, her brilliant skin speckled with black mud. Her face and eyes gleam white hot, contoured only by faint grey brows and an ashy flush of the cheeks (fig. 3). Unlike the cool whites of the colour sequences, the flesh here is literally white hot.

But what are we to make of the extreme whiteness of white skin in *The Zone of Interest*? How should we read its thermal variations between skin that is white hot and too cool? Given the centrality of white (qua Aryan) supremacy to the project of Auschwitz—and that whiteness as a racial taxonomy is inextricably bound up with a chromatic hue—interpreting whiteness, and black-and-whiteness, is critical to understanding the relationship between heat, race, and colour in *The Zone of Interest*. So, how can we think together these issues of colour, heat, and racialization that the film presents?

The metaphorical associations between heat and colour (two embodied, sensory experiences), are well established within film studies, which draws upon art historical conventions that ascribe certain colours to certain thermal experiences. As artist Josef Albers, in his 1963 touchstone text *Interaction of Colour* summarizes: "it is accepted in Western tradition that normally blue appears cool and that the adjacent group, yellow-orange-red, looks warm."[1] It is difficult to find analysis of colour in cinema that does not

Figure 2.

Figure 3.

in some way draw upon this idea that certain shades (red, yellow, orange) are warm, while others (blue, green) are cool. I describe Rudolph's skin as a cold white precisely because it has a blue-grey cast. Yet such associations are cultural coded, not a reflection of the actual temperatures of different wavelengths of light, what Edward Branigan calls a "warm-cool dichotomy [that] depicts not physics, but *commonly felt* polarities."[2] We are tempted to imagine that the thermal images operate otherwise, but as they register wavelength's beyond the visible spectrum of light, heat must be transcribed into a visible colour that conveys an idea of temperature. The thermal camera used for *The Zone of Interest* offers a number of possible palettes that ascribe heat to various colours, but what we see in the film is a greyscale option called "White Hot."[3] The heat of whiteness here is in some ways indexical (it directly corresponds to hot light) but also abstract and metaphorical (as white has been selected over other colours to convey some notion of hotness). So, in addition to conventional metaphorical interpretations of warm (yellow) and cool (blue) colour that underpins so much film analysis, how does *The Zone of Interest* and its thermal imaging sequences invite us to read the relationship between colour, heat, and whiteness?

Recent work in what Nicole Starosielski calls, "critical temperature studies," has invited us to look beyond metaphor in our understanding of heat, to see what she calls "the complexity of temperature's social operation and cultural entanglements."[4] This field is broadly concerned with examining how temperature control operates as a form of ideological control over bodies and environments to produce ideas of normativity and deviance, ideas Starosielski connects to the development of media technologies and infrastructures. She highlights the particular connection between temperature and colour media, not only due to their shared scientific origins (as developments in colour photography and film stemmed from investigations into heat and radiation) but also the importance of thermal regulation to the material production of images in colour: from air-conditioning's role in colour printing, to thermal controls in photo processing.[5] The thermal demands of these chromatic media technologies reproduced established ideas that certain climates are unruly and in need of control, reinforcing colonial and racialized discourses that, in Hi'ilei Julia Kawehipuaakahaopulani Hobart's words "geographies of extreme heat or cold [are] uncomfortable or uninhabitable for the civilized."[6] As Hobart details it was this, "ideological interplay between climate and race," that initially helped link ideas about thermal difference to categories of human difference, whereby racial types

were defined by their imagined suitability and tolerance for different temperatures.[7] Indeed, these theories of environmental determinism overlapped with the chromatic models of race as skin colour that became codified in the nineteenth century, whereby the human types accorded the status of red, yellow, black, and white races, were understood to emerge from different climactic conditions.[8]

It seems surprising then that scholarship on the intersections of race and colour has focused more on epidermal, rather than thermal models, when they are profoundly linked. Given the deep investment in recent scholarship in the structuring role of race and the centrality of white supremacy to colour media's techno-material operations and aesthetic development, could thinking questions of heat and temperature together expand our readings of colour's relationship to processes of race making?[9] In keeping with this themed issue of *World Picture*, I speculate here that a thermal approach to reading colour as a racialized phenomenon in film could be the "next" rotation in the so-called chromatic turn. This essay therefore marries up some of the more conventional, art historical approaches to colour and temperature (treated in the first part of the essay on cool whites) with more recent work on the ideological operations of thermal media (in the second part on hot whites) to explore how Glazer's film uses heat to test the boundaries of the rhetorical conflation of a chromatic hue (white) with a racial taxonomy (whiteness).[10]

Digital Cool and the Ethics of Colour Grading

It is not just the skin tones in *The Zone of Interest* that are cold. I am not speaking here solely of the film's winter scenes, which are anaemic in their milky, grey tonality, but the overall palette of the film, even during scenes set at the height of summer, which have a steely appearance, as though we see the colour through the thin layer of ash that we know peppers the air. Yet the skin tones, particularly those of Rudolph (played by Christian Friedel), are especially striking. The back of Rudolph's shaved head perfectly exemplifies the quality of the skin tones in the film: milky pale almost to the point of grey-white (fig. 4). While fishing in his white SS vest, his skin tones do not so much contrast with his uniform as appear like a slight variation on its white hue—even paler and whiter than the discarded human bone he plucks from the water (fig. 5). During a medical examination, laid out upon the table, Rudolph's sickly pale skin, reflecting light from the window, becomes another element in the insistently white construction of the mise-en-scène

Figure 4.

(fig. 6). Rudolph's skin here is wan, waxy, chalky, drab, and above all too white—a look that demands attention because of the historical context of white supremacy in which the film unfolds.

"The Zone of Interest" (or in German *Interessengebiet*) was the euphemism used by the German fascist state to describe the area of Poland designated for the Auschwitz extermination camp and its related industrial units and subcamps.[11] In keeping with the obfuscatory nature of the term, Glazer's film avoids directly addressing the operations of the camp. Instead, the film focuses on the everyday goings on within the Höss family home (the Kommandant's villa) which shares a border wall with the camp. The majority of the film unfolds over summer, luxuriating in the colourful floral borders that the Kommandant's wife Hedwig (played by Sandra Hüller) has diligently tended under blue skies. We see garden parties, baths, and bedtime stories, kitchen work, cleaning and laundry, but never what happens on the other side of the wall. Although the Kommandant takes meetings, dictates letters, and leaves for work mounted on horseback, we are never shown the violent workings of genocide unfolding within the camp—although the sound of industrialised murder is unnervingly audible throughout. While Glazer claimed it is, "not a cold film," but "a forensic film," the chill of the film's colour clearly underpins the atmosphere of emotional detachment central to its ethics and aesthetics.[12] Indeed the distinctive look of colour in the film is

Figure 5.

Figure 6.

due to its unconventional cinematography and colour grade, which produce this cool tonality as a byproduct of concerns about emotional distance and the ethics of style.

Filming on a faithful recreation of the Höss villa and garden around 100 yards from their original location, the crew employed remotely operated digital cameras stationed around the set, shooting long takes in deep focus and employing only natural light.[13] This approach gave the impression both of detachedly observing the family from a distance, and capturing them in a distinctly contemporary style. Glazer and cinematographer Łukasz Żal describe how they developed this technique to avoid psychologizing, dramatizing or judging these events, forcing audiences to arrive at their own conclusions about these characters, rather than dictating their response through manipulative lighting, camera movements and editing. As Żal described "I needed to forget everything I was taught in terms of lighting, in terms of manipulating an image . . . it was against typical Hollywood cinema, that style of trying to tell the story with nice lighting and closeups that draw you into the emotions."[14]

This distinctive style, combined with a commitment to never show the interior workings of Auschwitz, enables the film to avoid certain ethical critiques that have characterized writing on Holocaust cinema. While it is impossible to do justice to the complexity and density of these debates here, let me crudely summarize them as critiques of: representing the unrepresentable (articulated by filmmaker Claude Lanzmann), of aestheticizing that which is repugnant (after *Cahiers* critics Serge Daney and Jacques Rivette), of enabling audiences to identify with the victims rather than the perpetrators (in Gillian Rose's philosophy), and of rendering evil spectacular rather than banal (after Hannah Arendt).[15] The avoidance of conventional techniques of emotional and aesthetic manipulation (close-ups, soft-focus, backlighting), the eschewal of the visual representation of violence (by entirely relegating the violence of the camps to the soundtrack), and the refusal to distance the Holocaust from our contemporary moment (by capturing it in crisp, digital, colour images): together comprise what Amy Herzog elegantly dubs "the film's ethical practice."[16]

Colour is also crucial to these debates about the ethics of style in Holocaust cinema, which clearly informed the cool colour of *The Zone of Interest*. While the virtues of colour and black-and-white are intensely debated with regards to representing the Holocaust, most commentators agree on a highly conventionalised understandings of the different emotional and sensorial

registers of these two palettes.[17] The chief virtues of monochrome are its supposed documentary authenticity and sense of emotional detachment, by eschewing colour's supposed sentimentalism. As Stephen Spielberg claimed of his use of black-and-white for *Schindler's List* (1993): "I think black and white stands for reality. . . my only experience with the Holocaust has been through black-and-white documentaries….I don't know what Auschwitz looks like in color."[18] Andrzej Wadja, speaking about his use of black-and-white for *Korczak* (1990), drew out the thermal metaphor of greyscale's emotional detachment, claiming: "color doesn't correspond to war atrocities. With such a theme, it's better to stand in a cooler corner."[19] But greyscale also runs the risk of aestheticizing and distancing the Holocaust from us, by consigning it to a beautiful, black-and-white past—as common critiques of *Schindler's List* maintain.[20] Conversely colour can suggest immediacy (particularly in documentary footage), but runs the risk of spectacularising the Holocaust in fiction film.[21] Primo Levi's claim that, "your remembrances of before and after are in black and white; those of Auschwitz and your travel home are in Technicolor," perfectly encapsulates both colour's capacity for emotional intensity as well as the danger it poses of sensationalising the Holocaust.[22] Unlike the cool of Wadja's monochrome, Levi's memories—to draw on the thermal lexicon of Technicolor's mid-century advertisements—are in, "flaming Technicolor!", "sizzling Technicolor!", "blazing Technicolor!"

Many Holocaust films of course vacillate between colour and greyscale, most often to signal flashbacks—sometimes with the present in colour—as in *Schindler's List* and *Night and Fog* (Resnais, 1956), and sometimes the past in colour—as in *Violins at the Ball* (Drach, 1974) and *Photographer* (Jablonski, 1998). While Glazer's film draws upon this convention (vacillating between colour and greyscale) it departs from its use as a flashback device, and moreover, upends the conventional associations with coolness/authenticity/greyscale and intensity/sensation/colour. In *The Zone of Interest* it is the black-and-white that offers the heat of emotion, and the colour that has a chilling, distancing effect—an effect produced through its ethical practice.

The unusual digital cinematography and commitment to natural light helped produced this distinctive, cool look to the colour, which was consolidated through the film's unconventional grade. The film's colour grader Gareth Bishop described how grading is: "quite manipulative ordinarily," but in keeping with the film's wider ethics of non-manipulation "we didn't want to do that on this film."[23] Bishop noted his brief with the grade was to "keep it as natural as possible." In other words, colour, like editing, lighting, music

and camerawork, was not to be employed in the service of guiding audience emotions. We can understand the term "natural" here to imply more muted colour (as opposed to an imagined artificiality of vivid hues), as well as a style cultivated in opposition to a particular kind of Hollywood cinema and its conventional approach to colour grading (interventionist, aestheticizing, glamorizing, falsifying).

Bishop notes that the distinctive look of colour in the film is produced by abstaining both from saturating or desaturating the colour. He describes how films set in the 1940s are typically de-saturated in the grade:

> especially with digital images you desaturate them . . . a lot of films when they look at this period, they go for a vintage look like its old fashioned, like it happened a long time ago… the vintage look is always . . . warm sort of oranges . . . it's almost like a faded photograph or something.

Given Glazer's emphasis on making the film look contemporary, Bishop avoided this desaturated sepia-photo effect, which could both create a sense of historical distance between the viewer and the subject, but also invoke problematic associations with nostalgia.

But eschewing this "vintage" look with its warm, sepia-toned oranges, meant retaining the colder, digital look of the film. Bishop notes that when working with digital material directors often seek to remove the "digitalness" of the colour by trying to artificially replicate the softer, warmer, more visually appealing look of celluloid—"you'd go for these much softer images, you might add film grain in and put some colour into the black." But here, in keeping with the aim of trying to make the film look contemporary, Bishop retained the "digitalness" of the film's colour—less attractive, less soft, less warm than celluloid.[24] Without amplifying and warming certain colours to compensate for the starker look of digital film, *The Zone of Interest* also therefore appears less saturated than other contemporary films, the colour appearing paler than we might expect. In fact, Bishop noted there was no difference in the grade between the contemporary documentary sequences that conclude the film with the historical material, "the intention was always to make them feel quite similar."

Skin tones were particularly impacted by these grading parameters. Bishop notes, "a lot of the time if someone's quite pale…you put a lot of warmth often into the mids [mid-tones]," but with this film "its more of a natural kind of look . . that's why they look more pale than normal, its just more real." Bishop noted it was not just colour grading but "it's also make up as well" that produces this effect, and the film's make-up artist Waldemar

Figure 7.

Pokromski confirmed "everything had to look as natural as possible. . . the makeup was minimal, natural."[25] "Natural" or "real" here is again taken as a synonym both for non-manipulation as well as cooler, paler colour, in distinction to the warm glow of white skin more familiar from contemporary Hollywood film cultivated through lighting and grading. Bishop notes that, "especially in film now they brighten up faces," with graders manipulating discrete parts of the face to bring more light to areas cast in shadow, lending warmth, radiance and legibility to a face that may not be catching the light. It is telling that Żal uses warm chromatic terms when describing the conventional techniques that he shunned while making *The Zone of Interest*: "I had to forget what I knew about aesthetics, about using the golden ratio for framing, the golden hour for lighting, all those golden tricks you learn."[26] The exploitation of natural light in *The Zone of Interest*, often at the very top of the day rather than the "golden hour" favoured by cinematographers, gives a harshness to the colour that seems to evacuate it of life. The eschewal of artificial light also means that colours cast in shadow are not enlivened through the conventional use of key lights.

Take for instance the scene in which Hedwig shows her baby daughter flowers in the garden (fig. 7). The overall colour of this sequence is surprisingly cool given it takes place on a sunny summer's morning. The blue of the sky tends towards a pale grey, the greens of the grass, plants and her dress have a dimmed quality, lacking the yellow undertones that might enliven

them. Hedwig's legs, in direct sun, are a strikingly muted shade of beige, while her face takes on the stoney cast of an ashy taupe in the shadow, (a colour Pantone calls "White Smoke"). "). Indeed, make-up artist Pokromski telling notes that the tones of make-up used on the cast's faces were called things like "porcelain" and "alabaster".[27] No concession is made either in the on-set lighting or in the post-production colour grade to warm up or brighten her face when she looks down and it is cast in grey shadow. Roger Luckhurst's description in *Sight and Sound* of the film's "slightly leched, metallic colour grading" accurately describes this effect, of drained, bloodless colour, that makes skin seem cold, waxy, and anaemic.[28]

This look was also produced though Bishop's extensive work sharpening the images. Despite being filmed in deep focus, a major part of the colour grade was enhancing the crispness of each scene. Glazer instructed Bishop to make it "pin sharp" to enhance its contemporary feel and avoid using shifts in focus to guide the audience's gaze or emotions. This is achieved in the grade by taking any area of contrast and exacerbating it to produce much crisper edges to objects (leaves, grass, hair, etc). This sharpening avoids any similarity to the "softer images" associated with celluloid as well as forms of emotional manipulation produced through soft focus. Bishop described how this process transformed the perception of colour and particularly how "it does really change how the skin tones are perceived… it did change how things feel." Although Bishop admits, "I'm not sure how or why," it seems plausible that the sharpening of the images impacts the colour temperature through an effect described by Albers. Noting in *Interaction of Colour*, that identical shapes will appear to be more "hard-edged" when rendered in colder rather than warmer hues, it seems the opposite may also be true here—it is the sharp edges that make the colours seem cooler.[29] Eugenie Brinkema observes something similar about drab, grey colour, describing how, "in its chromatic deficiency, it brings line to the forefront."[30]

Tellingly, Bishop's instruction was never to make the colour look cold, detached, or unemotional, it was simply to, "keep it as natural as possible," yet in keeping with the wider ethical parameters of non-manipulation and retaining a contemporary feel to the film, coolness became a byproduct of this techno-ethical practice. If we return to established debates on colour and monochrome in Holocaust film, we can see how the coolness of colour in *The Zone of Interest* resolves some of the fraught debates over the sensationalism of colour and the distancing effect of black-and-white. Here, the coolness of the colour at once makes these images seem contemporary (in their digital-

ity) and thus avoids critiques of abstracting or distancing this material, but it also lacks the sensationalism associated with warm, vivid colour (it presents no form of nostalgia, romance or glamour). But how does this rhetoric of naturalism intersect with the film's depiction of whiteness and white skin? How does the transformed "feel" of skin that Bishop describes intersect with the film's wider ethics and politics?

Agfacool: Thermal Violence and IG Faben

While the distinctive look of the *The Zone of Interest*—natural light, muted hues, and crisp resolution—were intended to prevent the film from resembling period celluloid, German critics have remarked how closely the film's aesthetic resembles a historical filmstock known for its compatibility with natural light, its muted colour, and its crisp resolution: German Agfacolor. One critic describes how the film evokes, "the ghostly clarity of Agfacolor's slightly brownish colours," and another simply calls the palette "Agfacolor-cool".[31] These remarks are fascinating, not because they suggest some notion of chromatic fidelity to a period style (which Glazer clearly had no investment in) but because they help tease out some of the wider ideological and racialized implications of the cool whites of skin in *The Zone of Interest*. My suggestion is not that Glazer's film deliberately resembles Agfacolor, but instead a comparison between their very similar aesthetics throws into contrast the varied ideological implications of their cool colour and particularly the whiteness of white skin.

Agfacolor was a revolutionary colour processes, the development of which was staunchly supported by and advanced under the Third Reich. In 1938 it became the first colour negative film that required no special camera or complex printing technique to make multiple colour positives. Available as both a photographic and cinematographic stock, the film was taken up by the government and military for propaganda purposes as well as by amateur users at home.[32] For instance, Adolf Hitler's partner Eva Braun made numerous home movies in Agfacolor (figs. 8-9), while a cache of colour photographs of the Höss family home in Auschwitz was most likely shot using this process as well (figs. 10-12).[33] These images did not just document life in Fascist Germany however, but were profoundly connected to its economic, material, and ideological operations.

Agfa's manufacturer was a subsidiary of IG Farben, the world's largest chemical conglomerate and synthetic colour manufacturer at the time (Farben is the German word for colours or dyes). In addition to dyes the firm

Figures 4 & 5. Eva Braun's Agfacolor home movies, 1939-1944.
Courtesy Imperial War Museum London.

made plastics, explosives, rubber, textiles and countless other products. Operating in symbiosis with the Fascist state, IG Farben was also intimately entangled in the Holocaust. Not only did the firm exploit camp prisoners for chemical experiments, but the extermination camps consumed vast quantities of Zyklon B, the insecticide manufactured by IG Farben subsidiary Degesch, used as the gas in the gas chambers.[34] IG Farben went on to establish its own concentration camp in 1941: Auschwitz III at Monowitz, to further exploit enslaved labourers in manufacturing synthetic rubber and fuel for the war effort (indeed, at one point in *The Zone of Interest* Rudolph mentions a forthcoming "IG Lunch"). IG Farben established further sub-camps of Auschwitz at nearby mines (Fürstengrube, Günthergrube, Janinagrube) to sustain the company's incessant consumption of coal (the base ingredient of synthetic colour).[35] It is estimated that around 10,000 Auschwitz prisoners died working for IG Farben and that at its peak the firm had 13,700 enslaved labourers working within its supply chain.[36]

While Agfacolor itself was not manufactured at Auschwitz nor is there evidence that coal mined by enslaved labour was used as its colouring agents, such arguments are, as anthropologist Michael Taussig argues, somewhat beside the point.[37] To focus on any single element within the IG Farben system is, as Taussig suggests, in some ways is to comply with IG Farben's logic of compartmentalisation and overlook the interconnectedness of its operations.[38] While Agfacolor was not a direct product of Auschwitz, it was enmeshed in the horrifying networks connecting genocide, industry, and colour. While this film stock had a cool tonality, it was materially contingent on forms of thermal violence, on heat in the form of coal, and the wider military-industrial networks of the concentration camps that exploited the

Figures 10 & 11.

Figure 12.

(Figures 10-12 Agfacolor photographs of the Höss family villa at Auschwitz, 1942-1944.) Courtesy Leibniz Institute for Contemporary History, Munich.

starkest form of thermal biopower through the crematorium.

The "cool" of "Agfacolor-cool" came from its recognizable palette, described by Jennifer M. Kapczynski as "quite unmistakable: greying greens, darkly saturated reds, and wan blues."[39] In each of the Agfacolor images cited above (all captured in bright sunlight), all the chromatic flaws associated with the process are on display: both saturation and contrast are low, the sky is grey-green, grass grey-brown, and the reds do not "pop" with brilliance but recede from the viewer.[40] While these images uphold conventionally gendered renditions of white skin (the male soldiers are more ruddy than the children and women seen here) the shadows cast on the paler white skin tones still produce a blue-grey tonality—most visible on the skin of the bather in Braun's film. This cool, crisp, muted aesthetic was a result of Agfacolor's material composition. Its make-up produced much crisper images than alternative processes at this time. Contemporary advertisements for Agfa promised, "objects near the camera and those in the far distance are both absolutely sharp," indeed that "everything is razor sharp".[41] But despite its sharpness it gave especially muted colour. To penetrate its three layers of light-sensitive emulsion required large quantities of light, and so the film was often used outdoors to take advantage of natural sunlight, giving it a sunny, bright tonality. Yet the density of the emulsion layers also meant the colours appeared muted, unable to reach brilliant levels of saturation possible with rival processes. Agfa was therefore position as a so-called natural process, both because of its use outdoors in natural settings, and because its pastel shades appeared less contrived than the high saturation of other technologies.[42] It is clear why German critics found resonances of this supposedly "natural" stock in the "natural" grade of *The Zone of Interest*.

While muted colour itself carries no inherent political meaning, to describe the look of Agfacolor as "natural" is an inherently ideological act. It is to make a particular way of seeing and thus a particular world order seem unmediated, direct, legitimate, inevitable, truthful, accurate, and normal. In relation to colour film, the term "natural" is often deployed in relation to a technology's capacity to render flesh tones, with colour film technologies that privilege the accurate rendition of white skin over darker skin tones described as delivering "natural" colour.[43] Contemporary Agfacolor reviews described how its "Flesh Colouring is Perfectly Natural."[44] In other words, the ascription of "natural" privileges some truths (e.g. light skin) over others (e.g. dark skin) and thus makes certain political systems (e.g. white supremacy) seem innate. Agfacolor thus mobilised the idea of the natural to political ends

Figure 13.

by making life under the Third Reich seem like an entirely normal state of affairs, whether Hitler taking tea on the terrace as we see in Braun's home movies, or the Hoss family children playing in their garden next to the genocide unfolding on the other side of the wall.

The way in which the supposedly "natural" look of Agfacolor normalised white supremacy is made explicit in this 1935 test image for the process, which belongs to a genre known as the Shirley Card or China Girl (fig. 13).[45] These images feature white women positioned next to colour charts—ostensibly used by processing laboratories to ensure colours are reproduced faithfully. However, these images are widely regarded as a technique for ensuring the accurate rendition not of all colours depicted, but of white skin specifically, and thus are understood as an apparatus for reinforcing the primacy of whiteness. The juxtaposition here of two young, white girls with the swastika flag of Nazi Germany doubles the racialised reading of such images. Here, the image is (presumably) calibrated both for the best rendition of the girls' white flesh tones as well as the red of the flag of the Third Reich symbolising the supposed supremacy of this "race."

While Bishop confirmed the intention behind the "natural" look of *The Zone of Interest* was part of an ethics of transparency—a non-interventionist approach intended to retain the cool digitality captured on set—the film's resemblance to Agfacolor offers a complimentary reading. If the "natural" hues of Agfacolor worked to normalise white supremacist ideology, we might say the "natural" palette of Glazer's film and the cool whiteness of its skin performs the same function, only to different ethical ends. *The Zone of Interest* is clearly also invested in normalising fascism, in rendering its evil banal (to repeat one of the most widely stated claims of writing on the film). Yet it does so not to imply the truth and legitimacy of the white supremacist world order it depicts but to horrify and unsettle viewers precisely through its supposed normality. It is because the film exploits the visual language of naturalism that it has the power to shock, in the same way that we as contemporary viewers are shocked by Braun's Agfacolor home movies. In each of these examples, colour has the capacity to render natural that which is morally aberrant. Glazer hoped his film would invite audiences to reflect on the contemporary moment, and forms of oppression, brutality, and cruelty enacted today to which they choose to remain blind. Whether consciously or unconsciously, by cultivating a look that simultaneously appears contemporary to our present moment and to the historical period it depicts, both digital-cool and Agfa-cool, the film successfully enables us to reflect on how past ideological techniques of naturalisation are still at work today.

I want to move now from considering the coldness of the film's colour, to thinking about the heat of its black-and-white sequences, captured using thermal cameras. Not only does this thermal technology intersect with the racialized contexts of whiteness within the diegetic world of the film, but it also speaks to the wider context of debates over their politicised exploitation in policing racialized (specifically non-white) bodies in our contemporary world.

White Hot: Chromatic, Racial, and Thermal Whiteness

It is easy to mistake *The Zone of Interest*'s thermal images for dream sequences, because each is preceded by an image of a sleeping child. In the first instance Rudolf discovers his daughter sleepwalking in a white nightgown, sitting on the stairs of their house at night. When her father asks what she is doing—her response, "I'm handing out sugar," seems to correspond with the otherworldly images that follow of a girl distributing small, glowing white globes from a sack. In the second instance, Rudolf finds his daughter asleep

into the pantry. As Höss slings her over the shoulder of his white suit to carry her to bed the film cuts from the interior of the house to the thermal camera, which shows another girl bending over to gather fruit in a forest, as though once again we have crossed into the dream world of his daughter. In both sequences we hear Rudolf read his daughters bedtime stories featuring magical white birds, which becomes a sound bridge for cuts between the domestic interior and the activities unfolding within the camp, lending a further fairytale quality to these monochrome images. Their dream-like quality is further heightened by their sound, which mixes the naturalistic noises of feet squelching in mud, or a train passing by, with what composer Mica Levi calls "the yums"—distorted, echoing eructions that trigger a sense of otherworldliness (if not plain horror) through their unsettlingly warped quality, both bodily, yet unnaturally bassy.[46]

These scenes are not dreams or fairy tales however, but based on the real experiences of Aleksandra Bystron-Kolodziejczyk, one of the three people to whom the film is dedicated.[47] As a young girl living close to the camp, Bystron-Kolodziejczyk began working with the Polish resistance to help give food, medicine and messages to prisoners, an act of humanity that spoke to Glazer, who met her during pre-production for the film.[48] Glazer wanted to incorporate her story as a counterpoint to the Höss family, by showing her hiding fruit for the prisoners at night. The director claimed the use of the thermal camera was a simply a technological solution to the problem of filming these scenes at night without using artificial lighting, in keeping with its wider ethics of not glamorising or aestheticizing the horrors of the Holocaust. As Glazer described "in 1943, you don't see anything in a field at night, so the modern tool is a thermal camera. It's all a matter of consistency, and a commitment to not fetishizing anything."[49] These are however, the most stylised sequences of the film. While they do not fetishize, they do radically depart from the constructed naturalism of the world we see in colour.

Furthermore, the metaphor Glazer's uses to describe these decisions around the representation of goodness, evil, lightness and dark, reveal the wider implications of these thermal images, noting he had to include Bystron-Kolodziejczyk's character as "I couldn't make the film if there was nothing but darkness." He notes:

> I needed some light in there as well . . . she was on the opposite end of the spectrum to the Höss', and she was the light. I felt like I could make the film. She's represented in there with the thermal imaging . . . she's not really a character. I thought of her more as an energy.[50]

Figure 14.

The thermal imaging sequences are therefore more than a simple technological solution to the problem of shooting at night without artificial light, but a solution to the problem of capturing the idea of what we might call the human spirit. While Glazer describes her as "light" it is not light that is captured on the film but heat, "energy," or we might say, essence, life-force, or humanity.

The significance of this difference, between registering light and heat, is made clear when the young girl captured on the thermal camera finds a small tin containing sheet music. The following day, we see her once again, now filmed in colour, sitting at the piano to play the notes she has found. The overall yellow tonality of this sequence, including the mustard wallpaper, her pale lemon dress, flaxen hair, and the light streaming through the window that takes on a distinctly yellow-golden hue, produces a sensation of warmth that marks it out from other colour sequences in the film (figs. 14-16).

We read in subtitle form the lyrics of "Sunbeams," a song written in Yiddish by Auschwitz survivor Joseph Wulf, whose recorded voice introduces the music.[51] In warm yellow captions (distinct from the cold white used for the translated German dialogue) we read: "radiant and warm/ Human bodies/ Young and old/ And we/ who are imprisoned here/ Our hearts/ are not yet cold/ Souls afire/ like the blazing sun." The song's lyrics help us interpret the ideology of the thermal imaging sequences. They now become legible as a way of capturing what we could call human warmth.

Figure 15.

Figure 15.

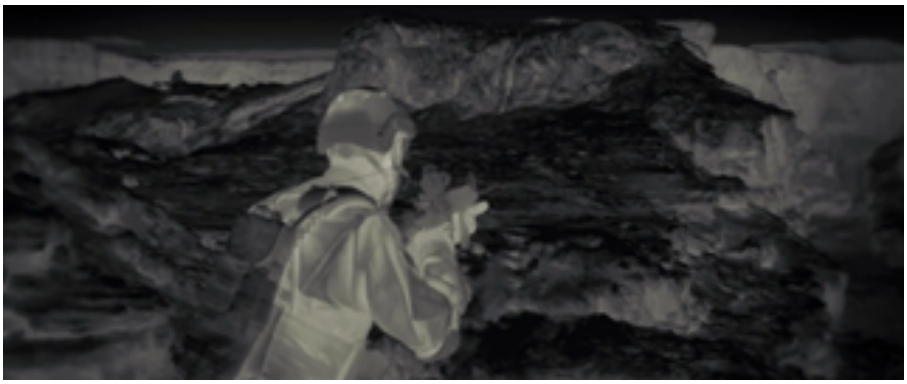


Figure 17. Greyscale thermal imaging shot on FLIR camera in Sicario (Denis Villeneuve, 2015, US)

Rather than registering the superficial appearance of the human body (light), the camera captures what animates its soul (heat). This distinction is crucial for understanding the ethics of these sequences as they relate both to the conventional uses of thermal imaging technologies and to the whiteness of the figures they capture.

As noted in my introduction, these thermal images are not inherently greyscale—this was an aesthetic choice. Bishop noted in our interview that: "You could have mapped it to colour but we mapped it to black and white . . I've seen a colour version of some of the shots . . . they came in in black and white and we were only ever using black and white . . . it was never a conversation about it being in colour".[52] While each pixel is mapped to correspond to a certain temperature, the colours used to represent those temperatures are arbitrary. While in *The Zone of Interest* and some other films that exploit thermal imaging, such as *Sicario* (Villeneuve, 2015) and *Sicario: Day of the Soldado* (Sollima, 2018) the hottest temperatures are mapped to white (fig. 17, 18), in other films such as *Predator* (McTiernan, 1987) or more recently *Aggro Drift* (Korine, 2024) the hottest areas are pink, purple, reds, yellows and orange, descending to the cooler areas in lime, turquoise and navy (figs. 19-20).[53] The manufacturer of the camera used in *The Zone of Interest*, offers palettes that range from scorching acidic magentas through to neon blues, each palette given a different name suggestive of various climactic conditions, from, "Rainbow," to "Arctic," to "Lava" (figs. 21,-22). In *The Zone of Interest*, the decision, not only to shoot the scenes using thermal cameras, but in the black-and-white palette called "White Hot" (fig. 23), offers further insights into how questions of heat intersect with ideologies of

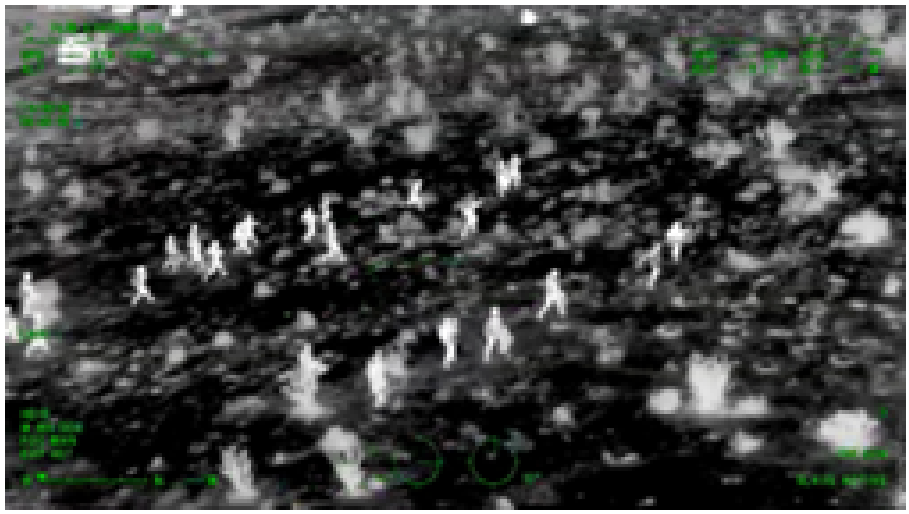


Figure 18.
Greyscale thermal imaging shot on FLIR of the US/Mexico border in *Sicario: Day of the Soldado* (Stefano Sollima, 2018, US)

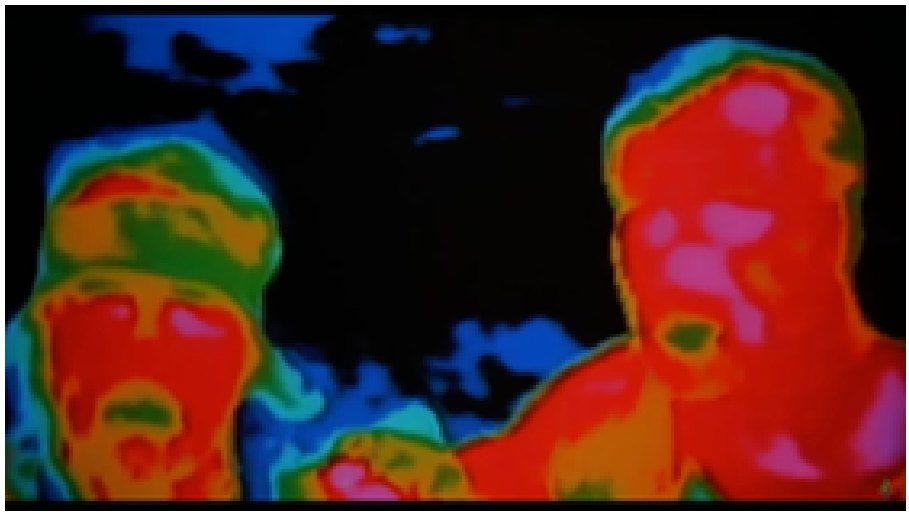


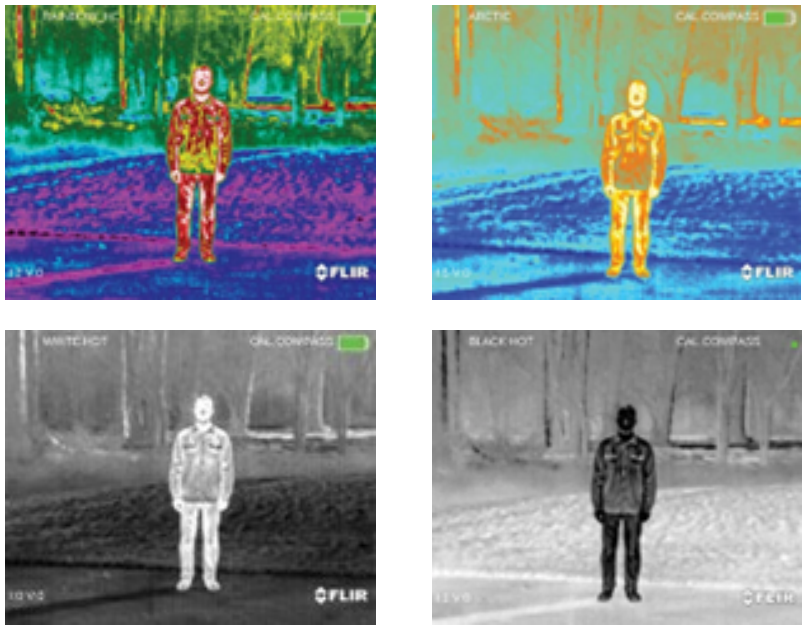
Figure 19.
Colour thermal imaging using FLIR camera in *Predator* (John McTiernan, 1987, US)

Figure 20. Colour thermal imaging in *Aggro Drift* (Harmony Korine, 2024, US)

race so central to the film's context. If Glazer positions these sequences as images of resistance, they do not just resist the murderous and racist logic of the camps but the murderous and racist logic of film technology itself.

These scenes were shot using a FLIR X8500, a military surveillance camera.[54] Despite the manufacturer boasting on its website of the camera's applications in search and rescue operations, or slowing climate change by identifying insulation leaks, the fact that, as Glazer notes, "we had to have someone from the Polish army with us every time we took it out of the box, because its officially classified as a weapon," suggests its more nefarious applications.[55] This becomes apparent if we look to other precedents of thermal imaging in films like *Sicario: Day of the Soldado* (fig. 18) which combines the technology with aerial shots of the US/Mexico border to demonstrate its function for the American government in identifying human targets from the air.[56]

These uses of infrared thermal cameras, not just by the military but other actors (industry, agriculture, police) have been critiqued as a form of what Starosielski calls "thermal violence, a means of reducing a subject to their thermal emissions, of turning life into heat that can be used in forms of biopolitical management."[57] The abstraction of images into a chromatic register of black-and-white, whereby colour is mapped to heat, seemingly renders neutral the racialized characteristics of skin colour (in Glazer's film for instance, all skin is rendered white). But as Lisa Parks describes in her discussion of thermal imaging drones, the application of this technology in



Figures 21-24:
FLIR thermal camera palettes: Rainbow (21), Lava (22), White Hot (23), Black Hot (24)

policing the movement of certain people in certain territories (she specifically sites Pakistan, Yemen, and Somalia, and the U.S. border) means that it, "reinforces already existing power hierarchies," by "designating these areas and people as 'hot spots' that need to be pre-emptively contained."[58] While the thermal imaging used in cinema typically exploits a "White Hot" look, it is important to note that FLIR's website claims it is its "Black Hot" palette that is, "a favorite among law enforcement," as it "displays body heat in a clear, lifelike image."[59] In the image accompanying the description, a man's facial features are entirely unreadable, rendered as an engulfing mask of blackness (fig. 24). While we might imagine Glazer's decision to exploit a "White Hot" palette, was to convey an idea of nighttime (as the majority of the image will be rendered black) we cannot dissociate this aesthetic decision from its deep entanglements with racialized surveillance.

Despite the profoundly racialized deployment of these cameras, artists have tried to recapture the utopian promises of thermal imaging as a kind of colour-blind vision—indeed, Korine describes his use of the technology as "documenting souls."[60] Much critical discussion of the potentials and limits of thermal imaging has focused on Irish photographer Richard Mosse who has used both infra-red film and thermal cameras to subvert expectations

regarding the relationship of colour to race.[61] In his 2021 series "Infra" the photographer captured images of conflict in the Democratic Republic of Congo using Kodak Aerochrome film developed for reconnaissance during the Vietnam war, initially designed to make figures stand out from foliage, but here it is the foliage that most powerfully leaps out at the viewer in scorching fuchsia hues (fig. 25). In his 2016 series "Heat Maps" (fig. 26), made using a military thermal camera, he captured images of migrant camps across Europe, the middle east, and north Africa, deliberating exploiting a technology that in his words, "dehumanises people," in order to try and "rehumanize" these subjects through detailed attention to their daily lives.[62] While critics maintain that Mosse's photographs reproduce precisely the biopolitics they seek to critique—Black bodies rendered hyper visible against pink foliage, racialized migrants' identities reduced to a mass of biological heat signatures—Glazer's film succeeds in exploiting the utopian promises of thermal imaging, I believe, because it trains the technology on bodies racialized as white.

What is so startling about the thermal sequences in *The Zone of Interest* is that they so radically subvert our expectations of how light and colour work in cinema. In conventional black-and-white cinematography, the most illuminated areas are white, the least illuminated are black. In thermal imaging, whiteness signifies heat, not light. This meant the production team had to heat the things they would normally light.[63] These thermal cameras therefore rewire the entire logic around which cinema operates and—in the context of Glazer's film—challenge the ideology that underpins that logic.

As Richard Dyer describes, cinema is "a medium of light"—a technology predicated on recording and capturing light.[64] For this reason, Dyer observes, cinema has privileged whiteness, as white skin not only reflects light, but is rhetorically conflated with light through its wider connotations of purity and transparency. The success of any cinematic apparatus is therefore measured by its capacity to faithfully render white skin—understood rhetorically as light itself. As the Agfa test card described above shows, white skin is also understood as a benchmark against which colour should be measured. The conflation of whiteness as a racial taxonomy with light as an optical phenomenon therefore undergirds both racist ideologies and film technologies. In *The Zone of Interest* however, the thermal cameras decouple this link between light and whiteness. By registering heat instead of light, the cameras circumnavigate a racist logic of white supremacy that both underpins the camps, and the cinematic apparatus. To be clear, it is not that the camera

Figure 25. Richard Mosse, *Colonel Soleil's Boys* (from the "Infra" series), 2010, digital c-print.

Figure 26. Richard Mosse, *Idomeni* (from the "Heat Maps" series), 2016, digital chromogenic metallic print.

Figure 27.

renders white those bodies considered outside the parameters of racialized whiteness under Nazi race "science." Instead, these sequences present a different way of seeing that challenges the optical logic that underpins the ideology of those taxonomies.

Comparing the chromatic whiteness of the thermal imaging sequences to the chromatic and racialised whiteness of the Höss family further elucidates this point, and illuminates Glazer's comments that they are "on the opposite end of the spectrum." If as Dyer describes, whiteness insists on its immateriality, transparency, and invisibility in order to sustain its power, in *The Zone of Interest* there is a resolute opacity, solidity, and corporeality to both racialised and chromatic whiteness.[65] For example, chromatic whiteness operates in the film as a conventional—and problematic—symbol of hygiene and cleanliness—an association that has longed helped consolidate ideas of racialised whiteness as a form of moral and racial purity. Throughout, we see freshly laundered white shirts, towels, and sheets, in the Höss family home. However, the film highlights the fallacy of such associations—most obviously in the white laundry that obscure the camp from sight, concealing the messy work necessary to sustain the mythic purity and imagined superiority of racialised whiteness (fig. 27). It is telling that in the thermal imaging sequences, when we visit the home of the young Polish resistance fighter, we see the reversal of this trope. While the sheets in the Höss family home are white, here they are black, and are swiftly drawn in from the line because of

Figure 28.

the ash and smoke that fills the air around the camp (fig. 28). Their whiteness is revealed to be illusory, a condition of suspending one's disbelief about the dirty work of genocide.

The startingly white outfit Rudolph wears to his family garden party is another example of how whiteness participates in the dissemblance that enables life on his side of the wall to appear normal (fig. 29). Exchanging blood-soaked boots for pristine white loafers, Rudolph's immaculate white outfit masks the bloody work he undertakes in the camp. The only shot within the camp—a low angle shot of Rudolph presumably overseeing prisoner selection at the ramp—fades to white, as though Rudolph is engulfed by the smoke from the crematorium chimney or the train that brings victims to their deaths (fig. 30). Whiteness, although conventionally associated with illumination, clarity, and light, here obfuscates and obliterates, literally engulfing the image so we do not see the horrors that Höss surveys.

Racialised whiteness within the film also takes on a distinctively corporeal quality, in marked contrast to conventional constructions of whiteness as disembodied, immaterial, unmarked and unremarkable—in other words, as synonymous with light in terms of both luminosity and weightlessness. As Anne Anlin Cheng describes, although race is typically understood (after Franz Fanon) as an "epidermal schema" legible through the surface of the body, there are different modes of "racialized corporeality"— some predicated on "fleshiness" and some on what she calls "*un*fleshliness."[66] While Blackness has routinely been construed around ideas of the corporeal flesh,

Figures 29 & 30

whiteness has been produced through its opposite—immaterial light.

However, whiteness in *The Zone of Interest* works against such idealised forms of race making. While above I have detailed the ways in which Rudolph's skin undoes conventional aesthetics of whiteness, it is Hedwig's body that most palpably express the corporeality of whiteness, in pronounced contrast to idealised constructions of white femininity as ethereal, radiant, and light. In her performance Hüller adopts a wide, rolling, flat-footed waddle for Hedwig's gait, which coupled with the repeated placement of her hands at her lower back while projecting her hips forward, make her seem, if not pregnant, then a person whose body has been indelibly marked by its five pregnancies (fig. 31). The effect is one of weight, heaviness, bodiliness. The almost mechanical way she consumes cakes and sausages also speaks of a character who exists within her body rather than her mind (fig. 32, 33), in keeping with directions from Glazer of, "perpetual non-thinking," to articulate what he calls the "thoughtlessness" of Genocide.[67]

Even her blonde hair, a privileged symbol of white femininity which as Dyer notes has conventionally been lit to produce a golden, angelic halo around the face, here, is tightly wound into implausible dense knots that lack

Figure 31.

any kind of gleam. Her skin, like Rudolph's, has the colour of pale flesh lacquered with white sunscreen, unnaturally and unhealthily opaque and white. The close similarity of Rudolph and Hedwig's skin tones is also unusual, as conventionally the lightness of the female complexion is enhanced through contrast with her slightly more tanned white, male partner (fig. 34).[68] This simultaneously makes Rudolph seem paler than we would conventionally expect and undermines classical conventions of feminine beauty.

The opacity, density, thickness, and heaviness of both chromatic whiteness and racialised whiteness therefore undermines the conflation of these concepts with light and thus the myths of invisibility and purity upon which white supremacy thrives. The thermal images on the other hand, refuse to see light and instead register heat. They therefore bypass an entire logic of film technology that privileges white bodies, and instead foreground those bodies that are full of heat and life, their "Souls afire."

But the thermal images, which also shift the film from colour to black-and-white speak to another function of colour within Holocaust cinema. As Miriam Hansen notes, it has become an accepted convention of ethical Holocaust representation that films must incorporate some form of modernist reflexivity that questions the very act of representation—"a type of aesthetic expression that is aware of its problematic status."[69] Citing Lanzmann's *Shoah* (1985) as an important precedent, which refuses to incorporate any visual representation of the Holocaust at all, she describes how filmmakers

Figure 32.

Figure 33.

Figure 34.

are expected to acknowledge the inadequacy of images to impart anything approaching truth. This can also be articulated through colour. For instance, in Alain Resnais' documentary *Night and Fog* (1956) the landscape of present-day Auschwitz is captured in colour, while archival images are all presented in black-and-white, destabilising the truth-telling capacity of images themselves. *Night and Fog*'s shift between Eastmancolor and black-and-white stock draws attention to the act of mediation, inviting us to question which of these images helps us know and understand better, only to resolve that understanding is always partial, and arguably impossible.[70]

Glazer's film similarly uses the shift between black-and-white thermal images and digital colour as a way of unsettling cinema's claims as an apparatus of truth. The framing of the monochrome sequences in a manner that invites the audience to read them as dreams or fairytales disrupts our experience of the film thus far, which has until this point been presented in a very direct, observational, so-called natural, style. But as the only sequences that take us inside the camp, with its mud and freshly dug mass graves, the thermal images also have a privileged relationship to the reality of Auschwitz, despite their attenuated relationship to an aesthetic of realism. By uncoupling a naturalistic style from ideas of unmediated truth, and approaching the interior workings of the camp through extreme stylisation, we are invited to question which is the dream, the fairytale, the fantasy: the colourful world of the Höss family home or the strange, greyscale interior of the camp? *The Zone of Interest* thus takes up a well-established convention of Holocaust

cinema (the vacillation between colour and monochrome) yet through its novel use of thermal imaging finds a contemporary way of re-articulating its reflexivity.

Conclusion: Next

My thermal reading of whiteness in *The Zone of Interest* offers one partial way to interpret the deep connections between colour, race, and heat in cinema. Glazer's film uses temperature, whether the white heat of the thermal camera, or the cool hues of digital colour, to test the boundaries of the rhetorical conflation of whiteness as a chromatic hue and racial type. Colour temperature therefore does not merely signify emotional warmth or cold detachment here, but is exploited to question the racialized premises of film technology and the forms of white supremacy that underpin both the cinematic apparatus and historical regimes of violence. But there are other ways to read heat in relation to the film. For instance, we might consider the ecological impacts (which will disproportionally affect people in the Global South) of thermal regulation demanded by colour-correcting rotoscoping effects work in India, or the cooling of data servers storing the vast quantity of footage captured in long days of extended takes.[71] Heat offers a way of thinking together foundational work on colour's role in constructing race, whether as an epidermal or decorative schema, with new work interrogating the thermal infrastructures that make these images possible. Moreover, such thermal readings tesselate with the concerns regarding the racialized asymmetries of the effects of our planet's changing temperature. What is "next" for the chromatic turn in film and media studies then, is an approach that reads the profound relationship between race and colour not just through hue, but also through heat.

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NOTES

1. Josef Albers, *Interaction of Color*, 50th anniversary edition; 4th edition. (Yale University Press, 2013), 59.

2. Edward Branigan, *Tracking Color in Cinema and Art: Philosophy and Aesthetics*

(Routledge, 2018), 120.

3. The various colour palettes offered by the FLIR camera are detailed on the manufacturer's website, https://www.flir.co.uk/discover/industrial/picking-a-thermal-color-palette/.

4. Nicole Starosielski, *Media Hot and Cold* (Duke University Press, 2021), 8. Chief amongst these metaphorical frameworks she identifies Marshall McLuhan's designation of "hot" and "cool" media, which present a very different understanding of heat as metaphor for mediation.

5. Starosielski, *Media Hot and Cold*, 148, 167, 194.

6. Hi'ilei Julia Kawehipuaakahaopulani Hobart, *Cooling the Tropics: Ice, Indigeneity, and Hawaiian Refreshment* (Duke University Press, 2022), 6.

7. Hobart, *Cooling the Tropics,* 4-7.

8. On environmental determinism see Jen Rose Smith, '"Exceeding Beringia": Upending Universal Human Events and Wayward Transits in Arctic Spaces', *Environment and Planning D: Society and Space* 39, no. 1 (1 February 2021): 158–75; on intersections with colour see Anne Lafont, 'How Skin Color Became a Racial Marker: Art Historical Perspectives on Race', *Eighteenth Century Studies* 51, no. 1 (Fall 2017): 89–113.

9. Of note among recent scholarship on the racialized implications of colour and the centrality of whiteness is: Joshua Yumibe, "On Vivid Colors and Afrotropes in African and Diasporic Cinemas" in Sarah Street and Joshua Yumibe eds., *Global Film Color: The Monopack Revolution at Midcentury* (Rutgers University Press, 2024), 215-230; Carolyn L. Kane, *Electrographic Architecture: New York Color, Las Vegas Light, and America's White Imaginary*, (University of California Press, 2023); Genevieve Yue, *Girl Head: Feminism and Film Materiality* (Fordham University Press, 2020); Kirsty Sinclair Dootson and Xin Peng, "Hollywood Color: Race, Technology and Aesthetics", in Pamela Wojcik and Paula J. Massood eds., *Routledge Companion to American Film History* (Routledge 2025), 146-155, and the forthcoming volume Carolyn L. Kane and Lida Zeitlin-Wu *Color Protocols: Technologies of Racial Encoding in Chromatic Media* (MIT Press). This work expands on established works in film studies including: Brian Winston, "A Whole Technology of Dyeing: A Note on Ideology and the Apparatus of the Chromatic Moving Image," *Daedalus* 114, no. 4 (1985): 105–23; Richard Dyer, *White* (Routledge, 1997); Lorna Roth, 'Looking at Shirley, the Ultimate Norm: Colour Balance, Image Technologies, and Cognitive Equity', *Canadian Journal of Communication* 34, no. 1 (28 March 2009): 111–36.

10. Readers will note that throughout I use the lower case white to refer both to a chromatic hue and racial taxonomy. While this deviates from my previous writing in which highlighting the distinction between these terms was crucial, here it is precisely their conflation that is of interest. On debates regarding the capitalization of white see Nell Irvin Painter, 'Why "White" should be capitalized, too', The Washington Post, July 22, 2022, https://www.washingtonpost.com/opinions/2020/07/22/why-white-should-be-capitalized.

11. In Martin Amis' 2014 novel of the same name from which Glazer's film is loosely adapted, the term, unsurprisingly, also takes on erotic connotations.

12. "Q&A with Director Jonathan Glazer," *The Zone of Interest* Electronic Press Kit for Perth Festival, https://www.perthfestival.com.au/media/gqrduoky/the-zone-of-in-

terest-madman-press-kit.pdf.

13. On the location see Chris Oddy, "The Zone of Interest: Interview with Production Designer Chris Oddy," interview by Jillian Chilingerian, *Off Screen Central,* 16 January 2024, https://offscreencentral.com/2024/01/16/the-zone-of-interest-interview-with-production-designer-chris-oddy/.

14. Łukasz Żal, quoted in Scott Roxborough, "Evil Minus the Emotional Manipulation, *Hollywood Reporter,*" 429 (27 November 2023): 12.

15. Claude Lanzmann, "Why Spielberg Has Distorted the Truth," *Guardian Weekly*, 3 April 1994, 14; Serge Daney, "The Tracking Shot in *Kapo,*" *Trafic* 4, Fall 1992, P.O.L Éditions, reprinted in *Postcards from the Cinema*, trans. Paul Douglas Grant (Berg, 2007), 17-39; Gillian Rose, *Mourning Becomes the Law: Philosophy and Representation* (Cambridge University Press, 1996), 41-62; Hannah Arendt, *Eichmann in Jerusalem: A Report on the Banality of Evil* (Penguin Books, 1994). The stakes of these arguments are more eloquently summarised in Miriam Bratu Hansen, "'Schindler's List' Is Not 'Shoah:' The Second Commandment, Popular Modernism, and Public Memory," *Critical Inquiry* 22, no. 2 (1996): 292–312; as well as Elie Wiesel's foreward to Annette Insdorf, *Indelible Shadows: Film and the Holocaust*, 3rd ed. (Cambridge University Press, 2002), xi-xii. My understanding of these debates was also shaped by Elizabeth Watkins and Dominic Williams "Reading the Faces of Auschwitz project, colourisation & the digital interpretation of photochemical records," Research Seminar, University of York, 7 March 2024.

16. Amy Herzog, "Proximities of Violence: The Zone of Interest," *Film Quarterly* 77, no. 3 (Spring 2024).

17. These debates on colour and monochrome in Holocaust film are surveyed in Insdorf, *Indelible Shadows*, 35-40; Frances Guerin, *Through Amateur Eyes, Film and Photography in Nazi Germany* (University of Minnesota Press, 2012), 159–216; Richard Misek, *Chromatic Cinema: A History of Screen Color* (Wiley-Blackwell, 2010), 91-92, 114-5; Mareike Bernien, *Chromapolitics—On the Material, Historical, and Political Dimensions of Color in Film* (2015, PhD thesis, Academy of Fine Arts Vienna) and Kerstin Schroedinger, *Film Matters—Historical and Material Considerations of Color, Movement, and Sound in Film* by (2016, PhD thesis, University of Westminster).

18. Steven Spielberg quoted in Curt Schleier, "Steven Spielberg's New Direction," *Jewish Monthly* 108:4 (1994): 12.

19. Quoted in Anette Insdorf, "Save the Child: 'Korczak,'" *Boston Phoenix*, November 15, 1991, cited in Insdorf, *Indelible Shadows*, 270 fn 3.

20. In particular, see Lanzmann, "Why Spielberg Has Distorted the Truth."

21. I am only aware of two extant pieces of colour footage from within the camps themselves. Both were made in Dachau, one in 1943 by German perpetrators, the other by the camp's American liberators in 1945. On the first see Guerin, *Through Amateur Eyes*, 204-208; on the second see George Stevens Jr, "Directors at War: George Stevens," *American Film* 10:9 (New York, 1 July 1985), 22-26; Daney, "The Tracking Shot in *Kapo.*"

22. Primo Levi, "A Conversation with Primo Levi by Philip Roth," in Primo Levi, *Survival in Auschwitz: The Nazi Assault on Humanity*, trans. Stuart Woolf, (Simon & Schuster, 1996), 182. The full quotation reads, "A friend of mine, an excellent doctor, told me many years ago: 'your remembrances of before and after are in black and white; those of Auschwitz and your travel home are in Technicolor.' He was right."

23. Gareth Bishop, interview with the author, 27 February 2024. Hereafter, all quotes from Bishop are from this interview.

24. This is particularly striking in a film produced and distributed by A24, a brand firmly associated with a hip nostalgia for the look of celluloid.

25. Correspondence with the author, 1 September 2024.

26. Żal quoted in Roxborough, "Evil Minus the Emotional Manipulation."

27. Correspondence with the author, 1 September 2024.

28. Roger Luckhurst, "The Zone of Interest," *Sight and Sound*, (Winter 2023/24): 120.

29. Albers, *Interaction of Color,* 49.

30. This observation relates to her discussion of Walter Benjamin's ideas on greyness, and drabness in Eugenie Brinkema, "Glimmers and Drabness and Scales of Loss: On The Grand Budapest Hotel," *REAL* (West) 35, no. 1 (2019): 143-153.

31. "*Der gespenstischen Deutlichkeit der etwas bräunlichen Farben von Agfacolor"* comes from Daniel Kothenschulte, "'The Zone of Interest' im Kino: Die Banalität des Schönen," *Frankfurter Rundschau,* 28 February 2024, https://www.fr.de/kultur/tv-kino/the-zone-of-interest-die-banalitaet-des-schoenen-92859848.html; "*Agfacolor-kühlen*" comes from Jens Hinrichsen, "Auschwitz-Film 'Zone of Interest:' Diese widerwärtige Biederkeit," *Monopol Magazin für Kunst and Leben*, 29 February 2024, https://monopol-magazin.de/zone-of-interest-film-diese-widerwaertige-biederkeit.

32. On Agfacolor and the military see Dirk Alt, "'Front in Farbe:' Color Cinematography for the Nazi Newsreel, 1941–1945," *Historical Journal of Film, Radio and Television* 31, no. 1 (1 March 2011): 43–60.

33. For a discussion of Braun's films see Guerin, *Through Amateur Eyes*, 217-286. Several have been digitised and are available to watch via Imperial War Museum website: https://www.iwm.org.uk/collections. My thanks to Esther-Julia Howell, Deputy Head of Archives for the Institut für Zeitgeschichte München for the information regarding the Höss family photographs, and for confirming that although we cannot be certain which film stock was used to shoot these images (which have now been digitized) it seems unlikely they could have been captured on anything other than Agfacolor film.

34. Esther Leslie, *Synthetic Worlds: Nature, Art and the Chemical Industry* (Reaktion, 2005), 185-186; Peter Hayes, *Industry and Ideology: IG Farben in the Nazi Era* (Cambridge University Press, 2001), 361-3.

35. See Hayes, *Industry and Ideology*, 359; and entries "Fürstengrube," "Janinagrube," and "Günthergrube"—Auschwitz-Birkenau Memorial and Museum Website, https://www.auschwitz.org/en/history/auschwitz-sub-camps/.

36. The estimated number of deaths comes from "Living conditions and number of victims (Auschwitz III-Monowitz)," Auschwitz-Birkenau Memorial and Museum Website: https://www.auschwitz.org/en/history/auschwitz-iii/living-conditions-and-number-of-victims/ and figures on enslaved labour come from Hayes, *Industry and Ideology*, 347.

37. Agfacolor was manufactured at a plant in Wolfen specialising in film and textile production. While Wolfen used prisoners from the nearby Ravensbrück concentration camp as labourers in its fibres division, there is no evidence they worked in film

manufacture. Berninen, "Chromapolitics," 84.

38. Michael Taussig, *What Color Is the Sacred?* (University of Chicago Press, 2009), 223.

39. Jennifer M. Kapczynski, "The Aesthetics of Agfacolor in Recent Historical Cinema" in Jaimey Fisher and Brad Prager eds., *The Collapse of the Conventional: German Film and Its Politics at the Turn of the Twenty-First Century* (Wayne State University Press, 2010), 41.

40. It was precisely the muted quality of the red that made Agfacolor a preferred stock of Yasujiro Ozu, a fact I learned from Masaki Daibo and Katsuhisu Ohzeki, 'Restoring Two-Colour Film and Early Fuji Colour Film: Towards a More Material Approach to Colour Grading,' presentation at the Fourth International Colour in Film Conference, British Film Institute, London, 26 February 2019.

41. See Sigvard Weber, "Germany's Agfacolor Can Help British Studios," *Kinematograph Weekly* 346, no. 2016 (6 December 1945): 9; *"Alles gestochen scharf"* appears in a 1938 advertisement for Agfa Isochrom. *Berliner Illustrirte Zeitung* 27 (1938), 104 reproduced in Hartmut Berghoff and Berti Kolbow, "Konsumgütermarketing im Rüstungsboom: Wachstumsstrategien der IG-Farben-Sparte Agfa, 1933 bis 1945," *Zeitschrift für Unternehmensgeschichte* 55, no. 2 (2010): 148.

42. On how the technical flaws of Agfacolor in terms of saturation were rhetorically framed as a supposedly tasteful "natural" look see Josephine Diecke, "Agfacolor in (Inter)national Competition" and Michelle Beutler, "Standardizing Color Film: Technicolor IV and Agfacolor in the 1940s" both in Flückiger et al. eds, *Color Mania: The Material of Color in Photography and Film* (Fotomuseum Winterthur, Lars Müller Publishers, 2020).

43. Xin Peng, "Colour-as-Hue and Colour-as-Race: Early Technicolor, Ornamentalism and The Toll of the Sea (1922)," *Screen* 62, no. 3 (1 September 2021): 287–308, Yue, *Girl Head*, 54-56; Winston, "A Whole Technology of Dyeing."

44. Weber, "Germany's Agfacolor Can Help British Studios."

45. Shirley was supposedly the name of the first model used by Kodak for these images while the "China" of the China girl is a complex amalgamation of a racialised term (despite East Asian women rarely featuring in these images outside of Asia) and chromatic whiteness related to porcelain, explored by Yue in *Girl Head: Feminism and Film Materiality, Girl Head* (Fordham University Press, 2020), 33-72. On this particular test card see Franziska Heller, *Update!: Film- und Mediengeschichte im Zeitalter der digitalen Reproduzierbarkeit*, (Brill/Fink, 2020), 45; Bernien, *Chromapolitics,* 79-80.

46. Mica Levi quoted in Scott Roxborough, 'The Zone of Interest', *Hollywood Reporter* 429, no. 32 (7 December 2023), 24. "Eructions" is informed by the astute analysis of these sequences in David Hering, 'Viewing the Ob-Scene: On Jonathan Glazer's "The Zone of Interest"', *Los Angeles Review of Books*, 4 March 2024.

47. Alongside Martin Amis and casting director Simone Bär.

48. On Bystron-Kolodziejczyk see Herzog, "Proximities of Violence."

49. "Q&A with Director Jonathan Glazer," *The Zone of Interest* Electronic Press Kit.

50. "Q&A with Director Jonathan Glazer," *The Zone of Interest* Electronic Press Kit.

51. Wulf worked at Auschwitz III established by IG Farben.

52. Viewers can see colour footage of scenes captured using thermal sequences as

an extra on the Blu-Ray release of the film.

53. *Sicario*, *Sicario 2*, *Predator* and *The Zone of Interest* all used FLIR cameras, while Aggro drift was filmed on an infrared camera borrowed from NASA. See Andy Battaglia, 'Adventures in the Vapor World', *Art in America*, December 1 (Winter 2023): 91.

54. Steve Chagollan, "The Zone of Interest: Next Door to Evil," *American Cinematographer* 104, no. 12 (December 2023): 77.

55. Glazer quoted in Roxborough, "The Zone of Interest." For the manufacturers website see https://www.flir.co.uk/.

56. There are in fact five birds-eye-view shots in Glazer's film that offer a similar gaze, most notably in the shot showing the crematorium plans, or the meeting room of the Kommandants, which reproduces a way of seeing—rationalised, schematic, abstracted—that cannot be disentangled from the cold logistics of genocide.

57. Starosielski, *Media Hot and Cold,* 187.

58. Lisa Parks, "Vertical Mediation and the US Drone War in the Horn of Africa," in Lisa Parks and Caren Kaplan eds., *Life in the Age of Drone Warfare* (Duke University Press, 2017), 145.

59. "Your Perfect Palette," FLIR website, https://www.flir.co.uk/discover/ots/outdoor/your-perfect-palette/.

60. Quoted in Battaglia, "Adventures in the Vapor World," 91.

61. See Jennifer Bajorek, "On Colour Photography in an Extra-Moral Sense: Third Text," *Third Text* 29, no. 3 (May 2015): 221–35; Starosielski, *Media Hot and Cold*, 170-187.

62. Quoted in Tom Seymour, "Richard Mosse – Incoming," *British Journal of Photography*, 15 February 2017, https://www.1854.photography/2017/02/mosse/.

63. Bishop described how fruit had to be placed in warm water to register on the thermal camera, while the camp's sign also had to be heated-up to be legible.

64. Richard Dyer, *White*, Twentieth Anniversary Edition (Routledge, 2017), 84.

65. Dyer, *White*, 44-45, 82-144.

66. This thesis underpins both Anne Anlin Cheng, *Ornamentalism* (Oxford University Press, 2021) and Anne Anlin Cheng, *Second Skin: Josephine Baker and the Modern Surface* (Oxford University Press, 2013). "Unfleshliness" is from Cheng, *Ornamentalism*, 6. Cheng uses the idea of "unfleshliness" to explore ideas of Asiatic femininity as construed through inorganic surfaces, but I borrow the term here in conjunction with Dyer to think about disembodied whiteness.

67. Glazer quoted in Roxborough, "The Zone of Interest."

68. Dyer, *White,* 132-142.

69. Hansen, "'Schindler's List' Is Not 'Shoah,'" 302.

70. On the use of Eastmancolor see Cloquet cited in Roy Armes, *The Cinema of Alain Resnais* (Zwemmer, 1968), 50.

71. Bishop discussed roto work undertaken in India during our interview.