

Thermal Violence: Heat Rays, Sweatboxes and the Politics of Exposure

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This article tracks the history of the sweatbox as a racialized technology of thermal violence. Through an analysis of the sweatbox's use on the plantations and prisons of the American South, it argues that thermal violence is neither defined by a particular technology nor by exposure to extreme temperatures: it is the manipulation of a body's capacity to mediate heat. As a means of working on the body as a medium, thermal violence reproduces and accentuates difference not only when it is intentionally used to injure particular racial, ethnic, and religious groups, but as it differentially affects bodies according to their social position. Thermal violence has also been a way to enacting harm such that accountability is deflected from the perpetrators to the environment itself. The article reveals that while climate change will devastate environments, especially the environments of already marginalized people, it will also expand the human capacity and the available media for enacting thermal harm. To address the harm of sweatboxing, the article concludes that in addition to a politics of exposure, an orientation to *thermal autonomy* is needed to make these invisible coercions visible and to better account for the racial regimes of thermal violence.

Introduction

In 2010, the United States military deployed a new technology to Afghanistan: the Active Denial System. The 'Heat Ray', as it is nicknamed, directs a millimeter wave beam, a microwave, at human subjects up to about a half-mile away. Electromagnetic radiation penetrates the skin of a human body only 1/64th of an inch, but produces an extraordinary sensation of being burned—of being scalded by hot water or lit on fire. After firing thousands of test shots on the bodies of volunteers, the military reported that the system left no mark or burns, and yet 'the instinctive repel response is universal' (LeVine, 2009: 6). It was, some argued, the 'Holy Grail of crowd control' (Shachtman, 2007).

Unlike other ‘non-lethal’ means of control, such as taser guns and tear gas, the Active Denial System works at a distance, a means of weaponizing the spectrum to generate thermal sensations. The system is akin to existing forms of torture by media: sound cannons that damage the hearing of protesters and strobe lights used in prisoner interrogation. And like the techniques of psychological operations, the heat ray is described as a psychological, communicative, and affective tool, one that conveys an impression of being burned without actually being burnt (Figure 1). In the military’s attempts to demonstrate the system’s immateriality, it has become one of the most-studied non-lethal weapons in the history of the Department of Defense, with its precise effects documented by independent review boards, human effects researchers, and technology specialists. These groups regularly conclude that this is one of the least physically-intrusive crowd control and security technologies, and within established limits, enacts no physiological harm on its targets—merely a sensation of harm, a sensation of *heat*. The military even staged events to garner support for the Active Denial System, including publicity days where they zapped reporters and demonstrated the absence of burns, scars, or debilitation. Despite their investment in legitimizing the weapon, it was ultimately recalled from Afghanistan. It was subsequently redubbed the ‘Assault Intervention Device’ and installed in the Los Angeles County Jail.

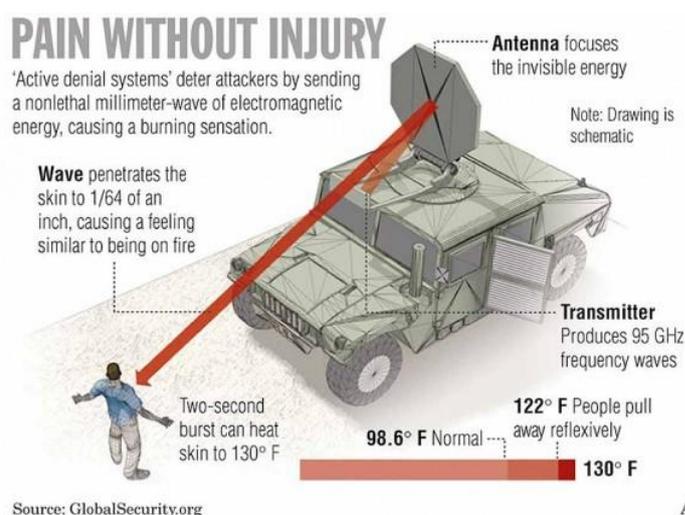


Figure 1. The Active Denial System is described as transmitting ‘pain without injury’ (Clark, 2013).

The Active Denial System sparked the public imagination in part because it recalled sci-fi weapons of bodily disintegration.

It also troubled many viewers because it left no trace. It operated invisibly and inaudibly, a form of ‘no-touch torture’ intended to stimulate only the thermally-sensitive nerve endings in the skin. It produced a behavior that could be perceived as intentional: a jump away from a zone of conflict. On one hand, violence needs to be legible, visible, and documentable in order to make calls for accountability. Those who opposed the technology were aware that, once adopted, the Heat Ray’s lack of traces could close the space for contestation.¹ On the other hand, *the indeterminacy of heat effects*—the ongoing difficulty of locating the precise effects of temperature on bodies, despite an immense amount of research—opened up a space for speculation about what the system could do. Just like other forms of communication, the exact reception and impact of heat rays escape scientific prediction. The few Air Force members that were ‘accidentally’ burned only heightened this speculation.

Although the Active Denial System gained widespread attention for its seemingly new use of heat as a mechanism of bodily harm and control, thermal violence is a long-standing mode of manipulation, albeit more traditionally enacted through proximate, intimate, and architectural means. It is an update of other forms of thermal torture and punishment, ranging from the confinement of people in sweatboxes; to the blasting of prisoners with fire hoses in subzero conditions; to the submersion of bodies deemed sexually deviant in ice. In this article, I chronicle a specific history of one of these precursors, the sweatbox, in order to articulate a politics of *thermal violence*. I argue that thermal violence is not defined by a particular technology nor by exposure to extreme temperatures: it is the manipulation of a body’s capacity to mediate heat. Thermal violence inhibits and pulls, constrains and extends, blocks and fills. It is a means of altering the body’s mediating capacities, either making it transmissive or forcing it to store excess heat. As a means of working on the body as a medium, thermal violence reproduces and accentuates difference not only when it is intentionally used to harm particular racial, ethnic, and religious groups, but as it differentially affects bodies according to their social position.

Thermal violence, as I describe it here, entails manipulating the body’s internal dynamics and has often been a means of enacting harm in ways that deflect accountability from the perpetrators to the environment itself. Those who execute these techniques harness both the power and the excuse of climate. This *environmental deferral* is possible in part due to the indeterminacy of heat-effects. The fact that bodies thermosense

and react to temperature differently opens a loophole for denial. Although this essay focuses on an explicit case in which communication via heat, and via architecture, air, and water, is an intentional activity—where there is a conscious manipulation of the elements, the environment, and architecture *as media* for thermal transmission in order to alter bodily activity—most thermal violence does not look like the Active Denial System or a burst of freezing cold water (both structured as conduits of thermal transmission).² Thermal violence is often a ‘slow violence,’ which as Rob Nixon describes is ‘neither spectacular nor instantaneous,’ but accretes over time, often incrementally and out of sight (2011: 2). Thermal violence is the manipulation of ecologies, systems, and elements in order to alter the capacity of bodies to *emit* heat and maintain thermal states, which often increases their precarity to other phenomena. It operates through the placement of bodies in the ‘thermal margins’, as Joanna Radin and Emma Kowal describe them, ‘the zones of precarity, ambiguity, and unexpected generativity that also reorganize ideas about what it means to be and remain alive’ (2017: 5). While climate change will devastate environments, especially the environments of already marginalized people, it will also alter the thermal contexts of existing architectures and inhabitations. It will expand the human capacity and the available media for enacting thermal violence. The latter half of this essay describes one place where such violence has already increased and accountability has been deferred to the environment: in the prison cell.

Threaded through this essay is a question about whether *exposure*, as a dominant paradigm for describing thermal harm, is sufficient to contest thermal violence. The conception of thermal exposure (the contact between a discrete body and external environment) models thermal exchange on a classical form of communication: there is direct channel, a sender, and a receiver. As I describe in the final pages of the essay, despite the advocacy that has been successful within this paradigm, thermal exposure is limited in a number of ways: it fails to account for the durational effects of thermal violence and it often ignores the actual body, assuming a subject without race, gender, or sex. To supplement existing work on exposure, I suggest that a politics of *thermal autonomy* can make these invisible affects and coercions visible, and better account for the vulnerabilities of bodies and the racial regimes of thermal violence.

Sweatbox

The box is only slightly larger than a person's body. It is a vertical coffin. There is not usually room to sit or rest. One has to stand up. There are holes for air circulation, perhaps one inch by four inches, and water might be received once a day. This architecture appears to separate the prisoner from the guard, a proto-form of today's no-touch torture, but the sweatbox is designed to penetrate bodies and manipulate their temperature, using the materiality of wood to intensify the sun's rays, restricting water that might let them perspire, forcing them to stand (and exert energy to balance), and limiting the capacity for respiration that releases heat from their internal organs. It is an apparatus that uses air, water, wood, metal, and the body itself to limit one's ability to exert heat into the world. The sweatbox is placed in a cold, damp place during the winter. While the design of the sweatbox in the summer restricts transmissions through the body, consolidating heat within the skin, in the cold and wet the same set of materials transforms the body into a conductor. Water is used to release the heat in the body. Immobilization and withholding food are tactics to restrict metabolism, and in turn, the body's ability to generate additional heat. The sweatbox, in other words, is not simply a cell of confinement that happens to be placed in a hot or cold environment. It is an architecture that reorganizes the very capacities of one's body to mediate heat, a thermal violence of the most intimate kind.

The sweatbox was not limited to the plantations of the American South—it had been used to punish both Tory offenders during the American Revolutionary War and Native Americans, but the form described here crystallized in its development by Southern enslavers (Sifakis, 2003: 251). Despite the scarcity of slaves' testimony, existing narratives suggest that enslavers used the sweatbox to punish significant transgressions, that both men and women might be imprisoned in it, and that it became part of what Darla Thompson identifies as the 'infrastructure of slavery' (2014), a set of technologies and practices that helped to maintain slave owners' 'absolute monopoly of violence' (Davis, 1972: 85). Although less often represented than other forms of physical torture, the sweatbox was so imbricated in the South's racialized landscape that it was known not just as a sweatbox, but as a 'nigger box'. Describing his enslavement to a Works Progress Administration interviewer in 1936, Prince Smith recounted that the sweatbox was so small that a person would have to be squeezed in. In the summer it was put in the hot sun, and in the

winter in the ‘coldest, dampest place’ (117-118). Another former slave recalls that in the sweatbox they would be fed cornbread without salt, and just plain water. If a slave had done something big enough, he told his interviewer, he would be kept in the box for months. By the end he would be ‘“nothin” but skin an’ bones an’ scurcely able to walk’ (Shelby, 1937: 159-160). The details of these men’s accounts reveal that the sweatbox was not simply a physical shell around the human body—a cage constructed by enslavers—but a set of techniques of withholding and restriction. As a result the sweatbox materializes even when there isn’t an architecture built specifically for the purpose of subjugation. Enslavers reappropriated existing architectures towards this end—a wooden barrel or a ‘screw box’ used to press cotton. Although it might appear to observers as a discrete architecture, the sweatbox was a deeply embedded set of cultural practices.

Compared to other practices of physical torture, the sweatbox seemed to some a lesser form of punishment. Janie Scott, who recalled her parents’ experience as slaves on an Alabama plantation, observed that the overseer was not a mean man because he ‘had a calaboose or sweat box to punish unruly slaves in place of whipping them’ (Federal Writers’ Project Vol. 1, 1936: 339). This comparison foreshadows later arguments that the sweatbox was a more humane alternative to other forms of physical punishment. But such statements were made infrequently by those who had been subject to the sweatbox. Although articulated in a radically different historical and cultural context, Chol-hwan Kang’s description of his years in a North Korean concentration camp provides a detailed description of the brutality possible with the sweatbox. He recounts that the sweatbox was ‘one of the harshest punishments imaginable’, and that it

breaks even the sturdiest of constitutions. It is possible to survive it, but the cost is often crippling and the aftereffects are almost always permanent. It is simply grisly: the privation of food, close confinement, crouching on one’s knees, hands on thighs, unable to move. The prisoner’s rear end presses into his heels so unrelentingly that the buttocks turn solid black with bruising. Hardly anyone exited the sweatbox on his own two feet. (2000: 96)

Although a person is not physically touched, their body is *permeated* and could be debilitated to the point of scarcely being able to walk. In chattel slavery, whips and brands left marks that testified to the violence that was enacted, and these

marks were crucial as instruments of management. In contrast, those on the outside of the sweatbox often viewed it as a lesser evil, in part because of the invisibility and the indeterminacy of heat effects—the fact that thermal effects are varied, dependent on context and the particularity of the body, and thus often illegible in rubrics of harm.

Although the sweatbox was formative on the plantation and shaped by its use by enslavers, it also emerged in the key institutional contexts of the nineteenth century, including the school, the prison, and the ship. Following the 1877 riots at the Westborough Reform School in Massachusetts, details were revealed about the sweatbox torture of boys (Massachusetts General Court Committee, 1877: 145). Likewise, mid-19th century reports called attention to the use of the sweatbox in prisons including New York's Sing Sing ('The Inquisition Revived', 1860). The sweatbox was also used as a tool of naval discipline. The surgeon aboard the U.S. Ship Dale recalled a case in 1858 of a young man placed in a sweatbox for six hours without food or water. The surgeon detailed the architectural dimensions (a box approximately 6' 7' by 17.5' by 15') and describes in great length the occurrences before and during confinement: 'the man had already been engaged with the ship's company in exercising sails before confinement', he wrote, 'the day was one of the warmest we have had,' and 'the cells are close by the ship's galley, which, of course, much increases the temperature' (Sherman, 1858: 4). These circumstantial elements were necessary to 'understand fully the severity of the punishment', the surgeon argued. What these cases point to is that the sweatbox was not necessarily harmful by itself, but as it deployed at a particular time, for a particular body, and in a particular environment. It was a contextually harmful architecture of violence. For the young man on the ship, the sweatbox extended from the walls of the cell to the failure to provide food and water, to the abnormal heat of the day to the activity he had been engaged in. All of these things intensified the heat already contained in his body.

In the postbellum period, the sweatbox continued as a means of punishment and coercion across the American South, especially in the prisons and chain gangs that were the new plantations. Even though the sweatbox would be used on white prisoners, by and large it was a means of racialized violence. It was often used selectively, to punish some prisoners and not others: in many places, Black prisoners were more likely to be thrown into the sweatbox than white ones. One journalist wrote during the late 1920s: the 'sweat box was devised, not for the whites of Florida, but for Black Florida citizens' ('The Sweat Box

State’, 1927: A2). As Alex Lichtenstein describes, corporeal punishment, including ‘confinement in a “sweat-box” under the southern sun...was meted out for the most insignificant transgressions, particularly to African-Americans’ (1996: 183). This might cause swelling in the legs that would lead to hospitalization. Death from sunstroke and from suffocation was not uncommon.

In the 1910s and 20s, some reformers of the prison system endorsed the sweatbox in place of ‘direct’ corporeal punishment, even as this practice continued to disproportionately harm and kill Black men. In his detailed study of the Texas prison system, Robert Perkinson documents how after the 1910 abolishment of convict leasing in Texas, legislators hired a reformer as chief administrator who favored the sweatbox as ‘humane alternative to the strap’ (2009: 64). Only a few years later, eight Black prisoners suffocated to death in a Texas sweatbox. This was a higher toll, Perkinson observes, than any single incident under convict leasing. In the early 1920s, following the death of white prisoner Martin Talbert after being flogged, Florida governor Cary Hardee outlawed flogging of prisoners in the state. As in Texas, this prompted a turn—or a return—to the sweatbox as a means of punishment, defined as: ‘a cell with solid walls and ‘3 feet wide, 6 feet 6 inches long and 7 feet from the floor to the grating over the top’ and ‘so constructed that it can be divided across in two equal parts, and a convict may be confined in one half of the space in the day time, but shall have the full space in the night time’ (Esposito and Wood, 1982: 132). This architecture, as it had in years prior, was used to murder Black prisoners, including Henry Ridley, who was killed in a sweatbox at a Florida state road camp in 1927. *The Chicago Daily Tribune* carried only a brief report: ‘A coroner’s jury decided that Ridley came to his death by natural causes, the exact nature of which was not known’ (‘Sick Convict’, 1927: 17).

It was not until the 1930s, thanks to its representation by white authors and its confinement of white prisoners, that the sweatbox gained national attention. In January of 1932, Robert Elliot Burns’ story, later consolidated in *I Am a Fugitive from a Georgia Chain Gang!* was serially published in *True Detective Mysteries Magazine*. Later that year, Jim Tully’s book *Laughter in Hell* (1932) told the story of an Irish-American railroad man sentenced to a chain gang. And only a few months later, the death of the white prisoner Arthur Maillefert, nicknamed ‘Jersey’ for his home state, was accompanied by a sensational, nationally-reported trial. Restrained within the

sweatbox by a chain around his neck and wooden stocks around his feet, he was strangled only shortly after being placed inside. The ‘chain gang hanging’ occurred at the Sunbeam Prison Camp in Florida and became a touchstone for north-south tensions. Following Maillefert’s death, northern news outlets launched a campaign flooded with anti-Southern sentiment to abolish the chain gang (Giovacchini, 2001). In a landmark, and anomalous, decision, the acting captain was convicted of manslaughter and sentenced to 20 years in prison.

As the use of the sweatbox became a national political issue, catalyzed by white authors and white prisoners, the sweatbox appeared in the chain gang cycle in Hollywood, including the low-budget *Hell’s Highway* (September 1932), *I Am A Fugitive from a Georgia Chain Gang!* (November 1932), and *Laughter in Hell* (January 1933). Following the national news, the release of *Hell’s Highway*, and the publicity surrounding Maillefert’s death, a group of white convicts reportedly went on strike at a road camp on October 27, following an attempt to place one prisoner in a sweatbox (‘Florida Convicts’, 1932: 1). When Black people died in the sweatbox, however, few paid attention. John Spivak’s fictionalized account of Black prisoners, *Georgia Nigger* (1932), which ends with the protagonist being thrown in a sweatbox, was overshadowed by the Maillefert case (Lichtenstein, 2007). Very little coverage occurred of cases such as the sweatbox death of Lewis Gordon on August 12, 1941. In the decision of the trial following Gordon’s death,

the judges said the jury was authorized in finding that the ‘proximate cause’ of Gordon’s death was his confinement with 21 other convicts in a small wooden building ‘without adequate air or water.’ According to the evidence, Jacobson placed the convicts in the building and kept them there from 1 p.m. to 8 p.m. while the temperature outside was 105 degrees. The warden was indicted on a charge of murder, but the jury convicted him of involuntary manslaughter. (‘Sweatbox Case’, 1942: 12B)

And in cases like Henry Ridley’s above, the death of these men is often listed as due to an accident or ‘natural causes’, their murder obscured in the designation of manslaughter, the accountability deferred to the environment.

While this history is indicative of systemic racism in the United States, the sweatbox emerges in this context, as a set of cultural practices and material techniques, to become a particular tactic

of racial violence, one that was deemed more appropriate for Black people than white people. Racism, Ruth Wilson Gilmore writes, ‘is the state-sanctioned or extralegal production and exploitation of group differentiated vulnerability to premature death’ (2007: 28). What sets the sweatbox apart from other techniques of racist violence during this period, such as lynching, was its invisibility and indeterminacy. It is foundational to what Darius Rejali calls the ‘American style of stealth torture’, developed by the 1920s and defined by a preference for technologies that left no physical mark (2007: 74). While Rejali and others track the transmutation of sweating and police interrogation through Stalin’s Conveyor system, the German interrogation of British airmen during World War II, and the American torture of prisoners at Guantanamo, the sweatbox continued to persist in the United States, and especially in the American South as a means of bringing about the premature death of Black people. That history—the way that the sweatbox pioneered a form of racialized violence that could remain invisible and escape direct contestation—remains less frequently documented.

The sweatbox, and sweating as a form of interrogation, was used during the American Civil War to gather military information, often with a hot stove located next to a cell (Rejali, 2007). The first widely reported instance of sweating was that of John Stapler, a Black man who was arrested and kept in a sweatbox for 30 hours in order to obtain a confession. After the event, Stapler spoke at public events, becoming well-known for the sweatbox incident. From the late nineteenth into the early twentieth century, the sweatbox emerged as an important technology for police interrogations, escalating following World War I. Sweating a suspect, even as it was used broadly by the police, continued to be a racialized tactic. In the ‘sweat box case’ of 1902, the Mississippi Supreme Court threw out the conviction of Edward Ammons, whose confession was deemed involuntary after being kept in a sweatbox during the heat of summer. In his discussion of the case, Christopher Waldrep describes the police work of softening up ‘black suspects for questioning in a five-by-six foot box, or “apartment”, covered in blankets to deprive inmates of even a stray ray of light or a breath of fresh air’ (2010: 213). Prisoners were allowed no communication with others, aside from interrogators.

These forms of thermal discipline were legitimated by the dominant knowledge, both scientific and popular, about Black bodies during the nineteenth and early twentieth century. During this period theories of climatic determinism that linked

climate and race circulated widely. These originated in western thermal theory (Aristotle asks: ‘Why are the inhabitants of warm regions cowardly, and those who dwell in cold regions courageous?’ (1984: 1415), but took on a particular nature in relation to slavery. Some variations of climate determinism suggested that Black bodies took on too much heat, and thus became volatile. Counter to this, another dominant white paradigm for thinking about the black body was characterized by what John Hoberman describes as a ‘special black vitality’, which abides by ‘the doctrine of black immunity to heat’ (1997: 169, 175). As he observes, this ‘“biological fitness” argument’ worked to legitimate ‘slave labor by endowing blacks with a special capacity for exertion in a hot and humid climate’; this occurred around the globe, including on southern plantations, and it eventually became ‘medical folklore’ (1997: 171). The sweatbox, in its many manifestations in the southern United States, was aligned with and legitimated by both of these racial knowledges. On one hand, Black bodies were the most appropriate and receptive for thermal conditioning. On the other hand, they were seen as immune to thermal transmissions.

I chart this history of the sweatbox in order make several points. First, in the United States, thermal violence emerges as a racialized tool of disciplining Black people, first by enslavers, and later across the institutional contexts of the nineteenth century, especially in policing and the prison system. Across these contexts, even though it appears to be less intrusive than direct corporeal punishment, the sweatbox functions as a means of intimately affecting bodies while escaping accountability: repeatedly such incidents are recorded as death by ‘natural causes’; not as murder—the lack of volition associated with thermal exchange enables this environmental deferral. Given the use of the sweatbox on plantations and the ongoing racism in the United States, deniability was not essential for this technique to emerge. But, as I will describe in the next section, these practices pioneered a mode of weaponizing the environment that would become much more widespread and ever more accessible in an era of climate change. Second, the power of the sweatbox depended, not simply on the *exposure* of a person to thermal phenomena, but rather on the manipulation of their ability to retain, mediate, or release heat. This was done not simply through the use of wood, metal, or air conditioning, but through the manipulation of movement, position, and food. The key operation of the sweatbox is to either concentrate heat, transforming one’s body into a storage medium for heat, or to quickly transmit cold through one’s body. This shifts one’s capacity for life, altering a person’s breathing, metabolism, and awareness. Understanding the sweatbox as a cultural technique

of thermal violence, rather than a discrete architecture, makes clear that even after the 3' by 3' box disappears, the culture of sweatboxing persists as part of Saidiya Hartman describes as 'the afterlife of slavery' (2007: 45).

Prison

Outside the city of Jacksonville, Florida, not far from the location of the Sunbeam Prison Camp where Arthur Maillfert died, the legacy of the plantation sweatbox lives on in the Union Correctional Institution. Formerly called the Raiford Prison and the Florida State Prison, it was established in 1913 and was one of the last to abolish convict leasing in 1923 (many prisoners were simply transferred to the prison's farm, a State-run plantation). Today, the prison is part of a complex stretching for miles, encompassing several more recent units and acres of cattle ranching (the institution was originally placed under the Department of Agriculture in Florida's constitution). Raiford is a prison-agricultural complex in which the labor of incarcerated people powers a food system; the beef cattle emit nitrogen, consume massive amounts of water, and contribute to global warming; and Raiford's forestry projects, also worked by prisoners, decrease the number of trees to absorb carbon. In turn, the changing climate increases the human capacities for thermal violence against these same prisoners.

Even after the national anti-sweatbox advocacy of the 1930s, the 6' x 3' sweatbox at Raiford was still used as a means of punishment. In the 1940s, another wave of sweatbox opposition swept the area, but it remained relatively local and focused specifically on the prison. This followed the death of another white prisoner, a military veteran. Through the 1950s, men were reportedly kept in the sweatbox for over a week, with a half-pound of cornbread and water (Figure 2). After the official use of sweatboxes stopped in 1958, guards adopted other means of sweatboxing. Marvin Johnson, who arrived at Raiford in the 1960s, recalled that 'inmates could be put in "the box", a small outdoor cell that guards closed off during the day, so the temperatures would rise to 110 degrees, and opened at night, so the mosquitoes could feed' (Booth, 1994). At Raiford, as in other prisons across the country, the 'official' sweatbox architecture disappears only to be replaced by the prison cell itself.



Figure 2. Sweatbox at Raiford Prison, Florida in 1957 or 58 (Florida Department of Corrections, 2018a).

This is nowhere more true at Union Correctional than in the Death Row block. David Martin, a prisoner in this unit, succinctly puts it: ‘If it’s Summer, it’s extremely hot on the wing, while during Winter it’s extremely cold’ (2015). Death Row is not simply an architecture of isolation separating the men from their surroundings. It is an architecture of environmental intensification. In the late 1990s, to sit in Raiford in the summer was to be baked. This was especially true during the 1998 heat wave, during which almost 1,500 maximum temperature records were tied or broken across Florida (Florida Health, 2018). On Death Row, there was no air conditioning. There were no circulating fans. The men were prohibited from having personal fans. They did what they could to keep cool, using various materials (often the cardboard backing of legal pads) to deflect air from vents onto themselves. Prison officials then banned the use of these ‘air deflectors’, and stopped running the ventilation system. Moreover, the restriction and strict definition of flow into and out of the cell, a key feature of sweatboxing, limited the inmates’ ability to modulate their own body heat. They were confined to their cells 24 hours a day, allowed out only a few times a week for showers and exercise. The cattle down the road on the prison farm received water and were free to move

to cooler areas. But the death row prisoners held still as the heat accumulated in their bodies. The prison guards did not build the cells. They did not turn up the heat. Nonetheless, they engaged in a set of practices of sweatboxing: limiting movement, limiting water, and regulating food in ways that amplified the heat stored in the men's bodies. Climate change did not overheat the prisoners, it had merely expanded the ease which with the guards could do so. As had been true for the nineteenth-century sweatbox, thermal violence was enacted not simply through confinement but through a set of techniques and practices.

In 2000, the Death Row inmates filed a class action suit against the prison officials, alleging that high temperatures in their cells during the summer amounted to cruel and unusual punishment. After a denial and an appeal, the court concluded:

According to accepted engineering standards for institutional residential settings, the temperatures and ventilation on the ... Unit during the summer months are almost always consistent with reasonable levels of comfort and slight discomfort which are to be expected in a residential setting in Florida in a building that is not air-conditioned. (Chandler v. Crosby, 2004)

Here, statistical data and engineering standards, which define a uniform level of comfort for a non-air-conditioned building, are drawn as a comparison for the prison, and a legitimation for their thermal practices. In this ruling, the multitude of ways that temperature and heat are manipulated (water, food, movement, air circulation, the capacity to change position, shade and sun, and so on) were ignored or marked as irrelevant. As in earlier moments, when enslavers used sweatboxes instead of traditional corporeal punishments or when the prison cell replaced the wooden box at Raiford, this is an instance where the limited understanding of thermal violence as enacted by a built architecture or exposure to extreme temperature obscures the harm that is done.

During this period and in the years that followed, the American Civil Liberties Union's National Prison Project mounted several cases against prisons, many of which included some form of sweatboxing. There were a few small successes. In 2002, following a hunger strike by inmates on the Mississippi State Penitentiary's death row—which like Union Correctional, was established as a prison plantation in the South (it was set up in 1901 on the site of an existing plantation) and a means of upholding white supremacy—the ACLU uncovered numerous

forms of sweatboxing (Vassallo, 2002; Winter and Hanlon, 2008). The Court ordered ‘immediate remedies’ for these practices (ACLU, 2003a). In 2003 in Baltimore, a court ordered the declaration of a ‘heat emergency’ when temperatures in one women’s prison exceeded 90 degrees for more than four hours, and the provision of air-conditioned bed-space for prisoners at risk for heat-related illnesses (ACLU, 2003b). The following year the U.S. Court of Appeals for the Seventh Circuit ruled that prison officials must cool the prison cells at a facility in Boscobel, Wisconsin. The judge decided: ‘Defendants constructed a facility in which inmates are subjected to temperatures that can pose a serious risk to their well-being...If air conditioning is the only means of avoiding that risk, that is a function of defendants’ decision to build the facility as they did. Leaving inmates vulnerable to serious health consequences or death is not a reasonable alternative’ (ACLU, 2004). In this anomalous ruling, the prison officials were held responsible for the thermal effects of the buildings they occupied.

Despite these successes, anti-sweatboxing advocacy continues to face challenges specific to thermal violence. The temperature of prison cells and the effects of the heat on the bodies of incarcerated people is rarely officially archived. During trials such as the ones above, medical experts visit and testify to prison conditions. Inmates aren’t allowed to do their own technical thermal readings. But temperatures vary and rarely leave a physical trace, even in the case of death. There are of course exceptional moments when thermal violence is perceptible, clearly volitional, and as a result, better publicized. Take for example, the first recorded use of air-conditioning in a sweatbox in 1961, when during the Civil Rights protests in the Mississippi State Penitentiary inmates were first soaked with a fire hose and then the air conditioning was turned on for three days (Rejali, 2009). Or the 2012 death of Darren Rainey, which occurred when guards at the Dade Correctional Institution locked him in a shower and turned the heat up until his skin fell off (Iannelli, 2017). Such cases are exceptional, documented and better publicized, while most thermal violence remains hidden.

The indeterminacy and contextual nature of thermal violence is also a challenge to those who advocate for change. To return to the examples at the outset, the Active Denial System and other means of military and government torture, the acknowledgement of the thermoceptive body can be used to legitimize thermal violence and to deny its impacts. In one CIA report, a source argued that the use of cold was not an interrogation technique ‘per se’, and commented, ‘cold is hard

to define. He asked rhetorically, ‘How cold is cold? How cold is life threatening?’ (Office of the Inspector General, 2004: 75). Even though there is an extensive amount of research and guidelines that define how cold is too cold, for the CIA, like the military in the case of the Heat Ray, the contingency of the body is used to ultimately concede that thermal effects vary widely depending on particular circumstances. And this is backed up by the science of the thermoregulatory system, in which bioengineers observe the capacity of the human body ‘to survive exposure to a remarkably broad range of environmental thermal stressors...all while maintaining the nearly constant core temperature necessary for health and well-being’ (Hensley et. al., 2013: 1). This is the loophole that enables officers to use their own judgment and then deny their own accountability in the process.

Thermal violence, as it intensifies heat in the body and shapes a person’s capacities, brings one closer to death in many ways that escape scientific analysis. But the traces of thermal violence in prisons are available in prison writings, which make obvious the multitude of ways that heat and cold are weaponized, and how they differentially affect bodies. Ramon Pequero, describing the suicide of his friend, writes:

I know he was stressed out. I was stressed out. We had to endure six consecutive days of near one hundred degree weather and the humidity raised the heat index making living in the cell unbearable. I reason, he just couldn’t take it anymore... Guys around here are dropping like flies. In the same week Bill hung-up another guy followed suit. Sadly, Bill was the third of four suicides since June 2010. In the Box. (Pequero, n.d.)

How many of the people buried in the prison cemeteries, whose deaths were recorded as suicides or ‘natural causes’ were brought there by thermal violence? A Texas prisoner reports, ‘During the summer time, it gets so hot in these red-brick ovens they call penitentiaries, men suffer heat-related deaths every year’ (Prison Vitality, 2015). The people in these prisons, just as the people who were thrown into sweatboxes on the plantations or in the chain gangs, know that the environment can be used against them. They hold with them an anticipation of the seasonal changes that can be harnessed to bring about premature death.

While there is a massive apparatus that tracks global climate change, the influence of heat and cold on the bodies that will

suffer the most remains relatively undocumented. And like the earlier sweatboxes, part of the power of the prison's thermal violence is its indeterminacy, its potential to sort bodies on the basis of existing vulnerabilities, and its deferral of accountability. Like the earlier sweatboxes, these are racial projects. On Florida's Death Row, 38% of the prisoners are black (compared to 31.4% of the state prison population, and 16.8% of the state's total population) (Florida Department of Corrections, 2018b; United States Census Bureau, 2016a). In Texas, the Death Row population is 43.7% black (compared to 34% of the prison population, and 12.6% of the state population) (Texas Department of Criminal Justice, 2016a; Texas Department of Criminal Justice, 2016; United States Census Bureau, 2018). While on one hand, these numbers are indicative of racism in the United States, they also mean that thermal violence concentrated on Death Row is concentrated in the bodies of the Black people who live there.

Statistics aside, people in prison identify these thermal practices as part of racial supremacy. In an essay for the *Prison Writers Project*, Muti A. Ajamu-Osagboro writes, in a description worth citing at length:

The attacks against your being while in prison are multifaceted in general, but in the hole those attacks are accelerated. The cells are brutally cold... constantly! The heat, or lack of it, is controlled by staff. My hands and feet are always like ice cubes, numb and with very little or no feeling... We're freezing. The air conditioner is blowing (full blast)'. — Ronald Yandell, Hunger Strike leader at Pelican Bay State Prison.... Princeton's Dr. Cornell West, had it absolutely right when he said, 'We're talking about something that is somatic. It's at the level of body and it's sonic, at the level of sound. We don't even like the sound of your name. You see that's White supremacy at a deep level'. (n.d.)

Instead of sound, Ajamu-Osagboro points out the ways that temperature—coldness and heat—work at the level of the body, somatic attacks against one's being, making one's hands like ice cubes and withdrawing feeling from one's feet. Across the prison system, temperature control is a means of enacting white supremacy as a deep level, an intimate means of racial violence.

This description echoes a multitude of stories from others. In her 1978 essay, 'Women in Prison: How We Are', Assata

Shakur begins: ‘We sit in the bull pen. We are all black. All restless. And we are all freezing. When we ask, the matron tells us that the heating system cannot be adjusted’ (1978: 8). Analyzing this moment of thermal violence, Stephen Dillon connects it to a long past, writing that ‘affect continually forces the past to open directly onto the present. Frozen skin speaks in a way that words cannot. In prison, shivering black flesh weighted with chains looked like slavery’ (2012: 114). The prison sweatbox, and the plantation sweatbox out of which it emerges, both harken back to the thermal violence of the slave ship. Olaudah Equiano recounts of his time on the ship:

The closeness of the place, and the heat of the climate, added to the number in the ship, which was so crowded that each had scarcely room to turn himself, almost suffocated us. This produced copious perspirations, so that the air soon became unfit for respiration, from a variety of loathsome smells, and brought on a sickness among the slaves, of which many died. (2003: 58)

The slave ship becomes as a sweatbox, producing perspirations and thermal emissions so thick that the slaves’ breathing became difficult and their bodies were made more vulnerable.

The effects of temperature, of heat and cold, are not simply physical or physiological, and for this reason often appear indeterminate. As Joy Parr has argued, a body is a ‘synthesizing instrument that defies the categorical and linear descriptions of language and science’, and that ‘they are not only being *conditioned* by circumstances, they are also enduring reservoirs of past practice’ (2010: 4, 8). For those Black persons in prison cells, thermal violence elicits a ‘sensorial attunement’, as Marina Peterson describes it, in which heat links ‘temporal moments materially and metaphorically’ (2016: 93). Even as thermoregulatory experts visited the prisons to gather evidence for legal cases, they failed to grasp the ways that these architectures opened incarcerated people not simply to extreme heat or cold but to a history of slavery and thermal conditioning, an intimate form of violence intended to bring subjects into line, not via changes in ideology or verbal communication, but through the direct manipulation of bodily matters and affective states.

Thermal Autonomy

In the Prison Strike of 2018, incarcerated people from across the United States and around the world advanced a set of demands, the first of which was for ‘[i]mmediate improvements to the conditions of prisons and prison policies that recognize the humanity of imprisoned men and women’ (Incarcerated Workers Organizing Committee, 2018). While neither temperature nor sweatboxes were specified in the list, the heat waves of summer 2018 may have been in the organizers’ minds. Many advocates of reform have focused, like the ACLU, on setting exposure zones and temperature limits, as well as describing mitigating practices, such as distributing water, circulating air, and so on, in the case of extreme temperatures. Defining limits to exposure is a critical step in achieving practical reforms for those who are thermally assaulted. A definition of thermal rights could not only help to alter prison conditions, but also to mitigate the effects of climate change on vulnerable populations more broadly. Take, for example, Leigh Phillips’s article, ‘In Defense of Air-Conditioning’, which argues that the right to air conditioning ‘should be to have free or cheap, reliable access to the thermal conditions optimal for human metabolism (air temperatures of between 18 degrees C and 24 degrees C, according to the World Health Organization). Neither too hot nor too cold’ (2018). Acceptable temperature norms could form a basis for institutions to engage in technological strategies, such as the extension of air-conditioning, in order to shield bodies from fluctuating temperatures.

One aim of retelling this history of sweatbox operations has been to substantiate such claims. Here I describe how thermal violence has been present not only in the massive ‘Heat Ray’ guns or in interrogation techniques, but also in everyday practices in fields and in prisons. It is an intimate and affective form of violence that penetrates deep within the body under attack, altering its capacities for mediation and for life. But this long history of the sweatbox also reveals some limits to the paradigm of exposure. First, exposure is often circumscribed to the moment of violence, both temporally and spatially: harm seems to occur in the moment a beam hits a body, ends when that body leaves a cell. In this form, thermal transmissions appear to operate in a sender-receiver model of communication. However, as I’ve described here, the power of thermal violence is as strong in its aftermath as in the moment of exposure. Bodily capacities can be invisibly shaped or manipulated in ways that cause ripple effects and conditioning for one’s future.

Affects can be drug up from the past. As Christina Sharpe writes,

slavery was not singular; it was, rather, a singularity—a weather event or phenomenon likely to occur around a particular time, or date, or set of circumstances. Emancipation did not make free Black life free; it continues to hold us in that singularity... anti-blackness is pervasive as climate...it is not the specifics of any one event or set of events that are endlessly repeatable and repeated, but the totality of the environments in which we struggle. (2016: 106)

Just as anti-blackness operates as climate, climate is harnessed as a technique of anti-blackness. The thermal violence of this past can become a form of *thermal trauma* that repeats, not as a blast or a shot, but as a set of ecological constraints and pulls and repetitions.

The paradigm of exposure also fails to grapple with thermal effects caused even within set temperature limits by practices of sweatboxing; forced movement or stillness; regulation of vital substances and so on, which limit of the body's mediating potential for heat. Most violent thermal effects do not occur through the actual or intentional alteration of climate. Exposure also remains based on a conception of humans distinguished from their environment, and in many cases, the only possible recourse in this framing is to see the institution as a means of protecting its prisoners from an external climate. This thinking mirrors many histories of technology, which tell us it is through thermal management that civilization develops in the face of a harsh and threatening environment. Most forms of thermal violence, as are clear at Raiford, are historically shaped, culturally conditioned, and structural. It is not the sun-heat responsible for death, but a re-engineering of elemental capacities for transmission, which in turn limit the degree to which bodies are able to emit heat. Lastly, the political and logistical challenges of extending technologically-mediated thermal zones, especially air-conditioning, in a moment of changing climate could position environmental advocates against inmates and others who are made susceptible to heat through thermocultural practices (Heller, 2016).

Yet when one moves beyond exposure, as many of the personal testimonies and scientific studies acknowledge, one can see that that thermal violence is best pre-empted by *thermal autonomy*: the ability to regulate and mediate one's positionality within the

thermal world. Take for example Susi Vassallo's description while visiting the Mississippi State Penitentiary:

An individual free to respond to the stress created by a hot environment would normally take steps to cool his body. If no air conditioning were available, he would at least respond by seeking a cooler location, blocking out radiant heat from the sun by positioning himself in the shade or screening himself from the sun, maximizing evaporation by wetting his body and clothes with water and using fans to create crossventilation, and moving away from physical structures which absorb and radiate heat. (2002)

The capacity to survive is tied to the fact that all bodies are thermal beings, continually emitting, regulating, being affected by heat. We do not stop at our skin. Our capacity to live, breathe, and exist extends in and through the environments around us. As Stacy Alaimo has argued, human corporeality is transcorporeality—our substance enmeshed with the more-than-human world (2010). Acknowledging this extended body and granting thermal autonomy will require more than a change in cell or temperature—it requires an ability to determine the conditions of one's own vitality.

A politics of thermal autonomy makes clear that simply installing air-conditioners in prisons is insufficient to counter thermal violence, just as the elimination of the 'official' sweatbox architecture failed in this project. In both of these cases, although reformers advocated for improvements, each of these reforms ultimately reinscribes a regime that enables sweatboxing by other means. A politics of thermal autonomy reveals that incarceration is not a neutral context in which thermal violence may or may not be enacted, but is a system that itself expands and multiplies the possibilities for thermal harm. Climate change is not a perpetrator of thermal violence, but a phenomenon that increases the human capacity to weaponize architectures and environments. If a politics of exposure can be used to justify increased reliance on institutions and their technologies and architectures, thermal autonomy requires freedom from them. To echo Fred Moten and Stefano Harney's assertion that abolition is '[n]ot so much the abolition of prisons but the abolition of a society that could have prisons', one cannot address thermal violence in an era of climate change by eliminating sweatboxes, but only through the abolition of a society in which climate can be weaponized (2013: 42).

Notes

1. One report on the use of the system in prisons argued that because inmates could 'be subjected to excessive force to inflict pain rather [than] control... it would go undetected because there are no visible signs left on the person' (*Correctional News*, 2014).
2. Here I draw upon theories of the body as medium in work such as Anne Balsamo's *Technologies of the Gendered Body* (1995) and Eugene Thacker's *Biomedica* (2004).

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