

10 The cultural necrotechnologies of capital and the production of (post) industrial capital punishment

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Introduction

The contemporary execution chamber in the United States is a relatively unremarkable space in terms of aesthetics and design. Generally, it is a well-lit, modestly sized room with nondescript walls containing only a clock, with several windows having curtains that can be drawn. There is only a medical bed or gurney and occasionally a chair and small table for placing implements. If every doctor's examination room had blank white walls, given only a quick glance, every execution chamber could easily be mistaken for where you receive your yearly check-up.

This highly medicalized and secluded space inside state- and federal-level prisons has not developed in isolation, nor have the material processes, knowledges, and technologies that exist in and organize this space. This location of post-industrial killing has been developed in an attempt to perfect the "gentle way of punishment" (Foucault 1977, 128–29) out of the ruinous landscape of industrialized killing that modernized the necrotechnologies of capital punishment over the past one-hundred and thirty years.¹ What this means is that there is both an abstract and material industrial heritage to the cultural objects and technological processes used in contemporary executions. The necrotechnologies of capital punishment, therefore, change based on political economic developments and how evolving political economies allow for material resources to be geographically distributed.

Capital punishment in the United States is and has been actively produced at different times within a constantly evolving social formation centered around a dominant capitalist mode of production and the values of indifferent commodity exchange. This production of capital punishment is embedded within and reflects prevailing currents of commodity production and circulation in specific historical-geographical contexts. Capital punishment, therefore, evolves alongside changes in the political-economy (how production and circulation are organized, for example) of a social formation and carries on features from the past with each successive form it takes (Colucci 2019a).

To situate this transitional production of capital punishment, I turn to work on material violence and material culture. The focus here is on the materiality of these two concepts because a materialist conception of human/nature relations allows for a grounded understanding of humans and nature as relationally

co-productive, as opposed to idealist conceptions of space and history (Kirsch 2020). This materialist understanding foregrounds discussions of human/nature relations relative to economic activities by suggesting that human consciousness develops from our material interactions with the world around us. Indeed, as this perspective suggests, the human/nature relation is one that “is not fixed but interacts continuously” in mediating human consciousness as humans engage production processes in service of their survival needs (Anderson 1980, 172).

This insight into how the human/nature relation operates carries significant ramifications for the production of geographic knowledge. Following Anderson (1980, 176), “social forces do not exist independently of time and space; their location in time – space is one of their inherent material aspects.” A materialist conception of violence and culture relative to capital punishment not only demonstrates the uneven distributions and place-to-place variations of the practice’s political-economies but also grounds our understanding of the present landscape of post-industrial capital punishment production in its changing historical-geographical context. In short, the social forces that materially produce capital punishment today – and did so in the past – change with respect to the geographically situated state of human/nature relations where capital punishment is occurring. As political economies transition from industrial to post-industrial, forms of punishment in carceral landscapes transition in kind. To understand how, in certain places, new methods of capital punishment were developed and adopted, we must connect carceral spaces, like the execution chamber, to the material – and industrial – landscapes that produce them.

The remainder of this chapter proceeds from the material to the abstract in order to produce a theoretically and empirically grounded understanding of how the industrial and post-industrial landscapes of capital punishment have developed. As a brief outline, in the next section, I lay out a conceptual foundation that can be used to better contextualize the remainder of the chapter. A third section outlines the production of and transition between industrial and post-industrial modes of capital punishment. It details the extraction of resources and resulting industrial energy sources that are mobilized in the production of electrocution and lethal gas as necrotechnologies of capital punishment and then engages the state of knowledge production and transference as a resource in the production of lethal injection. A concluding section addresses the alienation of production processes and the state of academic knowledge production relative to the violence of capitalist alienation.

Political economies, capital punishment, material culture, and material violence

Following Scott Kirsch (2013, 435), “materiality is not so much ‘indifferent stuff’ but things, living and dead, woven in complex ways into the fabric of human and social being.” He views “materialism in cultural geography as an underlying philosophy of explanation and framework for engagement – that which accords ontological priority to the material conditions of existence, and rejects non-material prime

causes.” The consequence of employing this thinking here is to understand capital punishment not as something that exists and manifests only through abstract cultural ideologies but rather something that exists and changes as a result of and response to material social relations.

To focus on the materiality of cultures and forms of violence, we must pay close attention to how the material conditions of life and death are created in certain fluid spatial contexts. When considering capital punishment, this means focusing on both culture’s materially productive dimensions and the work done by scientists and politicians to produce new objects of nature, culture, and the human body (Kirsch 2014). In this way, capital punishment is just one of many material processes that demonstrate the values of our capitalist social formation. The values a social formation maintains are embodied in the material objects it produces, and it is these objects, when set in motion through human activation, that mediate social relations. For example, James Tyner’s (2014) work on the Cambodian Genocide demonstrates how the social relations involved in the production of mass graves were made possible through the differential access certain populations had to rice and tools used to build irrigation infrastructure (also see Tyner and Rice’s chapter in this volume).

This notion of materiality as both embodying and mediating social relations is likewise the subject of attention in recent geographies of violence literature (Davies 2018; Tyner 2015, 2016; Tyner, Inwood, and Alderman 2014). For example, Tyner and Inwood (2014, 780) write, “it is necessary to move beyond treating violence as simply existing and instead to materially ground it within the mode of production of a particular society.” This reconceptualization of violence serves to break down the false binary of so called structural and direct violence to instead focus on the ‘structures of violence’ in which direct violence or the threat of it is embedded (Tyner 2015). The supposed difference between structural and direct violence rests in a conceptualization that direct violence can be traced to concrete persons or actors intentionally using physical force, while structural violence manifests from inequities built into the structures of a society, where a direct actor is not identifiable. This thinking must change; as Tyner and Inwood (2014, 780) write, “it is incumbent therefore to conceive of ‘structural’ violence as just as ‘direct’ as other concrete actions.”

What this means for the spatiality of social relations is that they “transform with, as well as transform, the mode of production, and if we acknowledge that ‘violence’ is relational, it follows that ‘violence’ will likewise transform over time and space” (Tyner and Inwood 2014, 781). If changing modes of production transform what ‘violence’ is, that means violent material processes and the objects used in them will likewise transform and carry with them changing political-economic and cultural values. To understand the structural values embedded within objects, then, we must focus our attention on the material production of these objects as they relate to the violent lives and deaths of living things.

I bring these two literatures together through a brief example of the initial relations between capital punishment and the emerging capitalist social formation. From the 16th to 18th centuries, criminal codes in England punished several

hundred simple property crimes by hanging (Federici 2004, 152; Linebaugh 2006; Wennerlind 2004, 141). Additionally, in England and France, labor militancy from Luddites and others, who resisted the mechanization of work and resultant loss of jobs by breaking machines, attacking factories, and otherwise protesting, was met with action from the state in the form of trials and executions (Horn 2005). Similar laws and state logics prevailed throughout developing Western liberal democracies and diffused throughout their colonial possessions. Justifications for these legal codes and state responses suggested that such severe punishment was warranted in order to discipline waged laborers to emerging political-economic logics and values of personal responsibility so as to avoid idleness (Federici 2004, 64; Perelman 2000). The plate engravings of William Hogarth's series *Industry and Idleness*, for example, incorporates scenes of responsible work and petty indolence culminating in a plate depicting the idle apprentice's execution. As his art demonstrates, the values of a given social formation – and the consequences for running afoul of them – are often represented in objects of material culture. These examples indicate how the installation and reproduction of capitalist cultural values occurs through the changing production and exchange of material objects, and how the processes of production and exchange are often violent. Repetitive, material industrial work in factories, therefore, reproduce capitalist cultural values by emphasizing the replaceability of laborers and normalizing the everyday violence of modern work by juxtaposing it with the spectacular state violence of execution.

Both the material uses of – and threat of death by – capital punishment was fundamental to the disciplining of labor to the values of capitalist production and consumption. When we ground our understanding of structural problems, like violence or poverty, in their particular historical-geographical material contexts, the uses of particular technologies – like those used in capital punishment – in producing abstract values becomes evident. In this case, the structural values of indifferent exchange – the circulation process that values only abstract exchange to generate surplus value at the behest of the actual material things being exchanged – are manifest in the material objects used to produce direct violence. This means that for a sovereign to produce a material death through capital punishment, the sovereign manifests its right over life in social spaces designed for orchestrated killing and dissemination of the cultural value of that killing. In turn, the values imparted by an occasioned execution are an attempt by sovereigns to delineate social relations. Ultimately, culture and violence – and where they intersect – are both produced and made to be productive. This geography – the *where* of the production of material culture and violence – requires us to briefly explore two related concepts: landscape and base/superstructure relations within social formations.

The production of culture and violence manifests in the form landscapes take, and landscapes themselves are a result of changing modes of production (Mitchell 2008; Schein 2012). As Mitchell (2008, 45) writes, “the spatial form of the landscape is both the result of and evidence for, the kind of society we live in.” As an example, consider a city that invests in design features for park benches that do not allow people to lay down on them but does not enact housing reform or other measures to end homelessness. The form landscapes take reflects geographies of

social (in)justice because it is in the materiality of landscapes where social relations are marked out, indicated, and concretized.

Landscapes both constitute and reflect the social formation of which they are a part. This is analogous to Peet's conceptualization of social-spatial relations within social formations (1978). The concept of a social formation is used to establish an understanding of an internally related social totality (the social world in total) in which humans exist. Far from deterministic, this concept aids in the examination of the dynamic internal (dialectic) relations within a totality by understanding the different but contextually related and changing levels that make up social formations: those of the base and superstructure (Peet 1978, 150). Existing as a dialectic, the base – land, labor, tools, etc. – is the material means of producing the necessities of human life (food, water, shelter), while the superstructure – law, education, morality, philosophy – is the abstract values humans produce and use to understand phenomena (c.f. Horvath and Gibson 1984, 14–15). The proposition is that social consciousness follows from the production of and spatial access to the material needs of life, not the other way around.

How and where the superstructure is organized and exists emanates from how and where humans have established the production and distribution of our material needs, though, oftentimes, through ideologies popularized in the superstructure, conditions at the base can be co-opted, which can alter both how humans access their material needs and the condition of social relations within a given social formation. This problem of access is fundamentally geographic and connects us back to Mitchell's contention regarding the connections between justice and the material form of landscapes: where are the material things humans need to survive, what is their relational distribution, who has greater or lesser access to them, and how is this distribution organized (politically and socially)?

In social formations where capitalism is a dominant mode of production, access to human material needs is geographically variable; even when production of these needs is significant, their distribution to sites of consumption is often inequitable. This inequality, as Mitchell and others make clear, manifests in the material condition of landscapes and demonstrates an underlying violence in the values and ideologies that circulate through material objects and their place as mediators of social relations. Like any other phenomenon, capital punishment exists through material social relations embedded within landscapes of production. For example, for an electric chair to function, electricity must enter a prison. What resources and infrastructure are used to produce that electricity and distribute it to prisons and execution chambers? Lethal gas chambers require poisonous, nitrogen-based gasses; where are these gasses produced and then distributed to execution chambers? For electric chairs and gas chambers to function, living human bodies must also be distributed to execution chambers. What material infrastructure and resources produce this distribution of human bodies? As material objects of capital punishment, how do these resources, energy sources, and human bodily movements constitute the material base of the practice and embody the social relations of their production and consumption?

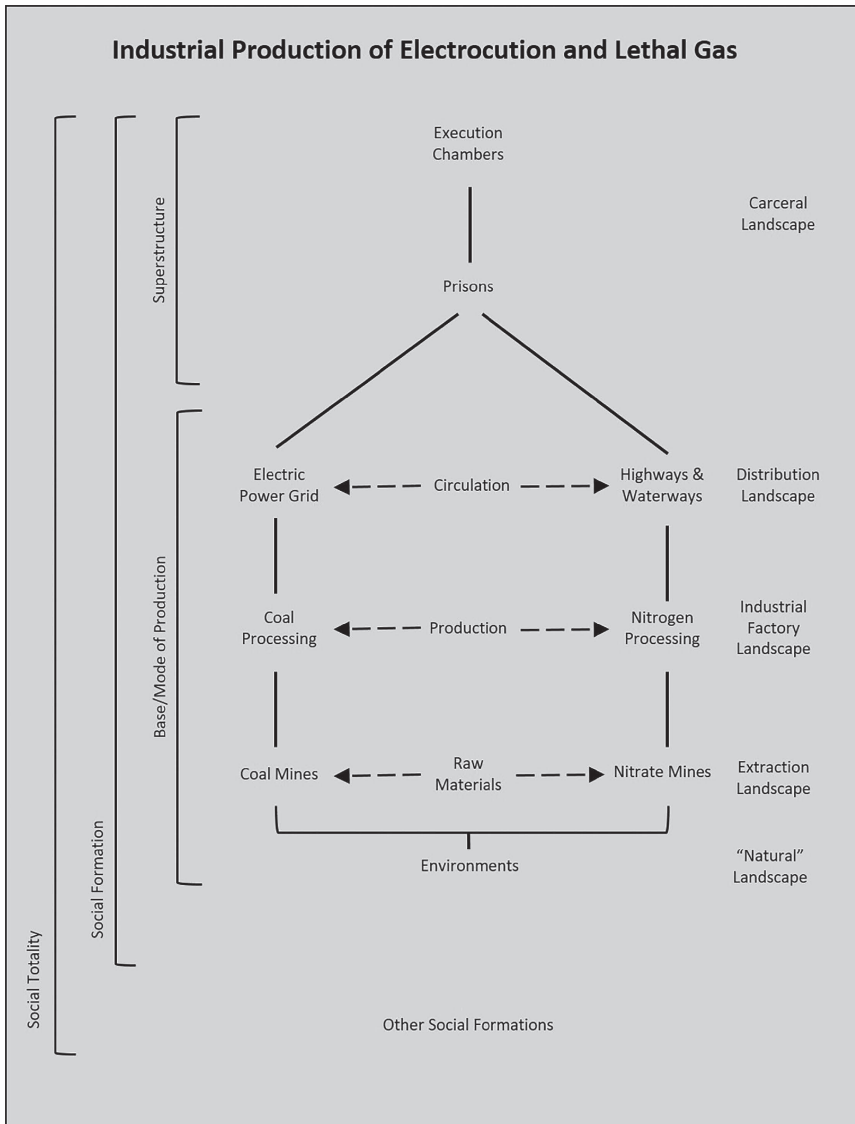


Figure 10.1 This figure demonstrates the organized material circulation of energy sources (electricity and nitrogen-based chemical compounds) in a capitalist social formation

Source: Alex R. Colucci

From this perspective, we can begin to see how the execution chamber is embedded within a wider landscape produced through the connected material cultures of violence and capitalism and therefore industrial work. That means we can see – and must understand more thoroughly – how the knowledges and technologies at work in execution chambers are connected to spaces beyond prisons as part of wider capitalist networks of production, consumption, and circulation. By tracing the networked energy sources of electricity and nitrates used to kill in electrocution and lethal gas execution, the embeddedness of the execution chamber in the American cultural landscape comes into stark relief. In the next section, I detail how the production of necrotechnologies and the energy sources they activate developed materially through indifferent exchange to produce dead human bodies.

Resources, industrial energy sources, knowledge, and necrotechnologies

In social formations dominated by capitalism, development or change is spurred by internal contradictions and resultant crises that emanate from the unevenness of that same development (Harvey 1982, 424; Peet 1978, 152–53). This process of uneven development (crisis – spatial fix – crisis – spatial fix etc.) is extant in any phenomena within such social formations, including capital punishment.

The movement from hanging to other methods of judicial capital punishment in the United States was precipitated by crises of ‘over accumulation’ in its widespread application. Simply, throughout the 1800s, there were too many high profile hangings, in too many places, which received significant popular scrutiny for both their gruesome results and their synonymy with extrajudicial lynchings (Colucci 2019a, 170). At issue for capital punishment states was that rope and wood for scaffolding – the materials needed to carry out hangings – were ubiquitous across the landscape: they were cheap and easy to access. If hanging was to be replaced, other materials would have to be similarly diffused in places where political authorities sought to fix capital punishment through a redevelopment of its material practice.

Industrial electricity

Significant advancement in electrical technology was developed throughout the United States in the late 1800s (Steinberg 2013, 113). The development of coal-fired power plants – and then direct and alternating current technology – was central in allowing for the relatively efficient widespread production and distribution of electricity. Such extensive production and distribution was made possible through the large-scale extraction and burning of coal from Appalachian coal mines and later mines in the Powder River Basin in Wyoming (Hudson 2002, 103, 300). The proliferation of rail lines made moving this coal to areas of high demand cost-effective, making electricity ubiquitous in areas with growing populations and industries. At the same time, states were in the process of constructing

centralized, state-level prisons and phasing out less-secure county-level carceral facilities (Garland 2010, 123). Electrifying these large, centralized prisons became commonplace, especially in the eastern half of the United States – in areas roughly proximate to the centers of coal extraction and power plants. Simultaneously, access to electricity brought enhanced development to communities throughout the U.S., ostensibly improving quality of life at a population level.

This period of time also coincided with a crisis in the process of hanging as a method of execution (Colucci 2020, 11). In search of a fix that would maintain the practice of capital punishment in a way that conformed to legal statutes in the U.S. constitution that define cruel and unusual punishment, state officials in New York sought a ‘more humane’ way to kill. In 1888, the New York State Commission on Capital Punishment settled on electricity as a means of killing, citing its apparent painlessness in the seemingly instantaneous causation of death (New York Commission on Capital Punishment 1888). It was already widely in use for euthanizing stray dogs, New York State prisons were already connected to the developing power grid, and the abundance of electricity-adjacent industrial and domestic accidents had physicians of the time, when interviewed by the Commission, speaking glowingly of electricity’s efficiency in causing death. Indeed, one physician interviewed by the Commission said of possible methods to replace hanging: “electricity is not only the least painful and repulsive, but, also, the quickest, most certain and most easily administered” (1888, 85).

As a result, New York state and eventually other states in the northeast, southeast, and Midwest throughout the late 1800s and early 1900s steadily developed and replicated their own electrical execution apparatuses connected to prison electrical systems. This squarely moved capital punishment into what we recognize today as the secluded prison death chamber. Yet, at the same time, capital punishment became increasingly and inextricably connected directly to the wider landscape of electrical infrastructure and thus political-economic systems of resource extraction and distribution.

To the coal mining companies and owners of electric power plants, it was and is irrelevant to whom and for what purpose their coal and electricity is purchased. They remain indifferent so long as it is exchanged to generate surplus value. Likewise, those who own electric power lines are indifferent to where those power lines distribute energy. Owners of rail lines are indifferent to where their coal cars diffuse coal and for what purpose it is burned.

Abstract surplus value takes the material form of money. The practical function of money is to act as the physical medium of circulation, while its value in exchange is abstract: in other words, not tied to the material qualities of the currency itself. In terms of capitalist exchange, money is merely the abstract equivalent measure of exchange relations, and increasing surplus value is the only relevant relational concern from the perspective of capitalists (Harvey 1982, 11). Whether used to run refrigerators to maintain the correct temperature for life-saving malaria vaccines or used in the five-minute cycle of an electric chair execution, the capitalist is indifferent to the use of the energy sources they produce or distribute so long as that energy is exchanged. Likewise, the workers involved in energy production

(indeed within any industry) – who are forced to sell their labor power to the capitalist to survive – are largely indifferent to the materials upon which they work and the consequences of their production. In terms of capital punishment, this means that both capital and labor are indifferent to the reality that the production processes they activate result in killing human life.

Industrial gas

The development of industrial gas processing and technologies shares a similar story. Amid sporadic food shortages and soil fertility issues throughout Europe in the late 1800s, German chemist Fritz Haber was set on refining the process of efficiently producing synthetic nitrogen-based fertilizers. In 1909 his work resulted in what we know today as the Haber-Bosch Process (Topham 1985). It is a nitrogen fixation process that converts gaseous nitrogen in the atmosphere to ammonia by a reaction with hydrogen. This was a more efficient process for producing ammonia and solid-state ammonium nitrates, which allowed for the industrial mass production of nitrogen-based fertilizers and gasses (Appl 1982). The refinement of the Haber-Bosch process is considered arguably one of the most substantial technological advancements for humanity, leading to the development of intensive agriculture, generally less hunger worldwide, and subsequent population increase.

Synthetic nitrate production was also useful for munitions industries and militaries and served a central function in World War I in the development of stronger explosive ordinances and poisonous gasses (Travis 2015). In the 1920s nitrate production plants turned to solely producing fertilizers and pesticides. The eventual widespread availability of these products led to ten states adopting lethal gas as a method of execution and constructing gas chambers in state-level prisons between 1924 and 1955. Inspired by its effective use in World War I, Nevada legislators purchased twenty pounds of liquid hydrogen cyanide from the California Cyanide Company to carry out the first lethal gas execution in 1924 and future executions in the state (Christianson 2010). Hydrogen cyanide is a common nitrogen-based chemical compound, industrially manufactured for use as a pesticide and chemical precursor for the production of other compounds used to produce polymers and pharmaceuticals and in gold and silver mining. Other states, such as California, Missouri, North Carolina, Mississippi, and Maryland, also adopted lethal gas in this time period and are proximate to both major agricultural areas and centers of industrial chemical production.

As with industrial electricity, interest, from the perspective of capital, is to enter into exchange relations to generate surplus value. The producers of nitrates are indifferent to where, how, or why their chemical compound products are consumed, regardless of what that consumption does to living things.

Post-industrial lethal injection

Not dissimilarly from hanging, crises in the use of electrocution and lethal gas spurred the steady development and adoption of a different, dominant method of

capital punishment (Colucci 2019a, 188). Any new method would, like those before it, reflect the changing material landscapes in which it was embedded, and its practice would be derived from certain ubiquitous materials and knowledges present in the organizing of the base-levels of this social formation. Likewise, the efficacy of any new method would be judged against romanticized understandings of how past necrotechnologies functioned in relation to the human body. Lethal injection developed as a fix in the 1970s, as court rulings defined prisoners' rights to healthcare in the United States (Rold 2008). With state corrections departments forced to comply in providing healthcare, the presence of medical equipment and knowledge became widespread in prisons, reflecting wider economic shifts in employment and industry in the United States from manufacturing to service sector employment.

The contemporary lethal injection procedure originated in the late 1970s in Oklahoma, and the Texas protocol for the process, developed in the early 1980s, has since become reproduced widely as standard practice in other killing states and at the federal level (Bohm 2011, 136). Rather than mechanical knowledge of the technological operations of switchboards and electric wiring or the physical reactions of chemical compounds, the process of lethal injection requires service-oriented technologic knowledge of human bodies.

Execution team members must be trained in the sanitary use of IV tubes, syringes, the administration of drugs intravenously, and the proper use of restraining gurneys (Colucci 2019a, 189). They receive this training, unchallenged, in standard emergency medical technician (EMT)/paramedic training and certification classes. Not dissimilarly, the intravenous drugs they use to kill in the process of capital punishment are, in other spatial contexts beyond the execution chamber, vital lifesaving substances used for the treatment of injuries and disease (Colucci 2019b). For example, midazolam – a sedative often used during lethal injections – is widely used as a general anesthetic and sedative in medical situations from basic dental procedures to treating seizures. The IV tubes and other medical equipment are not specially produced for prisons to carry out executions but rather are purchased alongside other supplies needed for prison hospitals from medical supply companies. The material training, drugs, and medical supplies are indifferently exchanged by their producers. It is largely irrelevant to pharmaceutical companies, medical suppliers, and producers of EMT training where, why, and how their products and training are materially used.

When detailing the materiality of these processes, the contradictions in the production of lethal injection executions are clear when examining the development of lethal injection in the context of providing prisoners with access to healthcare. The industrial legacy of reorienting otherwise life-giving energy sources, technologies, and knowledges remains in this post-industrial landscape of capital punishment through the production of a political practice of killing.

Circulating values through material capital punishment

This brief section details the geographies of a changing capital punishment. Far from enclosed or cut off from a wider society, this analysis demonstrates the direct

connections between a particular carceral space and the related political-ecologic (the extraction of coal and nitrogen from environments) and political-economic (the industrial processing and distribution of coal and nitrogen to locations of consumption) landscapes of capitalist exchange and circulation that produce it (c.f. Gill et al. 2018). We have seen examples of the material objects circulated in the production of capital punishment, but, because the values of a social formation are embedded within the material objects produced therein, how are material cultures of violence reproduced? And, importantly, what abstract, cultural values are circulated and reproduced through the material objects used in the production process of capital punishment?

Energy sources and knowledges are made to flow between landscapes and levels in the social formation, from their base – as extracted raw materials – through to the material infrastructures of the legal system and execution chamber in the superstructure (see Figure 10.1). While in circulation as commodities, these energy sources and knowledges carry the capacity to set in motion both material and abstract production processes, like capital punishment. We also know that capital punishment is produced unevenly as a consequence of racist differentiation, and is therefore a capitalist production process that reinforces two abstract values: both the values of disciplined, indifferent labor and the differential valuation of human life based on race (Tyner and Colucci 2015; Kobayashi 2015). These abstract values that circulate within the execution chamber through commodities are those of an intertwined white supremacy and indifferent exchange. As a result, the spaces and places of capital punishment function not only to exhibit capitalist values but also to simultaneously influence social relations through a differential valuation of human life. The execution chamber, therefore, becomes a location of melding absolute social difference and indifference in space to produce material death.

Doing research after industrial capital punishment

To this point, we have seen how industrialized executions – operationalized through production processes that directed energy sources toward killing – laid the foundation for highly secluded, secretive post-industrial executions using technologies and knowledges that in other spatial contexts promote life by improving human well-being.

In doing so, this chapter has presented an inverted analysis of the geographic political economy of capitalist production, in that, typically, such analysis is directed at understanding how the necessities of human life are produced and distributed. This inversion of typical historical-geographical materialist analysis instead focused on a capitalist production process that does not produce access to any human needs through the use of energies and technologies that otherwise and emphatically do improve human material life. Capital punishment – as a production process with direct connections to specific industries and infrastructures that are deeply engrained in our everyday lives – is, instead, directed at producing a dead human body. Such an analysis, I argue, is potentially impactful when considering how to conduct research and teaching praxis in the future.

As scholars focused broadly on landscapes, industrial heritage, and material cultures, we must refocus our attention on objects through the lens of social and environmental justice, to confront the interrelated production of both violence and alienated human life. Recent discussion in geography has centered around acts of scholarly communication and knowledge production as they relate to the everyday politics of life and death for oppressed people and conscious positions of silent indifference (Alderman and Inwood 2018, 2019; Rose-Redwood et al. 2018). These debates offer an opportunity to reflect on the contradictory state of our knowledge production in a world where the production and reproduction of both material objects and knowledge is often exchanged indifferently amongst people for the purpose of ending human life. How we collectively (de)value life – and resultant processes of killing and letting die – must be at the forefront of our scholarly approaches (Tyner 2016).

There is no material necessity for humans to kill other humans. And, that we – the collective ‘we’ who are a complicit public for whom, in name, the state kills through capital punishment – continue to plan and precisely occasion the killing of humans out of no material necessity but rather only to demonstrate the values of disciplined labor and indifferent exchange, is an issue that deserves greater scrutiny. That this killing has persisted through the reorienting of otherwise life-giving and life-affirming material energy sources, technologies, and knowledges only serves to further place into stark relief our banal alienation from ourselves.

Note

- 1 For the purposes of this chapter I am restricting discussion of capital punishment to ‘the West’ in general, though primarily the United States as the practice has been banned in most Westernized states for several decades at least.

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