Impairing Life:
Electroshock Weaponry, Non-Lethality and Affective Governance

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Contents

Abstract

This thesis examines how the Taser's construction as a non-lethal technology of social control rests in part on the focus on cases in which it has caused death to legitimate its power as a life-saving technology otherwise. And in another, on the ways in which corporate and scientific discourses converge to disavow the causing of pain by electroshock as a form as bodily and psychic torture through the understandings of injury they present. I investigate how scientific and biomedical literature on the effects of electricity on the human body disavows the body's affective experience of its senses to discuss how Axon, the main manufacturer of Taser weapons, instrumentalizes the importance of protecting apprehended individuals' lives in the public discourse enacted by its representatives at the same time as its weapons electrically harness and undermine it. I undertake this material-discursive analysis to understand how Axon itself understands harm and pain produced through the human body's encounter with its electromuscular shock weapon. This thesis complicates Axon's framing of the "safe" effects of electroshocking by examining whether and how so-called negligible injuries and suffering caused by forcibly incapacitating the human body may be what the company uses to guarantee its device's "efficiency" in ending altercations. In assessing the biopolitical implications of the institutionalization of a technology that simultaneously harnesses bodily sensory capacities and disavows them through a binary of non/lethality, this thesis raises critical questions regarding the status of the human body and its senses as exploitable means for securing social order in contemporary America.

Cette thèse examine la construction du Taser en tant que technologie de contrôle social non mortelle, suggérant que celle-ci dépend en partie de l'attention portée aux cas où l'arme a causé la mort pour légitimer sa capacité à sauver des vies en temps normal. De plus, certains discours corporatifs et scientifiques convergent afin de désavouer la douleur causée par électrochoc en tant que torture psychique et corporelle de par les notions de blessure qu'ils présentent. J'explore comment la littérature scientifique et biomédicale sur les effets de l'électricité sur le corps humain ignore l'expérience affective du corps et de ses sens afin de discuter la façon dont Axon, le principal producteur de Tasers instrumentalise l'importance de protéger la vie d'individus appréhendés dans le discours public articulé par ses représentants et exploite et amoindrit celle-ci électriquement. J'entreprends cette analyse matérielle-discursive afin de comprendre comment Axon comprend la douleur et le mal produits au travers de rencontres avec son arme à chocs électromusculaires. Cette thèse complique le caractère « sûr » des effets de l'électrochoc en examinant si le dommage «négligeable » qui découle de l'incapacitation forcée du corps humain pourrait être précisément ce qui garantit l'efficacité du Taser à mettre fin aux altercations policières. En évaluant les implications biopolitiques de l'institutionnalisation d'une technologie qui simultanément exploite et dénie les capacités sensorielles corporelles par le biais d'un cadre binaire de non/mortalité, cette thèse soulève des questions quant au statut du corps humain et de ses sens en tant que moyens exploitables pour assurer l'ordre social aux États-Unis contemporains.

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Preface and Contribution of Authors

The sole author of this thesis is Chahinez Bensari. This thesis is an original copy, and has not been published previously as part of any other academic degree or non-degree program.

Introduction: Protecting Life?

The human body continuously generates and uses electricity as it sustains itself. This does not necessarily occur through the mediation of technological devices external to it, or even appended. Elements such as sodium, potassium, calcium, and magnesium all possess various electrical charges in their natural states. Using these charged elements, our cells generate electricity and, through a specific biological capacity to conduct electrical current, distribute nutrients that the body uses to survive, grow, and reproduce (Plante). Importantly, when it comes to the nervous system, which conditions the body's capacity to coordinate its actions, movement and sensory information, the continual circulation of this "current" and the charged elements within is in large part what allows the body to gain and maintain its capacities. The nervous system requires electricity in order to deliver signals throughout the body, including to the brain; this is what allows us to move, think and feel *(*Plante).

The circulation of electricity in the body allows it to both stay alive and live, through allowing it to act and react to a range of sensorial experiences such as registering the color of a streetlight and choosing to cross the street or not, feeling endearment when encountering a cute animal, and defending oneself when targeted for attack. There is also a long history of practices premised on the use of electricity on both human and non-human animals for various purposes, including punishment, torture, discipline, management, and even slaughter. In fact, electroshock technology for use on living bodies originated in 1938 in a pig slaughterhouse, where an Italian psychiatrist noticed shocking pigs with electricity caused them seizures, and saw potential to use electricity on humans as "electroshock treatment" (CCHR). In human terms, the list of practices making use of electricity to enforce external discipline or control includes the use of electric chairs and telephone wires on war prisoners and political dissidents, often from colonized

populations by former imperial powers to kill and torture; and guards using stun belts on inmates in the United States. The use of cattle prods by farmers to discipline animal stock exploits the same technology used by white slave owners on African Americans in antebellum America.

Some accounts of electricity frame the medium as an alleged pain relieving, healing and even curing technology when used by industry, clinicians and food and drug staff (see U.S. Department of Health and Human Services "Electroconvulsive Therapy (ECT) Devices"). A medium, however, can only be as healing as the uses it is put towards. Automatic external defibrillators (AEDs), which can shock a patient in cardiac arrest back to life, can equally be used to kill an individual—particularly if applied to the chest. In the case of ECT devices and their so-called curing power, the CIA also expressed "considerable interest in them." During World War II, a chief CIA psychologist advised John Foster Dulles that "each surviving German over the age of twelve should receive a short course of electroshock treatment to burn out any remaining vestige of Nazism" (2). The CIA also funded the work of Dr. Cameron in Montreal, who used electroshock therapy to "see if he could reprogram his patients" (2). The intelligence agency's use of therapeutic electrical devices for discipline as well as its interest in the technology raise questions regarding the US state's use of electricity towards purposes that may not be centered on relief or healing of a person. Today, ECT is still practiced in the United-States and approved by the FDA (CCHR). Depending on the conditions, this psychiatric use of electroshock yields to different experiences of pain upon contact with the electrical current and device.

Different uses of the medium of electricity point to shared clinical and disciplinary practices that aim to externally take over control of people's bodies by interrupting the circulation of the flow of electrical current within it. The electrical practices of discipline

enumerated above all have in common the exercise of force onto living bodies in order to secure control, often by normalizing action that various authorities deem divergent or undesirable. As Michel Foucault writes in in *Security, Territory, Population* "[security apparatuses achieve] a plotting of the normal and the abnormal, of different curves of normality, and the operation of normalization consists in establishing an interplay between these different distributions of normality and [in] acting to bring the most unfavorable in line with the more favorable" (63). As such, electroshock therapy, as well as electroshock policing, constitute individual techniques of discipline, but through aiming to normalizing aberrant behavior, hold potential to yield a larger form of population governance based on shocking the body into obedience. Such techniques use electricity according to aims of not so much killing, but controlling, often with tangible consequences for the bodies of targeted people.

As the non-profit Citizens Commission on Human Rights (CCHR) has shown in their research on ECTs, clinicians, psychiatrists and companies providing ECT devices release inaccurate or insufficient information about the effects of this treatment, and sometimes obscure and deny the potential harms that can result for the body's cognitive and nervous system, on both short-term and long-term bases (CCHR). The practice of ECT may make use of electricity as a medium to discipline or normalize, but its felt experience still differs from that of being struck with a cattle prod, shocked with a stun belt, or assaulted with a Taser, for instance. Nonetheless, by making use of electricity, farmers stunning cattle with stock prods, authorities torturing prisoners with telephone wires, prison guards restraining inmates with stun belts, psychiatrists making use of ECT on patients, and police officers arresting and subduing civilians using Tasers all make use of the shocking and painful effects of electricity towards the exercise of discipline.

It is this disciplinary purpose of harnessing electricity and its historical, institutional, corporate, and legal dimensions that this thesis will explore.

The infliction of electricity onto both human and non-human bodies causes loss of basic capacities to various extents, rendering victims of electroshock vulnerable to external threats as well as practices of control. While Tasers were not invented for the same purpose as cattle prods, or even telephone wires, there is a connection here. It seems that electricity has been used historically to normalize the behavior of both non-human and human animals' bodies. This is often done in ways that purposefully violate the consent and sovereignty of the apprehended individual's body, hijacking their bodies' own generation and circulation of electrical current. This disciplinary connection is key, for it locates a genealogy of electro-conducive weaponry currently in use in contemporary policing as part of longer histories of electricity-centered cruelty and suffering. These include psychiatric, disciplinary and torturous practices that were used towards the management of prisoners and enslaved Black people in the Americas and elsewhere, to women forcibly institutionalized under pretenses of hysteria, and to political prisoners pledging faith to their communities and refusing to give away information.

As David Correia and Tyler Wall remark in their recent book *Police: A Field Guide,* which aims to better prepare activists on the issue of police brutality and familiarize them with the methods, mythologies and history undergirding contemporary policing, there is a demonstrated genealogical link between cattle prods and Tasers. The cattle prod was repurposed when slave owners used not only the same medium, but also the very technology of stock prods towards the disciplining of enslaved people. Electrical prods forcibly controlled their movement by interrupting their capacity to move and exercise sovereignty over their bodies (see James Baldwin's 1965 short story "Going to Meet the Man"; Rejali "Modern Torture as Civic

Marker"). After the antebellum era, police used cattle prods again on human beings in the 1940s for purposes of crowd control and interrogation, as well as part of efforts to repress the American civil rights movement. Racially discriminatory practices of state discipline facilitated by electroshock weapons shaped electroshock technology by once again creating new understandings of it.

With this came new possibilities and increased capacities for the use of electricity to commit violence in the exercise of power and sustained subjugation. As John Kleining also argues, Tasers can be "psychically linked with electrically charged cattle prods (or "hotshots") that were also used to disperse civil rights demonstrators. Such events need not have been part of the immediate experience of those who are tasered; it is necessary only that they be part of their ongoing cultural consciousness, reinforced by the remnants of racism…" (287). Today, law enforcement officers may no longer use cattle prods, but they do use Tasers, and increasingly so. Despite the fact that multiple discharges during the first deployment of a stun gun failed to subdue Rodney King during his widely publicized arrest and assault in 1991, American police agencies began expressing more interest in non-lethal uses of force, specifically electroshock policing, in the years leading up to the 21st century. CEWs came to constitute a staple in US police agencies' arsenal. Whereas only 7% of American police departments allowed Tasers and stun guns in 2000, 81% had incorporated the weapons into their arsenals by 2013 (Reaves 1).

As this thesis examines, the idea of using electricity for the specific and explicit purpose of incapacitation is actually quite novel. While CEWs were initially invented in 1970, American law enforcement used them for the first time in 1980, when the L.A police department (LAPD) first deployed them for testing (Stroud). Electricity was put to various uses towards corrective or punitive purposes before the invention of Tasers. However, stock prods were based on striking

animals with intermittent high-voltage, low-current shocks so as to force them into ordered motion. Weapons like "electrical shark devices" were used by coast guard divers to keep sharks at bay or repel them. Electric chairs worked according to mechanisms and purposes of either restraint or killing (Rejali "Torture and Democracy" 226). Tasers are the first disciplinary technology making use of electricity whose purpose is neither to deter, force into motion, nor to kill. Rather, use of electricity within the Taser's functioning facilitates purposes of incapacitation, similarly to the electric chair's in its restraint of detained or captive people, but without killing according to its makers. In other words, Tasers' incapacitation of the subject receiving the shock doesn't defeat the purpose of the technology, contrary to stock prods or electrical shark devices or even electric chairs, but precisely achieves it.

Locating its intervention within this genealogy of electrical practices towards discipline and incapacitation of targeted individuals, and the recent surge in CEW institutionalization in the United States, this thesis examines how and why American law enforcement and Axon, the company that holds monopoly over the manufacturing and distribution of Tasers in the U.S. and most of the world, believe Tasers are more acceptable to use on humans than other weapons and devices. More specifically, I am interested in how the institutionalization of "non-lethal" neuromuscular incapacitation (NMI) may yield larger consequences for targeted individuals and policing practice. As Axon disavows most of these consequences ranging from the experience of excessive force to the development of symptoms of depression and anxiety, I explore how both Axon's Tasers and its marketing of them form a material-discursive basis for a technique of affective governance based on discipline through electroshock. As such, this thesis critically analyzes the impact of Tasers on apprehended people's wellbeing by decentering visible injuries and physical wounds as the only signs of harm caused by stun guns or conducted electrical

weapons (CEWs). Rather, I situate stun technology in a history of seemingly different yet related electrical practices of discipline and examine how less visible forms of injury, harm and violations to the human body may result from use of CEWs.

To do so, I draw on work by authors such as Darius Rejali, who suggests that the Taser is a preferred tool of democratic Western states rather than explicitly authoritarian ones. He explains this is due in large part to the technology's central mechanism exploiting electricity, which leaves no marks on the body when the intensity and frequency of the shocks is regulated, and so is harder to document or identify as a form of torture (see *Torture and Democracy*, "Electricity: Global History," "Modern Torture as Civic Marker,"). Rejali's scholarship builds on the work of journalism scholar Anne-Marie Cusac who studies the cultural evolution of punishment practices in the United States. Her work explores the processual experience of the latter and the intensification of punitive physical pain through stun technology (Cusac "Stunning Technology," "Shock Value," "Pain Becomes Valuable Again"). Cusac's and Rejali's work on technologies of torture and punitive practices that exploit physical pain later influenced scholars of technoethics and technologies of political control such as Brian Rappert, Seantel Anaïs, and Neil Davison. Together, they built an alternative history of CEW use and its social implications by focusing explicitly on the notion of non-lethality as an authorizing device for police brutality and torturous methods of individual control, state governance and the maintenance of order in the 21st century. Rappert's work critically assesses technology by questioning popular assumptions on the relationship between technology and wider societal relations, as well as reframing and reformulating the questions asked to approach them. I draw from his work on Tasers as technologies of political control in my theoretical framework to assess the institutionalization of stun technology into US police by examining Axon's Taser alongside its

corporate discourse of non-lethality and the human rights conversations that inform it (see Rappert "A Framework for the Assessment of Non-Lethal Weapons," "Assessing Technologies of Political Control," "Moralizing Violence," *Non-Lethal Weapons as Legitimizing Forces? "Toward an Understanding of Non-Lethality"*; Dymond and Rappert "Policing Science," "The Role of Civil Society in the Control of New Weapon Technologies").

Anaïs' use of a Foucauldian framework to understand the political rationale undergirding the use of non-lethal weapons by the American state in light of what she terms the "mobilization of a sense of ethical crisis" identifies the discursive mechanisms and understandings of in/security and its neutralization on which the nation-wide institutionalization of ECWs into police departments for daily use seems to rely (Anaïs "Conducted Energy Weapons", "Ethical Interventions"). Her most recent book *Disarming Intervention: A Critical History of Non-Lethality* (2015) raises critical questions regarding electroshock weapons as non-lethal technologies, and the discursive construction of non-lethality and to what forms of governance it lends itself. Anaïs contends that accurate accounts of technology must "attend to the dynamic nature of technology…[and] to the manner in which non-human objects and devices are invested with aspirations to produce certain outcomes in terms of the conduct of the governed" (Anaïs 51). Technologies are necessarily bound up in relations of power and, particularly when they are institutionalized at the rate of Tasers in law enforcement, must be understood in their historical context despite corporate and state efforts to abstract and isolate them from their histories of violence. Anaïs suggests a methodology based in assessing technologies that are used towards political control according to both material and conceptual considerations. That is, she encourages "think[ing] through the boundaries that serve to maintain the difference" between the technological and the political (52). I draw from her in assessing Axon's corporate discourse as

one such conceptual political framework constructed to give its technology connotations of "safety" that obscures its material functioning. As such, Anaïs' work constitutes a central resource and an important inspiration.

This thesis both historicizes the rise of electrical incapacitation in discourses of non-lethality and explains the gatekeeping practices that have been used to obstruct access to this history, particularly in the context of social criticisms of CEW use. Davison's work on historicizing non-lethal weapons and their institutionalization from the 1960s to the contemporary moment, particularly as he situates electroshock practices and technologies from torture to the Taser in relationship with other non-lethal weapons, has laid essential ground for genealogical explorations of stun technology within Science and Technology Studies (STS). Davison focuses on non-lethal devices and their potential uses for torture instead of starting from torturous electroshock-based practices. By providing a broader, more holistic history of the use of Tasers, his work demonstrates how the weapon figures within the range of political technologies used by states for purposes of discipline and punishment. I build on Davison's work that locates Tasers in relationship to different acts and policies to understand what conditions facilitated their institutionalization (Davison "Non-Lethal Weapons," "The Contemporary Development of 'Non-Lethal' Weapons," "The Early History of 'Non-Lethal' Weapons").

The work of Anaïs, Rappert, and particularly Davison often appears in conversation with that of other critical science and technology studies (STS) scholars studying non-lethal weaponry, such as Steve Wright and Nick Lewer. Wright and Lewer were early influences in the field of STS, with both of them publishing work on technologies used by police and linking them to their social and political implications as early as 1978 and 1995. Both Wright and Lewer focus on non-lethal weapons, but Wright's scholarship also explores larger issues of governance,

security, and human rights abuse in light of devices he refers to as more "explicitly" technological such as stun guns, as well as "less explicitly technological" ones, such as the law and policy (see Wright *Future Sub-lethal, Incapacitating & Paralysing Technologies*, "New Police Technologies," "Report. Sub-Lethal Vision). Wright's most notable research includes his work on mobilizing resistance to non-lethal weapons through making a human rights case, or emphasizing the value of the lives of potential targets of police violence. His work examines the role sub-lethal weapons play in human rights abuses, and electroshock technologies have been used as tools of political torture and repression (see Wright "The Role of Sub-lethal Weapons in Human Rights Abuse," "Violent Peacekeeping"). In centering the lived experience of survivors of NMI, I proceed in my research according to similar methodological concerns as both Wright and Davison for understanding how use of CEWs leads to abuse that we can only attend to by rethinking the methods through which we record, recognize and ultimately understand harm.

Wright's research influenced Lewer, whose earliest scholarship contended that "while some non-lethal weapons don't directly maim or kill people, many share the potential to provoke unintended consequences including prolonged suffering, slow death, or long-term psychological damage" (Lewer "Nonlethal Weapons" 44; see also *Bradford Non-Lethal Weapons Research Project, "*Non-Lethal Weapons," *The Future of Non-Lethal Weapons*). Lewer's research largely deals with issues of policy developments around non-lethal weapons, with a particular focus on the how the use of these weapons in military and police interventions causes people prolonged physical pain ("Nonlethal Weapons," "Objections to Weapons of Less Destruction"). Together, the authors above contribute to an essential body of research on the political discursive role non-lethality plays in facilitating the infliction of harm when it comes to armed conflict and law enforcement. Rejali, Cusac, Rappert, Anaïs, Davison, Wright, and Lewer all show how non-

lethality relates to electroshock weaponry's historical uses towards governance. Their work also draws attention to the flaws and gaps in scientific, legal, and medical discourses about the safety of CEWs that converge to legitimate their use in a number of contexts.

The very complexity that characterizes the task of delineating the historical roots and trajectory of innovations in stun technology calls for more capacious genealogical and interdisciplinary analyses of electrocution practices on living beings. Rather than focusing only on the technologies used in their exercise, this thesis extends its scope to the power relations that shape the use of electroshock technologies. The web of historical and cultural relationships that binds seemingly unrelated electroshock subjugation practices and technologies invites us to trouble popular, scientific and corporate etiologies of electroshock weaponry. In response to concerns regarding the danger of CEWs for human health, wellbeing, and safety voiced in public debate and scholarship, this thesis analyzes how and through what forms of augmentation US law enforcement's incorporated stun technology into their practice. I do so by suggesting a more capacious understanding of harm that takes into account *how* the body is incapacitated and what happens to it in the process of this incapacitation by CEWs, as well as following it. Importantly, what seems to encourage US law enforcement's adoption of stun technology, is, in part, Axon's own corporate discourse about incapacitation as a social good and its "protection of life" compared to death at the hands of police firearms.

The primary argument this thesis puts forth through its historical analysis of Taser use in America is the following: as we move further into the 21st century, the practice of electroshock policing targets and harnesses civilians' embodied affective capacities, namely their experience of a wide range of sensations of pain, suffering and overall stress. Both US authorities and Taser manufacturer Axon suggest that the use of non-lethal electroshock weapons is allegedly done for

the public good. To claim this, they deny and downplay the fact that the production of pain is inextricable from the Taser's mode of operation. Causing pain effectively constitutes a large part of the technique by which subjects are incapacitated through the use of electricity as a medium to arrest movement. In the following chapters, I examine what medical researchers and different authorizing agencies disavow about the violence electroshock does to the body as well as to what extent the institutionalization of the Taser may rely on those disavowals. As such, my contribution to the literature on conducted energy devices as non-lethal weapons of control lies in investigating to what extent people's affective experience of electroshock is simultaneously denied and harnessed as part of this policing practice, and towards what potential political purposes.

Drawing on research and critical interpretive frameworks from the authors mentioned above in the fields of technoethics, and critical STS, I argue that CEWs constitute an unethical and potentially cruel and dangerous technology and do not, in turn, make policing more humane. I also draw on scholarship in fields such as neuroscience, affect and pain studies, peace and conflict studies, biomedical engineering and physics in order to examine the different ways pain can be understood as a form of harm from a range of perspectives. Discussions around acceptable and unacceptable levels of pain have always been inconsistent, constituting a key terrain for social and political contestation. The broad institutionalization of CEWs by law enforcement represents an attempt to silence the political, legal, medical and human rights challenges that have been brought to bear on the question of what constitutes acceptable pain, particularly when it comes to police use of Tasers against racialized persons.

As Steve Goodman writes about the Israeli Air Force's use of sonic booms as "sound bombs" in the Gaza strip, the Israeli government responded to criticisms from both Israelis and

Palestinians by claiming that "sound bombs were preferable than real ones" (Goodman XIII). In other words, claims comparing military and police technologies to counterparts whose consequences are often more damaging or lethal conceal forms of harm that, while they may be less lethal, their impact is nonetheless felt quite tangibly by people. To understand how Tasers suppress lived experience at the same time as the US state and their makers claim their use to be preferable requires us "to re-situate object-oriented analyses toward a cultural studies-inflected and communications framework," which takes into account different "entanglements" and relationships that are not restricted to the object (Feigenbaum 16). Inspired by the work of media scholars such as Steve Goodman and Anna Feigenbaum, I am interested in how authorities directly harness, and intentionally trigger, the population's senses and affective capacities in order to suppress dissent, discipline targeted individuals, and "secure" the social order by equipping law enforcement officers with non-lethal weapons like Tasers (see Goodman *Sonic Warfare*; Feigenbaum "Tear Gas," "Resistant Matters").

All questions of safety and protection of one's livelihood end and begin with a core concept for Axon—that of non-lethality. It deliberately presents this concept to the public and police on its corporate website as an alternative to the forms of lethal injury that often follow from the use of firearms. In this thesis, I analyze a range materials that reveal how the discourse of non-lethality regarding Taser technology has crystallized, as well as public documents that make the case for the harms these technologies cause. My research materials include public statements made by members of American law enforcement on the development of non-lethal weapons, specifically CEWs, public communications from Axon about Taser non-lethality and safety, published interviews with Axon's representatives, user manuals for Tasers, and published scientific and medical studies that have been done around the question of Taser non-lethality.

Through analysis of these materials, I identify how Axon and US law enforcement developed a shared discourse of non-lethal weapons for use in policing. I pay particular attention to Axon's official and unofficial marketing discourse around its weapons and how it conceives of the affective experience of electrical incapacitation.

As I discuss in the following chapters, the relationship between neuromuscular incapacitation (NMI) and Axon's weapon's production of pain appears at best ambiguous, and at worst misleading within their corporate framework of non-lethality. In order to broaden the scope of the understanding of the harm inflicted through NMI and where suffering figures in the use of CEWs, I therefore turn to more primary research materials, such as human rights reports, and medical studies that highlight experiences of pain and trauma, in addition to building 2 case studies based in reporting on the experiences of 2 racialized women who were the targets of Tasering by police. Both of these cases got little to no news coverage, despite the senseless violence that characterized them, yet there are recordings of the acts of police brutality committed against them, and legal suits which offer insight into their cases. I assess how the experiences of these two women reveal the kinds of harms and forms of suffering that Axon fails to acknowledge in its own representation of Taser technology and its supposed safety.

I argue that Axon's emphasis on the "protection of life" authorizes the maker of the Taser to make a comparative safety claim between its CEWs and weapons that hold more potential to kill. Through this, Axon frames the injurious effects of Tasers as safe so long as a shocked person is alive—regardless of considerations of pain and harm. Put differently, it appears that Tasering is understood as largely insignificant unless someone dies. **Chapter 1**: **The Rise of Stun Technology and Corporate Non-Lethality as Safety** hence unpacks this corporate discourse to identify the harms it might miss, and historicizes developments in research on non-

lethal technologies in American law enforcement, specifically CEWs. It does so with the aim of locating Axon's weapons and marketing discourse within fairly recent efforts to supplement the firearms US police officers carry with CEWs. In so doing, this chapter asks how we can ground Axon's emergence as the main provider of CEWs in a longer history of non-lethal disciplinary techniques of law enforcement, and what this historical trajectory might reveal about the company's developments of its allegedly non-lethal technology. Assessing this history in dialogue with human rights agencies' interventions on police use of electroshock equipment for discipline, I explore how Axon responds to the criticism of cultural authorities regarding the cruelty and degradation committed through the use of the distinctive material of the Taser. I do so to draw attention to the rhetorical gestures that Axon engages in to instrumentalize non-lethal intervention towards the marketing and sale of a weapon whose safety for the human body remains uncertain. Crucially, Axon's discourse of the "protection of life" via non-lethal technology may enable it to avoid accountability for its weapon's infliction of debilitating pain and the facilitation of cruel and inhumane treatments of people at the hands of law enforcement.

Chapter 2: Non-Deadly Harm and the Medically Authorized Weaponization of Pain examines what Axon's corporate framework of non-lethality obscures about how Taser weapons affect the human body, and what this reveals about the role the infliction of pain plays in electrical incapacitation. This chapter examines medical constructions of injury in the scientific studies that Axon presents on its website, and how they frame the effects of Tasering according to understandings of negligible harm. Importantly, I am interested in how Axon's publicity of medical studies on Tasering utilizes the cultural authority of medical research to authorize the company's claims that Tasers are safe to use on the human body. Axon presents medical findings that deem different electrical injuries to be insignificant in order to claim its weapon's safety for

the human body. As such, inquiring into the violence that this framework potentially disavows requires a more expansive understanding of what can be impacted and effected in the living human body as a result of Tasering in order to attend to experiences of pain and suffering from CEW use. In response to Axon's highly selective presentation of the scientific community's discussion of stun guns, I turn to another body of research that problematizes these studies' methodologies and their narrow definitions of harm and injury. Drawing on the work of the STS researchers mentioned above, I examine the information gaps and tensions within research and commentary on ECWs. It is in these gaps where the harms and violence of ECW use are often explained, and explained away.

My goal in this chapter is to more capaciously assess whether the function of CEWs as it is represented by medical practitioners and researchers with potentially vested interests in Axon and, coupled with Axon's own corporate interests, facilitates the harm and suffering caused by Tasers. This harm does not so much go unregistered as much as Axon deems it negligible, presenting the infliction of pain into Tasers' normal way of functioning. The relationship between Tasers and the production of pain is, at best, insufficiently addressed in research and, at worst, blatantly denied. Building on Rejali's work on Tasers as tools of stealth torture, I argue that Taser injuries are hard to see not so much because they are nonexistent or negligible, but rather because they are primarily cognitive-affective and neurological. Axon has the power to shape popular understandings of what constitutes bearable and unbearable pain through its CEWs' mode of functioning at a sub-epidermal level that produces diffuse pain effects and neuro-injuries that are not as easily seen as physical wounds are. In response to this, I turn to the register of lived experience, namely the affective experience of suffering caused by Tasering in order to challenge the claims made by CEW makers and supporters and medical researchers.

Chapter 3: **Vulnerability, Criminalization, and Affective Impairment as Biopolitical Technique** examines two case studies of Tasering based on surveillance video and bystander footage that were experienced by racialized women at high risk of serious harm. Without dismissing the importance of non-lethal alternatives to firearms, this chapter attempts to more capaciously approach NMI and non-lethality to locate Axon's weaponization of pain in its Tasers within larger histories of excessively violent policing. Chapter 3 discusses Axon's own unclear guidelines regarding its weapon's use against "high risk subjects," as well as the lack of adequate police training in first response and de-escalation and poor regulation around officers' use of Tasers. Taking the convergence of these factors as its locus of inquiry, this chapter explores how electroshock policing may facilitate recourse to excessive force, and lead to damage, which while largely affective in its manifestations, burdens survivors of NMI with tangible repercussions. Gaps in policy and regulation work alongside histories of racism, classism and sexism to further marginalize vulnerable individuals who are already most at risk for police brutality, rendering their day to day life even more precarious. In conceiving of pain as a weapon and affective-cognitive impairment as a tactic, this chapter draws a web of relationships between electroshock policing, biopolitical population management and larger institutional processes of collective attrition and debility. In so doing, this chapter argues that CEW policing works in concert with pre-existing mechanisms of marginalization and structural neglect spanning from racist criminalizing policies to a justice system that abandons its most vulnerable members.

My critical approach to non-lethality in this thesis connects the weaponization of pain through Tasering to larger histories of racist, sexist, classist and ableist violence and abuse at the hands of law enforcement. My thesis ultimately argues that claims in favor of Taser technology as non-lethal mechanisms of social control fail to grapple with the larger structures of suffering

and bodily forms of invasion that marginalized communities continue to face from police and other powerful social institutions. While such experiences may not be lethal, they are brought about through ostracizing practices that are characterized by slower, social deaths. The incorporation of neuromuscular incapacitation as a policing practice holds potential to make the lives of people vulnerable to police violence more precarious, and tangibly affect their affective-cognitive capabilities. In conducting this research, I uncover what the nation-wide institutionalization of Tasers in US law enforcement may reveal about the status of the human body and its senses as exploitable sites for political control and securing the social order in the contemporary moment.

Chapter 1:

The Rise of Stun Technology and Corporate Non-Lethality as Safety

Both Axon's technical framework explaining the Taser's functioning and its marketing discourse of the latter appear to hinge on an ill-defined concept of non-lethality. This chapter analyzes how Axon's framework of non-lethality is informed by specific beliefs about policing and the use of force, both lethal and non-lethal. Axon uses a police-identified notion of what constitutes the non-lethal use of conductive energy weapons to support their corporate discourse on the desirability of the medium of electricity as an allegedly more humane use of force for purposes of discipline and physical subjugation. Axon's discourse of non-lethality draws on a set of equally abstracted "humane" corporate values that stand in for accountability in Axon's own discussion of the Taser's potentially harmful way of functioning. I examine how Axon translates their stated values of creating humane technology into a vague technical framework for describing how the stun gun functions and with what effects on the human, and non-human, body. In their approach to harm assessment, I argue that the outcome of Axon's own analysis of Taser safety, and harm, is strongly determined by this rhetoric of non-lethality. Since Axon rarely characterizes non-lethality as more than a Manichean binary between life and death (e.g.: "non deadly effects"), I turn to sources other than Axon's own published corporate documents to understand what the corporation means when it explains the effects of its weapon's non-lethal mode of functioning to the public (Axon).

This chapter starts by historicizing the popularization of stun technology in law enforcement to situate Axon's emergence and identify its role within this history. More specifically, I am interested in the historical evolution of the concept of non-lethality in US law enforcement, and where Axon appeared as a player in the discussion around non-lethal weapons,

eventually becoming one of American law enforcement's closest collaborators at the turn of and throughout the 21st century. I make use of this historical information to examine how federal discourses of non-lethality square with Axon's corporate articulation of non-lethality as a way of promoting Taser safety in their marketing of stun guns to police and the public as a technological "solution" to the problem of lethal forms of police brutality. This is the first step towards understanding how electricity as a medium came to constitute a legitimate alternative use of force option for law enforcement officers in their apprehension and custodial confinement of alleged lawbreakers, and people they deem "dangerous."

I then turn to broadcast coverage of Axon's technology to identify how news report on Axon's relationship to traditional policing techniques, its problems, and how its non-lethal electrical weapon may present a solution to such issues. As US police agencies increasingly used and normalized non-lethal weapons, specifically CEWs (conducted electrical weapons), a growing public debate arose around stun guns and the use of electroshock technology for disciplinary purposes in the 1990s. At the time, human rights agencies and other organizations criticized the ways both Axon and US police discussed non-lethality and the harmful use of electricity. I am interested in what elements of the function of Axon's Tasers' these critiques identified as of particular concern, and how Axon responded to them, including through their own marketing discourse. My aim in doing so is to identify the major values, principles and attitudes on policing, the human body, and electricity that Axon holds.

In the third and final section of this chapter, I explore how Axon translates these beliefs into a powerful discourse about its weapons' safety. I start from my analysis of Axon's foundational "values" in the production and trade of its weapons to understand how Axon frames "non-lethality as safety" as a corporate discourse that legitimates the use of CEWs by law

enforcement. I do this in order to demonstrate not so much whether Tasers work non-lethally or not, but rather to examine how Axon's own discourse may present a vision of safety and accountability through this lens of non-lethality, and what this framework may potentially miss. Ultimately, my aim in this chapter is to critically understand the discourse of non-lethality that Axon has crafted for marketing and selling its devices. It examines the mechanisms the corporation has used to frame electrical technologies of control as not only safer alternatives to firearms, but as desirable in and of themselves. As such, this chapter begins a conversation about how Axon materialized its discourse of non-lethality into a state-sanctioned weapon used across the US. The company's material-discursive construction of non-lethal technology powerfully shapes collective understandings of the human senses as exploitable in contemporary policing. In doing so, this chapter lays the foundation for this thesis' larger aim of interrogating how Axon's discursive framework of non-lethality renders illegible to the public the realities of harm, pain and terror it causes in its use, and the ways law enforcement collaboratively frames these effects as negligible or tolerable in the context of contemporary policing in the U.S.

I. HISTORICIZING NON-LETHALITY AND THE RISE TO POPULARITY OF STUN TECHNOLOGY IN AMERICAN LAW ENFORCEMENT

The first idea for a stun gun came from a NASA physicist named Jack Cover in the 1960s. Having worked on the Apollo Mission, Cover "thought police needed a weapon for emergencies when a gun could be particularly dangerous, like airplane hijackings" (Mather). The aerospace scientist invented the first CEW in 1970, under the name "Taser Systems Inc" (Woo). Cover's original idea of a bullet-free subduing weapon that law enforcement officers like air marshals could use instead of guns on planes may appear somewhat

removed from the everyday situations in which police use Tasers today. In the four years between 1968 and 1972, over 130 American airplane hijackings took place, sometimes as often as once a week (Nelson). In 1970, hijackers started taking hostages and asking for high amounts of ransom, with which many airline companies complied to increase the odds of plane safety (Koerner). Before the attacks on New York and Washington in September 2001, plane hijackings appeared to be almost commonplace occurrences—airport security was relatively low at the time, and reporter Libby Nelson even notes that these hijackings "ended with inconvenience, not mass tragedy" in most cases (Nelson).

The first instance of electricity being introduced as a technology that the state uses to discipline the human body—that is, with torture, information extortion, or death not being the primary aim—was not through Cover's stun gun. U.S. law enforcement used electric cattle prods in the 1960s to disperse civil rights activists, as well as in the antebellum and Jim Crow era against enslaved African Americans. However, Cover's Taser was the first stun gun to be patented and approved by the US state, and it was meant for use in the context of commonplace, yet potentially high risk situations—like airplane hijackings—that were characterized by and depicted in mainstream media as states of emergency or urgency (Weber). At the time, Cover presented electricity as an alternative to firearms according to a rationale that hinged on situational safety in potentially risky situations. Cover presented his Taser to law enforcement and the public through the lens of protecting more people from immediate danger, rather than on protecting the individual's life or safety—be it the offender or the officer. Cover's rationale regarding public safety rests in contrast with Axon's marketing of its weapons today around the effects on individual bodies. His weapon appears to hinge on the prioritization of public safety in

states of emergency, in a historical moment characterized by frequent yet normalized disturbances to public order and sustained states of emergency, or at least urgency.

Cover drew inspiration for his first weapon from a news article he read in which an individual who accidentally walked into an electrified fence survived. While he was temporarily immobilized, the story led Cover to conclude that "electric current could be used without danger," as his wife Ms. Cover said in a tribute article following his death in 2009 (Weber). Despite Cover's belief that the creation of a weapon capable of stunning but not killing an offender would be successful, his initial Taser failed to make it into U.S. police departments. This was purportedly due to the fact that Cover's Taser used gunpowder to launch the darts—causing the federal government to consider it a firearm, "a classification that ruled out a civilian market and also discouraged police and military sales" (Woo). In 1976, the US Consumer Product Safety Commission recognized Cover's first Taser as a "dangerous weapon," adding that its role was to assess the "risk of unreasonable injury" rather than the "unreasonable risk of injury" (O'Brien). According to retired police captain Greg Meyer, the Los Angeles Police Department (LAPD) rejected Cover's Taser twice in the 1970s. Following field tests with the department in 1980, the LAPD ended up approving an 11-watt Taser, also created by Cover, that turned out to be more effective than the initial 7-watt model (Woo). U.S. law enforcement thus used a Taser for the first time in 1980, when the LAPD first deployed the weapons for testing. Sales on Cover's newer 11-watt Taser remained minimal and his business eventually fell apart (Woo).

Nonetheless, US police agencies began expressing more interest in non-lethal uses of force, specifically electroshock policing, in the years leading to the 21st century. In a report self-published in 1992, LAPD captain Greg Meyer, who headed the LAPD nonlethal weapons

research at the time, claimed: “there will always be potentially violent confrontations between police officers and resistive suspects. … Expanded use of non-lethal weapons… will lead to fewer and less severe injuries to suspects and officers”(Meyer). In an interview with the New York Times, former police officer and criminology professor David Klinger stated: “'I think [the Taser] is appropriate for deployment in the field… You trust this guy or gal with a gun, you should be able to trust them with a less lethal device (Berenson).

Charles “Sid” Heal, a now retired expert on less-lethal weapons and LAPD sheriff who had been the head of US nonlethal operations in Somalia, wrote about the power of non-lethal weapons that “overwhelm the senses” towards purposes of military and police discipline. In an article published in 2007 on the exploitation of what he termed a “window of opportunity” towards tactical command, he says: “Perhaps the best example of both an exploitation window and a window of vulnerability occurs with the use of a distraction device. The intent is to create surprise with a combination of sound, light and pressure to temporarily overwhelm a suspect’s senses and prevent an effective response (Heal 48). While this claim concerns flashbangs, or stun grenades, the description eerily recalls stun guns’ mode of operation as well. Both are so-called non-lethal weapons operating according to technologies meant to target the senses and create submission through their suspending one’s ability to use particular senses such as sight or hearing and ultimately impede mobility to “stun” an individual. Non-lethal weapons such as stun grenades and CEWs both take advantage of subjects in vulnerable situations to subdue them, but what Heal does not mention is that this harnessing of the senses for disciplinary purposes potentially renders subjects more vulnerable, particularly to further excessive force at the hands of law enforcement. In an article published in the *Los Angeles Times* in 2016, Heal affirmed:

"any time cops can make an arrest using a Taser instead of a gun, it should be considered a "save" — even if it takes several attempts for the Tasers to do the job" (Mather 2016).

In the 1990s, members of the LAPD articulated an early investment in the use of non-lethal or less-than-lethal weapons on the department's part, whose support is always already determined by a comparison with lethal weapons such as firearms. The LAPD had already been working in close collaboration with U.S. military agencies and Jack Cover in the 1980s, and was the first police department in the country to test the earliest versions of the stun gun (Woo). The LAPD reveals a budding interest on the part of law enforcement in the exploitation of the human senses to command, discipline or subdue, not only for military or emergency purposes but also everyday instances of the enforcement of law and order. Meyer more specifically referred to the use of Tasers, which would allegedly reduce the severity of injuries inflicted onto suspects, but also officers—despite the fact that the latter are always the ones wielding the electrical weapon, while apprehended individuals may not always be. Moreover, it seems that law enforcement officers, perhaps more than Cover, emphasized the tactical aspect of stun guns in the decades leading up to the 21st century and beyond through their potential to facilitate a subject's submission through incapacitating the; taking away one's access to their senses.

Interestingly, the state's interest in the individual, sensing body as a "site" to target for securing public order developed alongside the emergence of the US Department of Defense Non-Lethal Weapons Program in 1995 (under the command of the U.S. Marine Corps as its Executive Agent), as well as its various divisions such as the Joint Non-Lethal Weapons Directorate (1997) (JNLWP). As the JNLWP's website indicates, ever since the creation of the program, "the inventory of non-lethal weapons available to U.S. forces continues to increase" (U.S. Non-Lethal Weapons Program). At this point, Axon was not yet an active agent in the manufacture and

distribution of stun guns at a federal level. Brothers Tom and Rick Smith co-founded the corporation then known as TASER International in 1993—two years after Rodney King's unsuccessful and strikingly violent arrest involving a stun gun by then-competitor Tasertron—in Scottsdale, Arizona, where it is still headquartered (Woo). While their company was not founded until 1993, the Smith brothers might not have been so much on the sidelines of the stun gun conversation. As it turns out, they worked on their first version of the Taser with the inventor of stun technology himself, Jack Cover. The Smith brothers contacted the then-73-year-old Cover about retooling the Taser as a nonlethal self-protection device that could legally be sold to civilians (Woo). This initial collaboration led to multiple versions of Axon's stun weapon, the first of which, the Taser M26, was sold to US law enforcement (Gilbert). The most widely used version of Axon's Taser in the US and globally is the Taser X26P—which is not for civilian use but reserved for law enforcement officers (Axon). It took until 2001 for the LAPD to purchase Axon's stun guns, having formerly used weapons manufactured by Tasertron, whose Taser patent expired in 1998 (Gilbert and Caputo).

Between 1998 and 2001, Axon focused on selling its weapon to the LAPD by increasing the electrical charge on his Tasers, and making them look more like guns, which resulted in an agreement in 2001. Cover's original Tasers operated on only 5-7 watts —the M18-M26 series of Tasers created and introduced by Axon in 1999 and 2000 function on 18-26 watts of electrical output (Amnesty International, *USA: Excessive and Lethal Force?* 4). After 9/11, the National Institute of Justice conducted an assessment of non-lethal weapons for aircraft security, as per the November 2001 Aviation and Transportation Security Act (Davison "Contemporary Development of Non-Lethal Weapons" 70). The report established that electrical weapons like Tasers had potential to be most useful in the context of subduing during air travel, but advised

that further testing was required on safety issues regarding the effects of electroshock weapons (Davison "Contemporary Development of Non-Lethal Weapons" 71). After it emerged that non-lethal weapons, namely pepper spray, were involved in both plane crashes, the US Government Accountability Office noted in a report published in May 2006 that air carriers have "no demonstrated interest…to introduce less-than-lethal weapons, including electric stun devices, on their aircraft" (Davison "Contemporary Development of Non-Lethal Weapons" 71). While air marshals and airline companies did not show much interest in bringing stun guns into airplanes, the US state continued its research into electrical weaponry, and police agencies began incorporating stun guns into their daily practice, particularly after Axon bought out Tasertron in 2003 and its stun guns began quickly rising in popularity (Gilbert and Caputo).

As Davison points out, between 2004 and 2005, the US state offered more than $1 million in funding to the Institute for Non-Lethal Defense Technologies (INLDT) for contracts that included "the development of a 'non-lethal' weapons database and statistical research on the outcomes of uses of electrical weapons such as the Taser" ("Contemporary Development of Non-Lethal Weapons 76). He also remarks that although non-lethal weapons was still "a niche area within the US Department of Defense, there have been signs of increasing institutional support" ("Contemporary Development of Non-Lethal Weapons" 93). Particularly as the medical testing carried out before the nation-wide introduction of Tasers in the US, organizations like Amnesty International began increasingly voicing concerns over deaths following use of Tasers (Davison "Contemporary Development of Non-Lethal Weapons" 97). Amid concerns for injury and death, themselves informed by worries that police were not using Tasers as alternatives to lethal force, but often as a "compliance tools," stun gun profits were multiplying (Davison "Contemporary Development of Non-Lethal Weapons" 97). In 2012, Tom Smith, who was the

company's chairman after serving as its chief operator and president, announced his resignation and left TASER International for a Scottsdale-based aviation startup, handing over his position as the company's CEO to his brother Rick (O'Grady). In 2017, after making no less than $268 million in revenue in the prior year, TASER International changed its name to Axon—a medical term for "nerve fiber" corresponding more specifically to the long threadlike part of a nerve cell along which impulses are conducted from a given cell body to other cells (Reuters). It then started producing networked devices such as body cameras and software and automated administrative systems for police officers.

Axon's own corporate trajectory reveals an explicit discursive emphasis on the nervous system as a site of sentience to explicitly target in the enforcement of law and order through the use of electricity as a medium. Genealogically, this emphasis turns out to have always been present in discourses of non-lethality, be it explicitly or not, both federal and corporate ones. This tense relationship between non-lethal intervention and harnessing the nervous system offers a productive locus of inquiry to begin the process of critically examining what non-lethality entails for the human body. With this in mind, I now turn to an examination of human rights reports and news reporting on non-lethality to better understand how Axon responds to critiques of its technologies.

II. HUMAN RIGHTS INTERVENTIONS ON POLICE USE OF ELECTROSHOCK EQUIPMENT FOR DISCIPLINARY PURPSOSES

As police agencies across the US armed their officers with the electrical control device capable of inflicting up to 50,000-volt electroshocks to the human body, public backlash against law enforcement and Axon became increasingly prominent in the few years before, and the first

years of, the new millennium. As law enforcement increasingly used and normalized non-lethal weapons such as CEWs, critiques of non-lethality reached the mainstream, mostly through human rights experts, academics, and some independent reporters. As use of Tasers became more common, injuries and deaths associated with stun weapons were reported in Los Angeles and other cities in the USA (Wright "Sub-Lethal Weapons in Human Rights Abuse" 225). Medical researchers demonstrated a causal link between the miscarriage of a pregnant woman and use of a Taser as early as 1992, pointing to how electrical weapons may cause acute harm to vulnerable people, whom they affect disproportionately (Wright "Sub-Lethal Weapons in Human Rights Abuse" 225).

In 1997, Amnesty International published a report entitled *Arming the Torturers: Electro-shock Torture and the Spread of Stun Technology*. Focusing mostly on the spread in the use of electroshock technology towards purposes of torture in the context of incarceration, the report connects the proliferation of stun gun companies with a rise in, and intensification of, torture practices against incarcerated populations. Many early reports on the degrading and harmful effects caused by CEWs concern their uses for purposes of torture on detained, imprisoned or incarcerated individuals, including in court (see Amnesty Intl *Use of Electro-shock Stun Belts, Arming the Torturers, USA: Cruelty in Control?*; Rodley; Moseley). Moreover, many of these reports published at the turn of the 21st century focused primarily on documenting electroshock torture in foreign countries, and while they did not exclude the U.S. from such research, they mostly criticized U.S. companies for supplying the weapons.

Amnesty International's 1999 report *USA: Cruelty in Control? The Stun Belt and Other Electroshock Equipment in Law Enforcement* focuses on the use of stun belts in the context of detainment and incarceration. As the authors state,

> …[international] standards state that new [non-lethal] weapons must be "carefully evaluated" and their use "carefully controlled". The US authorities have failed…as electro-shock weapons have proliferated around the country's [police] agencies, especially at local level, without rigorous independent testing, evaluation and monitoring (2).

The agency urges the U.S. to cease its use of CEWs and corporations like Tasertron to discontinue their production of them "until and unless a rigorous, independent and impartial inquiry, including thorough medical evaluation, can prove that they are safe and will not contribute to deaths in custody or torture or other cruel, inhuman or degrading treatment or punishment" (3).

While the organization strongly critiques non-lethal weaponry, it does not condemn its use, but rather condones their development for law enforcement in hopes of minimizing casualties that usually occur from the use of firearms and batons (*USA: Cruelty in Control?* 2). When it comes to CEWs, however, Amnesty International is adamant: electricity as a medium should not be used towards corrective purposes, regardless of the non-lethal character of the electroshock weapon's impact, as it holds potential to inflict "pain without leaving substantial visible marks on the human body" (*USA: Cruelty in Control?* 2). As it locates its critique both in the technology itself as well as the potential (mis)uses that officers can make of it, Amnesty International exposes the abuse that electroshock stun equipment possibly facilitates—both of the technology itself, as well as of the apprehended individuals Taser-wielding officers attempt to discipline. Importantly, Amnesty International gestures at the element of invisibility that makes it so that the harm effected by Tasers often goes unnoticed. In her book *Cruel and Unusual: The Culture of Punishment in* America, Anne-Marie Cusac writes:

> "No longer a public or spectacular art, the use of pain on our criminals and on those suspected of being so is rarely visible. Much of it goes on behind prison and jail walls. The new ways of making pain—among them devices such as the restraint chair and the stun belt—are acceptable partly because we don't see them and also because the manufacturers and users of such devices promise that they are humane (182).

Through their use of electricity to inflict pain, Tasers leave no substantial marks on the body. Particularly when police use them on criminalized individuals, the invisibility of the harm effected by Tasers holds potential to lead to excessively violent encounters with law enforcement. Such issues simply do not emerge and cannot be tackled from within the impermeable framework of "humane" subduing and ECW non/lethality put forth by U.S. law enforcement and CEW corporations. Amnesty International gestures towards the shortcomings and biased character of a binary comparison between non-lethal and lethal weapons, most importantly as their use involves the infliction of debilitating pain and possible long-term sequelae.

A few years later, in 2004, Amnesty International published another report decrying the U.S. use of Tasers, this time emphasizing the rising death toll that accompanies their use. The study, *USA: Excessive and Lethal force? Amnesty International's Concerns about Deaths and Ill-Treatment Involving Police Use of Tasers,* advises that police departments limit use of CEWs to situations where the alternative would involve use of deadly force. Amnesty International also stresses that this should be done with strict guidelines, reporting and monitoring systems. A year later, in 2005, the American Civil Liberties Union of Northern California (ACLU) published the study *Stun Gun Fallacy: How the Lack of Regulation Endangers Lives*. The report's executive summary notes that US law enforcement agencies were increasingly purchasing and deploying

Axon's weapon in the early 21st century as a "non-lethal alternative to deadly force...[but that] while the Taser is less deadly than a traditional firearm, it is hardly the non-lethal weapon its manufacturer promotes under the slogan "Saving Lives Every Day." In the report's first section titled "Deaths Increasing", the ACLU contends, "as Taser sales have increased, the number of deaths associated with their use has also skyrocketed" (3). Importantly, the ACLU decried TASER International's "misleading marketing terminology" and exaggeration of their device's safety while downplaying its risks, noting that "in many of its press releases and other public statements, Taser International does not qualify its use of the term non-lethal at all, and simply leaves it open to a more literal interpretation by the public, the news media and policy makers" (6). As Cusac points out, Axon insisted for years that its weapons were safe before making "more modest claims" (Cusac *Cruel and Unusual* 225). In 2006, Axon partly acknowledged the "risks and dangers faced by individuals in the situations where taser devices can be used," but still claimed its Tasers to be safer use-of-force alternatives and more effective than other types of force" (Cusac *Cruel and Unusual* 225).

In the first few years of the 2000s, public criticism of ECWs was moving increasingly towards rebutting their alleged non-lethality following evidence of deaths in custody, and calls for stricter and more rigorous regulation around the weapons. These reports and a growing public debate around electrical non-lethal weapons led to Amnesty International publishing another report in 2007, whose title was a direct request to the American state. The report, called *USA: Amnesty International's concerns about Taser® use: Statement to the U.S. Justice Department inquiry into deaths in custody* announced over 290 deaths resulting from police use of Tasers to subdue individuals in the USA and Canada from June 2001 to 30 September 2007 (3). Amnesty International does not conclude a relationship of causality between these deaths and the

technology itself, but stresses "the deaths underscore the need for thorough, independent inquiries into their use and effects" (3). When asked about the report, then-vice president of TASER International (now Axon) Steve Tuttle affirmed that the study was faulty and linked deaths to Taser use without presenting sufficient evidence of their direct correlation. He claimed that the corporation "remain[s] concerned that Amnesty International continues to ignore the fact Taser systems have been medically cleared in nearly all of these incidents" (Hostetter).

In a heavily circulated report published in 2007, the United Nations' Committee against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment stated it is "concerned that the use of [the Taser X26] causes severe pain constituting a form of torture..." (*Report of the Committee against Torture* 32). In this same section of the report concerning the Portuguese state and its unethical and torturous uses of Taser technology, the Committee urges them to "consider relinquishing the use of electric TaserX26 weapons, the impact of which on the physical and mental state of targeted persons would appear to violate articles 1 and 16 of the Convention" (32).

Following heavy mediatization of the statement in 2007, when Axon was not only supplying the US but also multiple other nation-states with their technologies, Agence France Presse (AFP) interviewed Smith to inquire about his views on the U.N. report on cruelty, torture and the role of the Taser in it. In the interview, Smith claimed that the criticism expressed in the report "shows how out of touch the UN committee is with modern policing," adding that "there's not one use of force the police employ that does not inflict pain" (ABC News). More strikingly, Smith assured: "With the Taser, the intent is not to inflict pain; it's to end the confrontation. When it's over, it's over" (ABC News). Within early US understandings of non-lethal weapons, as well as Axon's later corporate discourse, there is no space to question the use of electricity

itself as constituting an unethical infliction of harm onto human beings to discipline them. Both police representatives and Axon discursively disengage from the issue of excessive violence in policing practices, and how Tasers not only may not help in reducing it, but actually facilitate its occurrence.

Axon dismisses its weapon's infliction of pain to the human body as a contingent, if not negligible, necessary evil and subsumes the experiences of harm and suffering under a vague goal of "ending confrontation," teleologically understood as the successful involuntary immobilization of a given subject. In his article "Assessing Technologies of Political Control" published in 1999, Rappert already raises concerns regarding the so-called preferable outcomes that non-lethal technologies help realize. Similarly as Anaïs, he suggests critically examining non-lethal weapons according to the "politics" of the technology. Rappert argues that proponents of non-lethal weapons often advance weapons such as CEWs' alleged desirability for society according to determinist logics, wherein "technological change is subordinate to and aligned with social change" resulting in lacking engagement with particular contexts as well as complex and changing patterns and social, political, and cultural implications (Rappert "Technologies of Political Control" 745, 746). As it ignores the violence that still characterizes electrical incapacitation—both lethal and non-lethal—and the contexts and encounters in which police use Tasers, Axon's corporate discourse emphasizes so-called non-violent technologies instead of non-violent techniques and practices.

As a matter of fact, the home page of Axon's corporate website invites visitors to "learn how [their] technologies can solve humanity's oldest problem" (Axon). It is unclear what Axon understands as the world's oldest problem—the general use of excessive force? Or police brutality? In any case, Axon's discourse does not even suggest that Tasers may *assist* in reducing

occurrences of lethal or non-lethal violence, but rather singlehandedly resolve the issue. As Anaïs writes, "there can be no simple one-way relationship between the political and the technological. Technical devices mediate and embody a number of contestations" (*Disarming Intervention* 52). Axon's discourse of non-lethality as safety effectively pits incapacitation against death through emphasis of one technical feature of its weapon, namely delivering an immobilizing electrical shock, with no regard for aspects of technology such as "actors' attitudes, conception of weapon capabilities, and expectations about technological change" which significantly inflect on how situations of apprehension or captivity unfold (Rappert "Toward an Understanding of Non-Lethality" 52).

Conversely, criticisms of CEWs by human rights organizations put forth critical issues that technological change alone cannot tackle, such as the overuse and misuses of force occurring through non-lethal weapons—specifically electricity—which Axon's weapon afford or facilitate, as well as poor or lacking regulation and training resulting in such excessive violence. Human rights organizations raised concerns regarding the use of CEWs that go beyond problematizing the technology itself, but also the conditions it is used in, which often result in painful, violent, and overall unsafe encounters with law enforcement. As Amnesty International, the ACLU, and the United Nations among others demonstrate, this potential for excessive force and infliction of debilitating pain in and of themselves problematize the safety of Tasers for the human body, contrary to what understandings of non-lethality by Axon and US law enforcement indicate. These human rights arguments put forth the point that non-lethality does not guarantee safety for the human body at all, and that criticism needs to be specific of both the medium in use itself and not the conditions in which the weapon is used. In directly addressing the US state and Axon, these reports underscore close ties between the US state and corporations with federal

monopolies on a class of weapons such as Axon. They also highlight their shared dismissive attitudes regarding the use of force in policing practices and inalienable human rights, which raises doubts regarding the potential translation of these beliefs into Axon's definition of safety, the way it markets its weapons as working, as well as the very mode of operation of the weapons themselves.

In 2011, a few years after but still in conversation with the U.N.'s report on torture, cruelty and inhuman Treatment, *CBS News* spoke with Rick Smith in an interview entitled "The Taser: An Officer's Weapon of Choice." In it, Smith affirmed: "The idea of using electricity to incapacitate at its core is, frankly, a beautiful and simplistic idea. That rather than causing death or injury to someone, if we can just temporarily take away control of their body and get them under control, it's about as nonviolent as you could get" (CBS). For Smith, kinetic incapacitation defined by forced interruption of the body's nervous system constitutes a nonviolent use of force alternative for police agencies. Smith's vocabulary is telling of Axon's efforts at selling its technology by grounding it in a mystified, idealized vision of electricity that fails to situate it amid the larger history of electrical modes of incapacitation. Crucially, as Smith disavows the infliction of debilitating pain as an intent, cause or mode of operation, he implicitly acknowledges that pain still centrally figures as a *consequence* of neuromuscular incapacitation. According to Axon, the infliction of pain is not the causal mechanism according to which incapacitation occurs, but use of Tasers does necessarily imply the targeted person feeling pain as a result. That is, Tasers are pain compliance weapons.

The head of Axon deflects the UN's criticisms regarding his device's infliction of pain by resorting to an ill-defined concept of non-lethality to legitimate his device's safety, effectively deflecting questions on the process or the means in favour of answers regarding the ends or

intent behind Taser weapons. Important to note is the fact that the U.N.'s concerns pertained not so much to the effectiveness of the Taser, but the way it supposedly achieves this effectiveness—namely, the infliction of debilitating electrical pain, which it deems a violent and unethical consequence of this particular use of force by law enforcement. Axon does not engage in any discussion of its device's processual safety or ethicality of the medium's use in response to the U.N.'s concerns. Rather, it shrouds its technology in a mystified discourse informed by little more than unrealistic and inaccurate depictions of electrical incapacitation practices bolstered by uninformed value judgments. In guaranteeing that its weapon's safety merely corresponds to its non-lethal consequences, Axon's discursive framing of the issue of safety in terms of non-lethal versus lethal impacts comes with its own stakes for the legibility and representation of the harm inflicted onto the human body using a Taser, especially for injuries that do not cross the threshold of biological life through which Axon understands the effects of its devices.

Smith suggests that Axon understands the infliction of debilitating pain and the act of ending confrontation through kinetic incapacitation to be both necessarily co-constitutive of one another. The infliction of electrical harm that produces pain as a prominent bodily affect and sensation constitutes an *irrelevant variable* in the assessment of the safety of a Taser due to it allegedly not being its initial intent. Cultural beliefs regarding the necessary use of violence in policing and Axon's rhetoric of non-lethality bracket any assessments of harm, physical and otherwise, from the question of how safe the Taser actually is. Axon instrumentalizes non-lethality to put forth the Taser's intent behind its infliction of pain (i.e. keeping people alive) instead of engaging with the process through which it achieves this and its consequences on the human body. Importantly, through Axon's refusals and deflection of public criticism, it seems that non-lethality emerges as a discursive stand-in for the company's taking accountability of the

harms its weapon inflicts. Smith's emphasis on the non-intentionality of the infliction of pain within the Taser's "non-lethal" mode of operation suggests corporate attitudes and opinions regarding debilitating electrical pain as constituting a legitimate means to an end to force one into subjugation ostensibly less violently. By characterizing pain as an independent variable that concomitantly occurs in the process of electrical subjugation, Smith refuses to acknowledge that his device's infliction of debilitating pain and suffering, as well as its proven contribution in cases of death in custody, may problematize the so-called "safer" and "non-lethal" character of electrical incapacitation. If materially translated into Axon's conducted energy weapon, these beliefs and attitudes reveal the human body's senses as not only disregarded in Axon's so-called professional assessment of its device's safety, but also and perhaps more alarmingly as a new site of exploitation for the enforcement of law and order in contemporary America.

III. CORPORATE NON-LETHALITY AS SAFETY: A MATERIAL-DISCURSIVE FRAMEWORK TO INSTRUMENTALIZE THE PROTECTION OF LIFE AS A RHETORIC

At the same time as Axon's representative acknowledges the production of suffering by its weapon, he refuses to acknowledge causing pain calls into question the safety of Tasers for the human body. The way Axon articulates its beliefs on "non-lethality as safety" in its official corporate discourse as well as its dismissal or plain refusal to engage with concerns human rights organizations have been raising for decades further reifies an understanding of non-lethality as merely technological. Within this understanding of non-lethality, the preservation of biological life supersedes any other harmful consequences of electrical incapacitation as a policing technique. How does Axon frame its understanding of non-lethal intervention in its corporate

discourse? Does Axon translate the beliefs and dismissive attitudes on inalienable human rights its representatives communicated more colloquially into an official framework of safety assessment and accountability?

The page on Axon's corporate website entitled "How Safe Are TASER Weapons?," displays a short but self-explanatory statement: "TASER smart weapons help protect life," (Axon, "How Safe Are Taser Weapons"). A bit further, Axon discloses that its engineers built their Taser Smart weapons according to three priorities: "safety, accountability, and performance (Axon, "How Safe Are Taser Weapons"). These three criteria are translated into three sets of corresponding numerical evidence as part of a study conducted in 2009 by Emergency Medicine researcher and physician William P. Bozeman under the supervision and funding of the American College of Emergency Physicans (ACEP). The study mentions over 200 000 lives saved ("from death or serious bodily injury", in smaller font), and 99.75% of field cases resulted in "no serious injuries" (Axon, "How safe are Taser weapons"). Axon explains its priorities in building its weapon through five subsections, respectively named "Improved data and analytics," "Confidence in court," "Research and safety," "Saving lives," and "Selected studies" (Axon, "How Safe are Taser Weapons").

Both of the first sections advertise Taser Smart weapons' ability to document and keep "important records," as confirms the single testimony displayed in the second section, which discloses that a Taser's firing logs were used as evidence in court to "prevent a lawsuit" (Axon, "How Safe are Taser Weapons"). It is unclear how the information Axon provides in these two sections, which are the first ones on its page about its weapon's safety, really relate to the latter or to the corporation's priority of being accountable—at least when it comes to applying these beliefs to the discussion around potential harms incurred through use of its weapon. The latter

three sections, "Research and Safety," "Saving Lives," and "Selected Studies" seem closer to the first two values of safety and accountability Axon emphasizes. Research on Taser safety indicates that "TASER products save lives, prevent injuries, reduce litigation, and save agencies a lot of money" (Axon, "How Safe are Taser Weapons"). The section on "Saving Lives" reiterates that "TASER weapons exist to save lives, but also reveals that "[Taser] Smart Weapons specifically target the motor nerves that control movement, which enhances the effectiveness of restraint while minimizing harm—an alternative far superior to using firearms in many contexts" (Axon, "How Safe are Taser Weapons").

While the first two sections on "Improved Data and Analytics" and "Confidence in Court" aim to convince the public of the safety of Tasers, the information reveals an understanding on its part of safety as the ability to record altercations with police officers. Importantly, this connotes an assessment of safety that Axon undertakes a posteriori, or after the fact. Axon grounds evidence of its weapons' safety in its ability to facilitate accountability processes after the fact of their use, rather than during. While Axon proclaims that accountability is one of the foundational values in building its weapon, the corporation says very little about steps it takes to concretely ensure that it takes accountability of the full spectrum of consequences that result or occur from the use of Taser weapons—including what is done to subdue someone without killing them through electrocution. In the latter three sections, Axon says more about how it understands its weapon's potential to protect life as a process of minimizing harm and increasing efficiency compared to firearms. It defines non-lethality in somewhat more material terms, disclosing what makes Tasers more efficient than firearms is their targeting of the nervous system to incapacitate individuals, thus saving lives (Axon, "How Safe are Taser Weapons"). This claim relies on the assumption that a police altercation involving

a firearm would lead to death. Axon states that the temporary suspension of one's control over their own senses and capacities to move, among others, constitutes safe use. It also increases the effectiveness of apprehension processes for law enforcement, while in their perspective, also minimizing harm for civilians—despite the experience of a nervous response to electroshock in the form of debilitating pain.

According to both Axon and various representatives of American police agencies, what can be done in response to what they both consider and discursively naturalize as the "normal" state of things in policing—that is, the poorly regulated use of force and the unnecessary infliction of pain—is limiting the risk for death at the hands of police. They do this through effecting a change in the nature of the technologies used to enforce law and order. By institutionalizing CEWs into police practice, Axon and US police imply that police brutality will be remediated through "less deadly" technologies, instead of less violent and often deadly policing practices and cultural beliefs regarding the latter. Axon's all-encompassing concept of non-lethality is actually often interchangeably used with less-than-lethality, which effectively amounts to a definition of safety characterized by reduced risk for death through the use of the device. Different human rights agencies have called out Axon and the US department of justice, underscoring the misleading character of Axon's discursive use of non-lethality to guarantee its weapon's safety. They stress that non-lethality should be more fully defined as more than "not death."

Axon responded to Amnesty International, the United Nations, and the ACLU among others' criticisms and requests for cessation of production and distribution through refusals and deflections. As I discussed above, the ACLU has criticized Axon for failing to clearly explain what non-lethality materially entails and exaggerating the safety of Tasers at the same time as it

downplays its risks, both in corporate documents and in public statements (ACLU 6). In light of the information Axon's representatives make available on their corporate website as well as in interviews, Axon's marketing terminology and all-encompassing use of concept of non-lethality form a discursive framework through which the corporation justifies its technological instrumentalization of electricity towards corporeal discipline. That is, Axon instrumentalizes a concept of non-lethality that appeals to human rights values, precisely so as to harness electricity towards individual correction and discipline. Axon distinguishes its Tasers from previous non-lethal weapons and stun guns through a corporate logic that diminishes the importance of non-lethal intervention, dismissing concerns of suffering and excessive violence and turning non-lethality instead into a rhetoric to legitimate the use of electricity towards corrective purposes as "humane" or "nonviolent" (CBS). Through these parallel processes of instrumentalization, Axon creates a material-discursive apparatus that obscures the very harms Tasers inflict.

As for Taser safety, Axon's official description of how its weapons impact the body safely, as well as what it understands as its "non-lethal" consequences remain insufficient. To further refute this constant folding of safety, a deeper understanding of the ways in which Taser weapons may facilitate the infliction of harm while affirming it is necessary. To do this, I turn my analysis to sources that examine how neuromuscular incapacitation operates. In the next chapter, I interrogate more closely how Axon assesses "non-violence" in its practices, the reduction of injury, and the conditions of safe use that Tasers allegedly create. The issue of where violations to the human body figure (or not) in Axon's technical documentation and emerge in the material device's functioning, and how Axon translates these potentially harmful effects discursively through its marketing discourse, are precisely what is at stake in critically unpacking the material implications of corporate non-lethality.

Chapter 2:

Non-Deadly Harm and the Medically Authorized Weaponization of Pain

At the same time as it refuses accountability for the infliction of harm and unnecessary pain perpetuated through the use of its Taser weapons, Axon admits to harnessing the human body's nervous system electrically to allow police officers to incapacitate potential offenders "more efficiently" (Axon, How Safe are Taser Weapons). This involves the sometimes-repeated infliction of electrical injury onto a person's body to impact motor nerves that allow movement to the point that they are stunned into subjection. Axon says very little on its website about what happens to the human body as Tasers target and impact its motor functions in order to immobilize a person in a so-called safe and nonviolent manner—or what are the consequences of this harnessing of the nervous system for the person experiencing the shocking. In fact, disclosing that Tasers affect motor functions is as far as Axon goes in providing a clear definition of what characterizes Tasers' non-lethal mode of operation to the public it introduces its weapons to, which itself is mostly comprised of law enforcement agencies. By foreclosing any discussion of the pain that characterizes the sensory, bodily experience of Tasering—which various human rights organizations have compared to torture—Axon's marketing discourse reveals a gap in its understanding and explanation of non-lethality. Axon's corporate framework on the non-lethality of its weapons ignores the abuses that Tasers enact on the human body, including prominently the experience of debilitating pain. In this chapter, I turn to what Axon's corporate notion of non-lethality obscures about how Taser weapons affect the nervous system, and more broadly the human body, and what this may reveal about just how independent from the goal of neuromuscular incapacitation the infliction of pain by Tasers is.

I start with the question of how Axon portrays the "safe" functioning of its weapons. I examine how Axon presents and promotes its weapons on its website. I pay particular attention to how Axon describes the Taser X26 and how it functions. This particular model rose to popularity in the first decade of the 21st century; it is also the device that the U.N. and Amnesty International, among others, criticized in their reports on human rights violations committed through the use of CEWs, as I discussed in the previous chapter. Axon created the Taser X26 in 2003, and different law enforcement agencies used it until 2014, when it was officially discontinued and gradually replaced with the X26P (Girion 2017). I am particularly interested in what types of injuries Axon claims its Taser X26P weapon can reduce the incidence of compared to its predecessor the X26, both of which harness electricity to stun individuals into incapacity. I analyze corporate discussions of such issues through official documentation where Axon describes how the weapons have been changed or "improved." As I examine what features the X26 and X26P may share and the changes between the two models, I explore how changes between the two models of Tasers may speak to changing ways of understanding how the body is, and can be, injured and harmed by CEW technology,

Following this, I review a set of emergency medicine studies for which Axon published the results of on its website to promote its weapon's safety. Axon draws on the results of these studies in order to make the case for the safety of its weapons, precisely around the medical construction of its non-lethality. According to the studies, "99.75% [of altercations involving Tasers] resulted in no serious injury" (Axon, How Safe are Taser Weapons). My interest lies in what constitutes "serious injury" from Axon's perspective, and whether and how its frameworks—and the studies on which it draws—downplay the range of injuries its weapons cause. I identify how medical criteria and considerations are used to inform assessments of Taser

safety, to determine the impact of whether and how harm from Tasering becomes less legible, and how, if at all, this harm is taken into account in the medical studies done on Tasers' impacts on the human body.

Axon both admits to using electricity specifically to target the human nervous system, and yet, as I argue, disavows the consequences its weapon may have on it. My analysis examines how Axon argues for the safety of CEWs by disavowing a range of injuries, using scientific evidence to back up its claims. I analyze how Axon assesses the potential injuries in the manufacturing of its weapons and what forms of harm infliction it might build into its technology at the same time as it argues for its supposed safety. By centering non-lethal injuries and harms. I aim to complicate Axon's one-dimensional assessment of Taser safety around the construction of their corporate-medical notion of non-lethality. I do so in order to understand what is at stake in Axon's selective assessment of its weapon's safety for the human body's affective experience of Tasering, and what forms of abuse Axon's weapon can and already does facilitate in close collaboration with different institutions outside of law enforcement.

I. HOW DO AXON'S WEAPONS REDUCE INJURIES?

A quick Internet search for Axon displays the company's website and its short, yet self-explanatory mission statement and slogan: Protect Life (Axon). Upon entering the Solutions part of Axon's website, people can choose between the options of "Law Enforcement," "Self-Defense," and "Military." On the page dedicated to police departments, Axon offers three different "solution options," in which Axon Tasers, body cameras, and software data storage programs can be deployed: in the field, at the station, and for the court. I examined the "In the field" section because of its particular relevance for my research. The section's main page

displays a short paragraph which reads: “For the hundreds of encounters law enforcement officers face on patrol every day, you need to know you have the tools to keep everybody safe. The Axon network can help you save lives and reduce injuries in more ways than one…” (Axon, In the Field).

On the same page, under the three Taser Smart weapons the corporation advertises (the Taser 7, the Taser X2, and the Taser X26P), Axon describes its Tasers as devices that “protect life in the moment of conflict and represent [its] safest and most effective weapons to date, with a warning arc and the ability to regulate charge output” (Axon, In the Field). For the Taser 7, Axon discusses how it improved the weapon’s performance when it comes to “misses”, “clothing disconnects”, and “close probe spreads” (Axon, In the Field). With the X2, Axon incorporated features allegedly requested by police officers such as backup shots (which eliminate the need to manually reload cartridges), dual lasers to reduce “aiming guesswork”, and a warning arc, which produces a loud noise to “increase voluntary surrenders and help stop conflicts from escalating” (Axon, Taser X2). On an older page on its website, Axon also describes its Taser X2 as “the accountable de-escalation device” meant to help officers “safely defuse situations” (Axon, Taser X2). Finally, Axon describes the X26P as being “safer and more effective than the X26E…and improved inside and out to help [officers] act confidently in the field” (Axon, In the Field). A brochure for the Taser X26P found on Axon’s website puts forth additional features of “charge metering” and “self-diagnostics”, respectively meant to “optimize the current output” and perform “complex analysis of the weapon’s internal systems” (Axon, Taser X26P). Another new feature pertaining to the stun gun’s functioning is advertised as “Performance power magazine,” which Axon describes as its weapon’s ability to “offer 300 more discharges than the original X26E’s digital power magazine (DPM). The rest of the new features pertain to data collection for

evidence purposes, the addition of cameras, and weather resistance. While Axon put the emphasis on de-escalation in its marketing of its X2 weapon, it promotes the Taser X26P according to concerns of officer safety, improved technical efficiency and storage, and features such as ergonomic design and compatibility with Axon's cloud software.

Axon describes the Taser X26P as building on the X26E's legacy (also referred to as X26); it modeled the weapon after "the original X26E [and] made [it] better" with features that make Taser Smart weapons "safer and better than ever" (Axon, Taser X26P). The Taser X26 was Axon's best-selling device—and also the weapon that the human rights reports I discussed in the previous chapter focused on in their calls for CEW discontinuation (Caputo, Goodyear). As a response to different cultural authorities decrying the risks of the X26 for the human body, Axon stopped selling its weapon in 2014 (Girion). Merely a year before, in 2013, Axon launched the Taser X26P. Axon's website also does not say when each weapon was created, but research reveals that the Taser 7 is the most recent (2018), followed by the X26P (2013) and the X2 (2011) (Girion). The Taser X26P, X2, and X7 are all part of Axon's new generation of "Smart Weapons," ostensibly created to gradually supplement Axon's best-selling Taser X26 after it was taken out of the sales lineup. What made the Taser X26 so popular that Axon brought it back in a "safer" version? And how is he Taser X26P safer to use on the human body compared to the Taser X26? While the X26P is directly compared to Axon's X26, the company does not provide more contextual information on the X26P's predecessor on its page dedicated to law enforcement, nor does it make legible what is similar, yet different, about the two weapons.

A search for "Taser X26" on Axon's website shows results for the weapon's page in their "Help Centre," where a user manual is available for download. In it, Axon (then known as Taser International Inc.) provides warnings, general information and features, information about

Electronic Control Devices (ECDs) as Axon calls them, and maintenance and troubleshooting. Axon introduces its weapon by stating "the X26 ECD transmits electrical pulses along the wires and into the body affecting the sensory and motor functions of the peripheral nervous system" (Axon, X26 User Manual 5 in Taser X26 Downloads). The manual briefly describes the process of neuromuscular incapacitation (NMI), explaining that the sensory and motor nerves which the Taser X26—and Taser technology more broadly— affect are respectively those that "carry information from the body to the brain (temperature, touch, etc.)" and "carry commands from the brain to the muscles to control movement and can be involuntary in response to the sensory information" (5). The weapon's user manual does not attribute any immediate commonly experienced effects to the use of the device, but rather designates such effects, including injuries, as "secondary in nature and not directly attributable to the electric output of the ECD, but [as] possible consequences of the strong muscle contractions the ECD induces to produce incapacitation" (6). Among these injuries, Axon lists falls, yelling or screaming, involuntary strong muscle contractions, "freezing in place with legs locked," dazed feeling and vertigo, tingling sensation and the inability to remember any pain, or "critical stress amnesia" (6). Axon directs users to its website for a full list of its warnings regarding Taser use.

First, the weapon's "efficiency" lies in large part in its capability to affect both sensory and motor functions, which Axon implies differentiates the X26 from previous stun guns. Whereas earlier generations of stun guns mostly affected the sensory nerves, thus relying on pain compliance to subdue, the X26 harnesses motor capacities to take away mobility as well as control of a targeted person's body. So does Axon's Taser X26P. Thus an important feature of Axon's Taser weapons that differentiates them from older stun guns is their involuntary disruption of one's motor system, resulting in forced incapacitation, restrained mobility, *as well*

as pain. Axon's weapons do not *primarily* depend on the infliction of pain to be successful in subduing an offender, which in itself is a complicated claim, but is also what Axon uses in part to claim its weapons' increased safety—at least compared to older stun guns and firearms. Axon uses the language of nerve "stimulation" to emphasize that its processes of incapacitation do not happen via pain compliance, even though the X26 does cause pain. Rather, the weapon's effectiveness lies in its effect on neuromuscular control. In fact, Axon's newer models are aimed at incapacitating those who may have a higher pain tolerance.

Axon's description of the Taser X26P in the latter's user manual is brief compared to that found in the X26's. It says more about the weapon's added technical features rather than its core functioning. Axon explains neuromuscular incapacitation, and once again stresses that the policing practice of NMI facilitated by use of its weapons is not dependent on pain and is effective even on subjects with high pain tolerance. Axon's section on NMI in the X26P's user manual comes across as more informal and direct in its approach. The manufacturer addresses potential users directly, writing: "TASER technology is designed to use electrical impulses similar to those in your body's nervous system to cause simulation of the sensory and motor nerves" (Axon, X26P User Manual 4 in Taser X26P Downloads). Axon naturalizes its weapon's still-mystified way of functioning as familiar and even organically occurring, effectively obscuring even more how the X26P might actually work in ways that inflict injury, regardless of how serious it is deemed to be. Interestingly, the section "Common effects of NMI" that Axon included in the X26's user manual is nowhere to be found in the X26P's. Axon's newer user manual, then, no longer even acknowledges the injuries that accompany the use of its weapon. Rather, Axon advises users on what to do "Following CEW use", namely to "not twist the probe as the barbed tip may cause additional injury" and to "take photos of any injuries, [and] place the

photos into *Evidence*", which is Axon's cloud-based data collection software (Axon, X26P User Manual 24). By shifting to a focus on advice for how users can avoid causing injury to those who have been electro-convulsed, the responsibility for injury appears to lie with individual users, and not the technology itself.

There are the forms of safety information that Axon makes available on its website for users in law enforcement and for members of the public. From this comparison between how Axon presents both of these two important weapons, it appears that what makes the Taser X26P a safer and better version of the X26 are more so new features, rather than amends to the weapon's core way of functioning and affecting the nervous system. These features seem to pertain more to new, replaceable, and upgradeable firmware, such as cartridges, power magazines and batteries with extended life, which come with added ways of recording evidence and extending the weapon's ability to do so. As I suggested in Chapter 1, Axon understands safety and accountability on terms that occur after the fact of its use. Through its official marketing discourse and its technical explanations of how its weapons function, Axon assesses and allegedly increases its weapons' safety by emphasizing and developing their ability to record altercations, instead of how they may perform NMI with less harmful effects.

In itself, this says little about how the X26P achieves incapacitation more safely than the X26. What it does speak to, however, is to new ways of presenting the corporation's weapons as safe compared to the X26, rather than taking concrete steps to make them so. According to a recent article, "the [then new] X26P, was a less powerful Taser than previous versions […] Axon…decided to reduce the power at a time when it was facing dozens of product liability lawsuits. The X26P, released in 2013, emitted about half the electrical charge of its predecesso*r*, which LAPD officers had carried for years" (Caputo). An article published in Reuters as part of

its "Shock Tactics" series confirms that while the X26P's charge is of 63 (+/-9) micro coulombs, the X26's is anywhere from 80 to 135 micro coulombs (Girion). This is no doubt a crucial fact about Axon's new generation of stun guns, which itself raises questions regarding the safety of all of Axon's weapons, particularly the X26. Even as different authorities raise alarm about the risks of using the Taser X26, and despite putting out new CEWs on the market, Axon did not recall its most powerful weapon. Perhaps because the Taser X26 was a bestseller and police favorite that agencies used for over a decade (Caputo, Goodyear). As Axon spokesman Steve Tuttle affirmed himself in 2017, "There's a lot of X26s out there. It was our product that was out there on the shelf the longest" (Girion).

From this, it seems that what makes Axon's newer weapons safer is their decreased charge, as well as a charge metering feature, which allows to deliver "optimal charge" (X26P User Manual 5). Axon responded to human rights organizations' criticisms and requests for improved, less harmful, and overall safer non-lethal techniques of policing through the creation of a new, less powerfully charged technology. Axon does not recognize these changes as reducing its weapon's capacity to inflict harm, but rather as simply making them "safer and better," effectively refusing to take responsibility for the harmful effects of its earlier weapons' technology (Axon, The Taser X26P). To this day, US police departments still use the Taser X26, and Axon still sees no reason to recall the weapons. A *New York Times* article published in 2018 notes that Axon began warning users against aiming for people's chests. "Even though [Axon does not] believe there's evidence [Taser-related cardiac arrest] happens in humans, it's worth giving the warning in an abundance of caution," co-founder Rick Smith told the interviewer (Goodyear). Axon refutes the argument that its Taser X26 "poses special risks," instead

persistently stressing that its newer models are "safer" (Girion). How does Axon assess its weapons' safety for the human body, then, or how does it assess the injuries it allows to reduce?

II. THE ASSESSMENTS OF INJURY, HARM INFORMING AXON'S SAFETY CLAIM

Axon has dismissed the results of Amnesty International's 2006-2007 study reporting deaths and ill-treatment following Taser use as "flawed," claiming that Tasers have been "medically cleared in nearly all…incidents" that involved a Taser and resulted in the apprehended person's death (Associated Press). Through closely analyzing the research published to authenticate this claim with the information about the X26 and the X26P above in mind, I analyze how Axon further justifies the use of its weapons based on its supposed lack of harmful effects. Although there are different groups of weapons as outlined above, Axon uses them interchangeably when it comes to explaining the safety of its own particular use of neuromuscular incapacitation. After identifying what stun guns the medical studies Axon cites are based on, I closely examine Axon's claim regarding their weapons causing "no serious injury" (Axon, How Safe Are Taser Weapons). I ask what is at stake for the human experience of electroshock policing in Axon's definition of its weapon's safety as the absence of serious injury by questioning what medical conceptions of injury, harm and pain inform this assessment. Because Axon specifically utilizes a medical study to argue for the safety of their weapons for use on the human body, I proceed to explore whether and how medical constructions of harm and injury authorize Axon's corporate discourse of non-lethality, and the company's general disavowal of the harm caused by its weapons. Through this, I argue that "safe" does not necessarily mean harmless when it comes to Axon's Tasers.

As Axon's website claims, "research has proven TASER devices reduce injuries to officers and suspects when used properly" (Axon, In the Field). A hyperlink leads back to Axon's "How Safe are Taser Weapons" page and to the primary medical inquiry into Taser safety that Axon cites to claim that 99.75% of 1,201 field cases of Taser use "resulted in no serious injury." Its website provides a link to the American College of Emergency Physicians (ACEP) as source of the study, while on another part of the website, Axon identifies that the study was funded by the US Department of Justice and conducted by the Wake Forest University Baptist Medical Center. The link to the ACEP directs users to a press release entitled "Serious Injuries from Taser Extremely Rare" that the ACEP published in January 2009 announcing the findings of Bozeman et al.'s three-year review of "all Taser uses against criminal suspects at six law enforcement agencies [between 2005 and 2008]." The study was published in the ACEP's peer reviewed journal *Annals of Emergency Medicine* in 2008. In the press release, the ACEP announced that there were "only three significant injuries [recorded] out of 1,201 criminal suspects subdued by conducted electrical weapons (CEW), or Tasers," reporting that "99.75% of criminal suspects shocked by a Taser received no injuries or mild injuries only, such as scrapes and bruises" (ACEP). Moreover, 492 out of 1,201 suspects apprehended suffered "mild injuries, mostly superficial puncture wounds (83 percent)." Three subjects sustained "significant injuries, two suffered from head injuries related to falls; the third suffered rhabdomyolysis, or a rapid breakdown of muscle tissue" (ACEP).

In their study named "Safety and Injury Profile of Conducted Electrical Weapons Used By Law Enforcement Officers Against Criminal Suspects," Bozeman et al. announce that their goal is to undertake an accurate study of the overall safety of Taser weapons, one that takes place in the field and not on animals or healthy human volunteers so as to "accurately reflect risks

among criminal suspects in whom coexisting medical and psychiatric conditions, alcohol and drug use, and other factors are often present" (Bozeman et al. 481). The authors contextualize their intervention within the "controversy [that] the temporal relationship [between Taser use and cases of death] has led to…about the use and safety of conducted electrical weapons," and announce that despite this proximity, "the overall risk of serious injury or death after conducted electrical weapon exposure has not been previously reported" (481). The authors use medical and police evidence of the effects of Taser use on apprehended offenders as primary materials, which physician site investigators recorded on body outline sketches and reviewed to "identify and classify injuries sustained by subjects after conducted electrical weapon use" (481). These physicians come from medical specialty associations that all happen to be within the same domain—the National Tactical Officers Association, American College of Emergency Physicians, Society for Academic Emergency Medicine, and National Association of EMS Physicians (481).

Study staff then reviewed physician site investigators' sketches and "regionalized these using standardized data abstraction techniques and anatomic markers," so as to group recorded injuries into 7 body regions. These are: "head/ face/neck, chest, abdomen/pelvis, back, upper extremities, lower extremities and buttocks, and genitals… For reporting, these were further grouped into trunk, extremities, and potentially sensitive (head/face/neck and genitals) areas" (482). Bozeman et al. then assess these injuries as mild, moderate, or severe according to definitions and classifications they determined a priori, or before they conducted the case studies, to "determine the incidence of injuries and adverse outcomes after law enforcement use of conducted electrical weapons," or in other words, how safe Tasers are to the human body (481). Their chosen outcome measure for their safety assessment was "significant injuries, a composite

of moderate and severe injuries" (482). They describe this additional category as injuries that "require hospital admission, may produce significant long term disability, or may represent a threat to life," and add that this category of injury is the most significant for their study, but that "cases with no identified injuries and mild injuries were also grouped for analysis" (482).

According to this *a priori* system of assessment, mild injuries correspond to cases involving "outpatient treatment and mild or no long-term disability expected" and examples include "abrasions, contusions, minor lacerations" (482). Injuries classified as moderate are described as "[requiring] inpatient treatment and/or moderate long-term disability [is] expected," with examples such as "hemopneumothorax, hepatic/splenic lacerations, long bone fracture" (482). As for severe injuries, Bozeman et al. describe them as "inpatient treatment and severe long- term disability expected or threat to life" (482). They cite "severe head injury, loss of limb or eye ventricular dysrhythmias" as examples (482). The descriptions of each category merely repeat the name of the latter as an adjective in their short texts; nowhere in the study are the terms mild, moderate and severe defined further than this. Bozeman et al. further classify injuries as "direct", "indirect," or "uncertain," based on whether they judge they are related to CEW use or to "falls or other effects" caused by CEW use (482). The study discloses 492 recorded cases of "mild" or "no injuries" like "superficial puncture wounds" and "contusions, lacerations, superficial burn marks, a finger fracture, a nasal fracture, a case of epistaxis, and a chipped tooth" (484). There were three significant injuries recorded, which involved two head injuries sustained after being shocked and falling, and a case of rhabdomyolysis, or rapid breakdown of muscle tissue (484). The authors disclose "99.75% of subjects experienced mild or no injuries represents the first assessment of the safety of this class of weapons when used by law enforcement officers in field conditions" (485). Following this, they conclude this "injury profile

compares favorably with other intermediate force options available" and that their study condones the "continued use of CEWs in settings in which they can be safely substituted for more injurious intermediate force or lethal force options" (485).

Through quantifying and codifying injury into such narrow categories, the researchers continuously abstract it. The medical study does so in ways that render less and less legible the physical and psychological impacts that subjects having undergone NMI experience in their bodies as well as on their bodies. First, the study authors only make claims regarding the safety of Taser weapons in comparison with deadly force. That is to say, that larger methodological and theoretical frameworks guiding this study are founded on a similar binary of life/death as that mobilized by Axon. It is important to note that injuries registering as "in between" had to be further abstracted to fit into one of the three available categories. There is also no comprehensive list of injuries that would fall under any of the categories, but merely a few examples for each, which means that injuries that would not correspond to these examples would be up for interpretation by "medical and law enforcement experts who served as data and safety monitoring committee during the course of the study" (482). What's more, the authors further abstract the categories mentioned above in their building of an injury profile for the Taser X26—"no [recorded] injuries" and "mild injuries" are grouped together, and "moderate" and "severe" injuries are grouped together under the category of "significant." Crucially, the only injury that the authors record and thereby the metric they use for assessing the safety of Tasers in this study is that which "may produce significant long-term disability, or may represent a threat to life" (482). Through abstracting injury in such ways, Bozeman et al. put forth a definition of negligible injury, which itself is calculated according to what percentage of the population experienced "significant injury". That is, even when injury does register during the study, it will

not be taken into account in assessing the Taser's safety unless it reaches the threshold of "significant injury," which exclusively refers to injuries threatening body parts such as the head and primary vital functions, and those that affect a majority of participants.

The authors marginalize minority results in this study, discarding cases of injury that fall into the "uncertain" category, as it would appear as they are not "directly" caused by the CEW and rather "speculative" when it comes to "healthy subjects" (486). Recording CEW injury visually, through body sketches and records of observable life parameters, the authors assess injuries as localized or delocalized, life threatening or not. They isolate experiences of delocalized harm by arguing that it did not occur at the site of the specific electrocuted body part, and thus does not result from the functioning of the stun gun itself. Even in the case of death following Taser use, researchers may still deem the Taser safe, since the death may be determined to be secondary to CEW use. Bozeman et al., for instance, characterize two cases of in-custody death as "uncertain" or not proven to be directly causal (486). As they state, "both of these cases are consistent with previous reports of unexpected deaths in police custody, which commonly involve bizarre or combative behavior, psychiatric disease, heart disease, drugs" (486). Despite the study's goal of accurately revealing the risks of Taser use in suspects with coexisting medical and psychiatric conditions, or histories of alcohol and drug use, among others, the authors assert that the pre-existence of these conditions fails to prove that the Taser X26 causes harm; instead, they treat pre-existing conditions as unrelated circumstances and consequences that don't affect the weapon's safety (486). Bozeman et al. had access to cases of Tasering occurring outside of training areas or controlled laboratory environments, which would have allowed them to measure harm beyond visible injury to the body or vital organs and account for the experience of being tasered more comprehensively and accurately according to

context and conditions. Still, the study authors conducted their research according to a narrow definition of physiological injury and the creation of a scale to identify its variations in intensity, which is to say the extent to which it threatens to impact biological life.

To sum up, the Taser's 99.75% rate of infliction of "no serious injury" does not even mean the absence of a threat to life, but rather no majority having suffered a threat to life among over a thousand field cases. Axon hence defines its weapon's near irrefutable safety not so much as its capacity to not inflict harm, since 263 apprehended people *did* undergo injuries, but on the fact that ACEP and Bozeman et al. determined those injuries to be mild or insignificant. Needless to say, this understanding of safety and assessment of injury raises questions regarding the ethics behind Axon's mobilization of its weapons' "non-lethality" to market its product and how well it accounts for harms inflicted by its device that are not codified as such according Axon's primary study. The framework of injury assessment Axon presents on its website, which then informs its assessment of safety, is at best vague, and at worst inadequate for acknowledging the range of harms that people who have been tasered experience. Any injuries that cannot be physically pinpointed or ascribed to a particular organ or body part, or do not register visually or according to vital bodily functions, do not "count" in the context of studies like this one that assess Taser safety.

III. NEGLIGIBLE INJURY AND THE WEAPONIZATION OF PAIN

Importantly, most of the injuries and harms that Axon dismisses as insignificant to assessing the degree to which its weapons are able to reduce injury are actually characterized by delocalized, yet acute harm. What I refer to as Axon's medically informed framework of "negligible injury" is its abstraction of injuries and harms into categories of

significant/insignificant or primary/secondary. As I have been arguing, this framework does not allow for accounts of the harmful character of experiences of pain and suffering. Axon's marketing discourse and Bozeman et al.'s study both reveal a lack of consideration for and a fundamental disengagement with the affective experience of Tasering (and policing), through which the corporation weaponizes pain towards disciplinary intervention. As Axon's weapon holds potential to inflict harm that does not necessarily translate into visible injury in the form of a wound for instance, the consequences of Tasering on one's emotional, psychological, and physical wellbeing and safety must be explored. Despite its invisible character, the experience of suffering is common to most people having undergone NMI. By deeming such an affective response as secondary to its weapon's functioning and insignificant to assessing its safety, Axon reifies the infliction of pain as a mechanism inherent to its weapon's functioning, even when it operates as it should.

Within the framework Bozeman et al. suggest to assess the safety of Axon's weapons that the corporation relies on, all injuries that do not affect the head or threaten to impact the body's vital functions (such as the kidneys' ability to filter and evacuate waste following the death of muscle fibers in the case of rhabdomyolysis), are not relevant in determining Taser safety. This foundational understanding of serious injury as a threat to life in turn allows Bozeman et al. to additionally classify injuries as "direct" or "indirect" in relationship to the Taser, creating a potential relationship of causality according to which to assess the Taser's safety. "Direct" injuries can only be those affecting the head or cardiac and vital functions, whereas "indirect" injuries refer to the scrapes, bruises, stitches, broken limbs and other so called "mild" or "moderate" injuries by Bozeman et al. (482). That is, "indirect" and "direct" are not merely supplementary categories to those already put in place a priori to assess the Taser's safety, but

they correspond to an additional deflection mechanism that explicitly prevents not only the recording, but also the taking into account of delocalized harms due to electrical injury in the medical assessment of CEW safety.

Axon mostly relies on experts writing within the discipline of emergency medicine to claim its weapon's reduction of injuries and safe subduing. All six of the researchers working on Bozeman et al.'s study are emergency medicine practitioners or scholars, and more than half of the secondary sources they cite come from cardiovascular or emergency medical specializations (see Kroll, Luceri and Calkins.; Martinez-Salles et al.; Cao et al.; Lakkireddy et al.; Nanthakumar et al; Ho et al.;Sanford et al.; Dawes et al.; Moscati et al.; Vilke et al; Barnes et al.; Levine et al). The ACEP defines emergency medicine as concerned with individuals "requiring expeditious medical, surgical, or psychiatric care" (ACEP, Definition of Emergency Medicine). That is, emergency medicine tends to approach "injury" as harms requiring urgent care, which often affect vital bodily functions and can pose a threat for an injured person's life. As Tuttle told Reuters in 2017, the new Tasers' charge is "well below" the maximum charge of the Taser X26, which "further increases cardiac safety margins" (Girion). This scope enables Axon to conceive of non-lethal intervention as the mere protection of biological life, and promote its technology as safe even if it causes harm.

In other words, in positioning life and death as binarized poles for assessing Taser-caused harm, Bozeman et al. and the ACEP help Axon to weaponize pain in order to subdue a victim through designating the latter as a negligible form of harm. Axon thus targets the nervous system to create forms of injury that lead to localized and delocalized harms, at the same time as it disavows doing so through reports that explain away such injuries, or do not even consider them as injuries in the first place. For Axon, pain and trauma do not constitute harm. Bozeman et al.'s

injury categories effectively allow Axon to dismiss important traumas to the body as "secondary" to its weapon's functioning since they are not localized at the site of shocking, and thus not relevant when it comes to assessing its safety (Axon, X26 Manual). Aside from effectively relegating to the background mild, moderate and close to significant injuries as a negligible component in assessing the safety of Tasers for human bodies, Axon's mediation of the study's findings on its website and its presentation of them to the public raises questions as to what forms of harm inflicted by the Taser its maker knowingly omits, and how it might call onto particular authorizing agencies within the field of medicine to do so.

Kyoung-Ha Park et al. published a study based on the investigation of functional changes of the arterial endothelium and smooth muscle after high-voltage electrical injury (HVEI). This study problematized earlier findings by military and law enforcement medicine researchers Donald Dawes and Jeffrey Ho on the cardiac safety of electrical immobilization, which were based on either human volunteers, swine, or "ideal" human cardiac axis (see Dawes et al. "Evaluation of two conducted electrical weapons using swine", "Echocardiographic evaluation of Taser"; Ho et al. "Human cardiovascular effects of a new generation conducted electrical weapon"). After conducting their study over six weeks with victims of HVEI, Park et al. concluded that, contrary to Dawes and Ho's findings, vascular changes in HVEI are not only present, but also significant and long lasting (Park et al. 6). Eric Koscove, Jared Strote and Range Hutson have focused on challenging the medical endorsement of CEWs, specifically Tasers, within the emergency medical specialty from the 1980s well into the 2000s (Koscove "The Taser® Weapon: A New Emergency Medicine Problem"; Strote and Hutson "Taser Safety Remains Unclear"). Koscove observed the physiological impact of Tasers on the human body alternatively; by assessing markers such as the body's pH, lactate or troponin (a complex of three

regulatory proteins necessary for muscle contraction in skeletal and cardiac muscles, but not smooth muscles) levels durationally, as well as considering important "byproduct" effects of being tasered such as restraint stress—an organic human stress response that can occur in situations of custody (Koscove "Physiological Effects of the Taser", I address this further in the next chapter). Critical care researcher Christopher Andrews also noted "changes seen in the shocked part of the body are accompanied by similar changes that are measurable in other parts of the body but that are not involved with electric current" (Andrews 1, 2).

Together, the above scholars' conclusions gesture towards the fact that accurate assessments of Taser safety require methods and frameworks that account for the conditions accompanying actual instances of Tasering, as well as how injury may manifest in ways that exceed available theoretical frameworks and data collection methods for assessing CEW safety (see Strote and Hutson's letter to the editor of Elsevier "TASER study results do not reflect real-life restraint situations") Such findings restate the importance of assessing Taser safety according to understandings of injury as not only localized but also delocalized, as explored by researchers Jennifer and Michael Morse. Morse and Morse published critical studies on the evaluation of electrical injury and reported a symptomatology that is neither linked to voltage nor loss of consciousness at the time of contact with electrical current and explored the relationship between gender and sequelae (see Morse and Morse "A Study of Sequelae as a Function of Gender," "Comparison of Physical and Neuropsychological Symptom Presentation in Males and Females," "Electrical Shock"; see also Morse, Berg and Ten Wolde's "Study of 89 Subjects Reporting Long-Term Symptomatology That Is Remote to the Theoretical Current Pathwsay"; and Morse and Weiss "An Evaluation Protocol for Electric Shock Injury Supported by Minimal Diagnostic Evidence").

Morse and Morse's studies on what they coined "diffuse electrical injury" and electrical trauma sequelae influenced author Marni Wesner, who built on Morse's concept of "diffuse electrical injury," to write on the long term effects of electrical injury according to a definition that includes symptoms existing outside of the theoretical current pathway yet produce physical, neurologic or neuropsychological symptoms. Dawes and Ho— who are both heavily cited in Bozeman et al.'s study—dismissed such methods and findings of injuries that are delocalized or diffuse in relationship to the Taser's current as biased and founded on poor quality literature (Dawes et al. "The neurocognitive effects of a conducted electrical weapon" 55). It is worth noting that Dawes and Ho are both employed as paid consultants for Axon, and that Ho also serves as their medical director and holds stock in the company, as both researchers disclose themselves in their response to Wesner's study, which itself was funded by Axon (Dawes et al. "The neurocognitive effects of a conducted electrical weapon" 57). As Lewer and Davison point out, lack of independent testing tangibly impacts reporting of the health effects of Tasers ("Non-Lethal Technologies" 49; see also Azadani et al.'s article "Funding source and author affiliation in TASER research are strongly associated with a conclusion of device safety").

In centering the cardiovascular system and parts such as the head and chest as the primary sites of observation when it comes to the safety of Tasers and their consequences on the human body, Axon's representative marginalizes harms that occur and manifest otherwise through NMI. One prominent diffuse injury that incurs through Taser use is the infliction of pain, and its experience as acute physical and emotional suffering. In her seminal book *The Body In Pain: The Making and Unmaking of the* World (1985), Elaine Scarry discusses the agency medical researchers give to weapons in studies where pain is actually considered, arguing that this focus on the image of the weapon only allows to see the "*attributes* of pain if it is clear that

the attributes we are seeing are the attributes *of pain* (and not of something else). The deeply problematic character of this language…arises…because it permits a break in the identification of the referent and thus a misidentification of the thing to which the attributes belong" (17). In the case of pain induced through Tasering, Axon denies the existence of a relationship between the attributes of pain felt during Tasering and its weapon's features and functioning. As such, Axon obscures the qualitative experience of suffering through a focus on proving that the attributes of pain that may be felt during NMI do not necessarily come from use of its weapon. What Scarry refers to as a the misidentification of the referent of pain that is inherent to this language, as well as culturally shaped attitudes towards pain as de facto inflicted through or associated with a weapon, enables Axon to further deny accountability for its weapon's infliction of suffering and violation of human rights, and further naturalize the weaponization of pain through Tasers.

As I have mentioned before, Axon's representatives concede that their weapon may inflict pain, but that it is not the intent behind their weapon's operation, which itself is still safe because it "protects life." They focus not so much on the infliction of pain *by* the Taser, but rather on proving that the suffering experienced is *not created by the Taser*. The only way in which Axon will take accountability for its infliction of pain is if a causal relationship between its weapon's electroshock and the experience of pain can be demonstrated. However, as Catherine Bushnell, Marta Ceko and Lucie Low note in their text "Cognitive and Emotional Control of Pain and its Disruption in Chronic Pain" published in 2013, "causal relationships [of pain] are difficult to ascertain," perhaps because of how the mind and the body seem to be feeding into one another (2013, 12). That is to say, in not strictly constituting a bodily trauma, sensation, nor a psychological phenomenon, but rather a *relationship* between these phenomena,

the experience of pain appears in a grey zone, as an affect. In order to be accounted for in its full capacity, pain cannot be restricted to physical injury, let alone only life-threatening injury. In implying a separation of the body and the mind through the way they conceive of injury, and founding their causal framework on such a split, Axon and Bozeman et al. foreclose engagement with the experience of debilitating pain. This diffuse or relational character of pain makes it impossible to translate into quantifiable data. Bozeman et al. therefore do not understand them causally, and so do not account for the harm that characterizes these largely affective experiences in their medical assessment of CEW safety.

The difficulty of representing pain to begin with, of objectifying it or pinning it down to a single origin, enables Axon to reduce pain and suffering to irrelevant variables in assessing CEW safety. Or put differently, to deem them negligible injuries when it comes to one's safety and wellbeing. By downplaying the effects of electrical pain, yet still harnessing it centrally in its CEW's technical mechanism, Axon weaponizes the infliction of pain. While pain may then not necessarily threaten life, its experience does impact an individual's wellbeing by defining one's existence, albeit temporarily, through suffering. Despite Bozeman et al. conducting their study in field settings, with actually apprehended and Tasered people as a demographic, their assessments of the cases of non-life-threatening injury fall short of accounting for harmful experiences that vital function monitors and body sketching data collection methods cannot represent, let alone allow to acknowledge. In the next and final chapter, I account for such conditions that Bozeman et al. do not by building case studies based on real experiences of Tasering to explore how the harm that Axon's weapons inflict, and how those harms form a basis for a technique of governance based on the differentiated distribution of suffering and assaults on the wellbeing of individuals who are part of populations already made vulnerable to police brutality.

Chapter 3:

Vulnerability, Criminalization and Affective Impairment as Biopolitical Technique

Acute pain like that Tasers assist in inflicting manifests as a generalized nervous reaction in shocked individuals' bodies, making its origin and even immediate manifestations difficult to record in one area or abstract to one body part. Distress, disorientation, anxiety and fear are not only also different states of suffering, but they are also produced through and alongside the experience of debilitating electrical pain. These affects and sensations may occur inside the body, but they are not and cannot be limited to it: such experiences of physical and emotional distress hold implications that manifest both internally and externally, impacting one's wellbeing and quality of life in tangible ways. Axon fails to accurately describe or account for actual experiences of Tasering in their full scope, as they involve converging social, cultural, and political vectors of oppression. In actual situations of apprehension or custody involving Tasers, suffering is not felt insignificantly, and neither are its consequences. Without dismissing the importance of non-lethal alternatives to firearms, how can we more capaciously approach NMI and non-lethality to locate Axon's weaponization of pain through the institutionalization of its Tasers within larger histories of excessively violent policing? Axon's weaponization of pain does not only entail the imposition of suffering to secure immediate subjugation. It also involves the institutionalization of a specific mode of policing defined by the infliction of debilitating pain. Rather than providing resources and tools to cope with the aftermath of this violent disciplinary technique, existing institutions are characterized by inaccessibility and neglect; processes of social attrition, marginalization, and lasting incapacitation further undermine the safety and quality of life of survivors of NMI.

In response to Axon's dismissal of the harmful consequences of its infliction of intense suffering, and its failure to accurately describe or account for actual experiences of Tasering in their full scope, I explore the sequelae that follow from the instrumentalization of pain towards discipline. Electroshock policing disproportionately affects vulnerable populations, contributing to a history of existing practices of unjust and excessively violent discipline methods, further undermining the lives of already vulnerable individuals. In this chapter, I begin with two case studies of what Axon's user manuals consider "high risk individuals," who NMI impacts disproportionately. I explore the concrete and tangible effects of NMI to argue that the use of NMI in the context of policing facilitates violence against already vulnerable populations in concert with pre-existing racialized, classicized and gendered policing practices and attitudes towards criminality. Rather than protecting apprehended individuals' wellbeing and safety, use of Tasers renders them more vulnerable by enabling officers to use excessive force. The policing practice that Tasers enable is one that undermines the lives it is meant to protect.

As such, within Axon's non-lethal framework, the counterpart to death is not so much life, but affective impairment. Painful affects, emotions, and sensations mark the bodies of survivors of NMI, forming memories of violence and, often, abuse that the body remembers. I focus on cognitive-affective and psychosomatic aspects of NMI to explore how Axon's weaponization of pain may inflict trauma onto apprehended individuals whose trace may remain long after NMI. These consequences of NMI are part of a distinctive practice of biopolitical population management effected through law enforcement's use of CEWs. This practice, I argue, hinges on the distribution of impairment through exploiting the human senses. Axon's Tasers facilitate a policing technique and practice that damages people's cognitive-affective capacities to keep them alive. This biopolitical practice of population management works alongside and

through pre-existing barriers to institutional protection and mechanisms of social attrition that cause individuals already vulnerable to state violence to live even more precarious lives.

I. HISTORICIZING SUFFERING: SOCIAL VULNERABILITY, CRIMINALIZATION AND EXCESSIVE FORCE

While the maker of Taser weapons claims they allow protecting both officers and apprehended people's wellbeing during encounters with police, actual circumstances of Tasering may show that both safety and protection are far from guaranteed for detained or arrested people. Particularly in the case of individuals who are already more vulnerable to harm at the hands of law enforcement, the latter's use of Tasers does not decrease the potential for excessive force, but quite the opposite. Civilian experiences show how racial, class, and gender prejudice converge to render already vulnerable individuals, sometimes both physically and socially, further susceptible to the experience of excessive force. In warnings to law enforcement, Axon cautions officers against using Taser weapons on "higher risk populations" (Axon, *Taser Selected Use Guidelines, Product Warnings: Law Enforcement, Taser: Warnings, Instructions, and Information: Law enforcement*). These include "pregnant, infirm, elderly, low body-mass index person or a small child" as use of CEW on these individuals "could increase the risk of death or serious injury" (Axon, *Taser: Warnings, Instructions, and Information: Law enforcement*). In an announcement from April 2008, Axon disclosed that such warnings only appear on "newer Taser device models" (*Product Warnings: Law Enforcement*). In a recent warning published in October 2018, Axon disclosed that, "As with any force option, CEW use has not been scientifically tested on these populations. Use a CEW on such persons only if the situation justifies an increased risk" (Axon, *Taser: Warnings, Instructions, and Information*).

Although it is unclear when exactly Axon started issuing these warnings, higher risk individuals continue to get Tased disproportionately. And at present, stun gun use by police is unregulated, and there is no national tracking of their use (Smith et al).

Particularly as the necessity of using Tasers is left at the discretion of first responders, who are often police officers with questionable training in de-escalation and conflict management, Axon's misleading definition of its weapon's non-lethal functioning and its impact on the body facilitates excessive recourse to violence. As medical expert Zian Tseng of the University of California San Francisco Medical Center claimed in an interview, "[police] are told it's a safe weapon and you don't have to worry about brutality, and so they are looser with their policy" (Berlatsky). In Houston, Texas in November 2016, Sheketha Holman was Tasered in a local gas station parking lot and experienced firsthand the excessive force that use of CEWs can contribute to inflicting. In surveillance footage published on local TV news affiliate ABC 13, which does not include sound, Holman is in a wheelchair and records the arrest of her pregnant daughter. She appears to non-violently confront police officers regarding their arrest of her daughter while the police seem to ignore her attempts at communication. Holman only began recording once she exited her car in her wheelchair, presumably after her attempts at speaking with the officers arresting her daughter about the nature of their intervention proved unsuccessful. "I was taking pictures of them, and he was like, 'Just leave the property, you're trespassing. They don't want you here,'" Holman told CBS-affiliated television station KHOU (Crea and Correa).

Holman records her daughter's arrest, including herself speaking and the officers ordering her to leave, as she starts to back away in her wheelchair. Once she is back in front of her car and still recording the arrest, an officer who seems to have followed her unexpectedly

grabs her phone from her hands and throws it away. Holman indicates she is not able to put both her arms behind her back because of severe back injuries that lead to her disabilities, but the officer still attempts to bind Holman's hands behind her back. Holman is seen non-violently protesting while in her wheelchair. She cries and attempts to communicate with the officers who ignore her. As the deputy behind her holds her right arm behind her back, another officer comes in and tases Holman (apparently on her left arm), causing the 36-year-old woman to fall to the ground from her wheelchair. At this point, Holman's shoes have fallen off, and she has one handcuff on. She is lying on the ground after getting Tased once and falling, when an officer shocks her a second time. In her interview with KHOU, Holman acknowledged she was arguing and cursing at deputies at this point, but affirmed she was "…trying to leave. I can't take off running, but I'm trying to leave," Holman said (Crea and Correa). After being asked: "Oh, you're resisting?" Holman responds she is not, but gets Tased a second time.

Writing on the issue of male violence against Black women, Beth Richie speaks of a "convergence of conditions that leave Black women vulnerable to abuse from state agencies and actors…" (47, 48). Richie illustrates this point through the experiences of police brutality like those of Kathryn Johnston, a 92-year-old grandmother killed by six bullets fired by police in her house who were searching for illegal drugs, or Carolyn Sue Botticher who was killed by 22 rounds fired by police at her car when she did not stop at a checkpoint (48). Holman's case illustrates the abuse from state actors that Richie discusses, only she is still alive to experience its aftermath. The availability of Axon's non lethal or less-than-lethal technology to officers may have limited Holman's risk of dying in her arrest, but it sure did not make her experience safer, nor did it protect her wellbeing. Johnston, Botticher and Holman are vulnerable in both similar and different ways, but an experience common to all three Black women's experiences of police

brutality is the excessive character of the force used to subdue them, which as Richie also shows renders them further vulnerable to state abuse. Electroshock policing affects Black women and other vulnerable populations disproportionately, because they are also excessively policed, surveilled and monitored (Richie 123).

Holman's experience illustrates both these processes of criminalization and their consequences; after she was Tased, ABC 13 spoke to the Houston County Sherriff's Office (HCSO) about Taser protocol. A spokesperson affirmed "a deputy can use a taser when he or she feels a person is out of control or not complying" (Willey). Holman was unarmed and did not show signs of violent resistance or non-compliance. Neither did she appear to pose an immediate threat to the three able-bodied officers surrounding her in her wheelchair on the footage, but she was Tased nonetheless—twice. Part of the process of criminalization of Black women involves "the belief that they are undeserving of help and that the abuse they experience is their fault" (Richie 123) Shocked not once by twice, and showing no sign of physical resistance or threat to her own safety or that of the public, Holman is seen crying, shaking, and writhing in pain in the parking lot footage, before being taken to a local police station as she later revealed.

As a result of this altercation and the shocks she received, Holman suffered a fall from her wheelchair, as well as abrasions and contusions on her feet, knees, and elbows, which she documented and shared with ABC 13. Due to the Tasing, she suffered debilitating pain and spasms that caused her to fall from her wheelchair. She speaks of how degrading the experience of being incapacitated is and having her defenses taken away from her, falling over while her hands were partly tied, and losing articles of clothing. She describes feelings of stress and unsafety from being outnumbered and surrounded by armed able-bodied officers. Holman may not have suffered life-threatening injuries, but as the surveillance footage shows, her experience

involved intense suffering—the mere witnessing of which casts doubt, to say the least, on the safety of the weapons officers had access to in subduing an unarmed, partly disabled woman. According to Axon's protocol, the corporation's representatives would deem the harm Holman suffered as well as her injuries secondary to their weapon's functioning. This means that in this case, use of a Taser on a disabled, unarmed woman was still deemed safe, and even justified.

Also a "high risk" subject against whom Axon's warning cautions officers not to use Tasers, Dailene Rosario also suffered excessive force at the hands of US police using CEWs. In an interview with the *New York Daily News,* 17-year-old Rosario compared the sensation of electrical pain to her "whole side [being] on fire and [they are] being stabbed at the same time" (Mai et al.). In February 2017, Rosario was tasered in her apartment building in the Bronx despite repeatedly indicating she was pregnant. Police were in the apartment building on an unrelated call, when someone told them there was a fight on Rosario's floor. When they got there, Rosario told ABC 7 News that the altercation involved her and her sister's partners, who also happened to be siblings and were arguing about a video game (Miles). When police got to her floor, there were about fifteen bystanders, but Rosario affirms the fight was already over (Miles; Mai et al.). The officers then attempted to enter her apartment. Rosario asked for a legitimate search warrant, but was accused of "refusing" and received an electrical discharge. "I was screaming I was pregnant the whole time," Rosario told ABC News (Miles).

Rosario told ABC 7: ""Next thing I know, he grabbed my arm and pulled me into the crowd of cops. Somebody was pinching me, and then I got Tased...(my right hand) was already in the cuff, and then I ended up on the floor." She was also Tased twice on the side of her torso, close to her stomach, and had to have surgery to remove the barb wounds (Carrega). The officer Tased Rosario on her ribcage; she sustained an electrical shock, a fall, a surgical intervention to

cut the stun gun's barb wire hook as it was embedded into her skin, abrasions, and bruises from the trauma of the fall (Mai et al.). Bystander footage published on ABC 7 News shows the four-months pregnant teenage girl looking confused outside her apartment, unarmed but surrounded and outnumbered by multiple police officers, similarly to Holman. Three cops wrestled and Tased Rosario while she screamed: "I'm pregnant! I'm pregnant!" (Miles).

Rosario's experience of police brutality facilitated by CEWs illustrates what Carmen R. Lugo-Lugo and Mary K. Bloodsworth-Lugo conceptualize as the fear of the "anchor or terror [Latina] babies" in the United-States post-9/11. Lugo-Lugo and Bloodsworth-Lugo argue that within the immigration rhetoric pushed by US social critics, as well as state and federal politicians in the 21st century, "Latina bodies [and their babies] are not simply conceived as a threat, they are also perceived as a *terrorist* threat, which is to say, a threat with the potential to undermine the very security of the country" (3). Not only does Rosario's physical abuse demonstrate the construction of Latina girls and women as threatening, criminal bodies, but the blatant lack of compassion and care on the officer's part epitomizes the devaluation of Latina lives, particularly child-bearing women, predominantly as a result of their dehumanization.

Lugo-Lugo and Bloodsworth-Lugo cite Arizona state legislator Russell Pearce who affirmed: "We need to target the mother. Call it sexist, but that's the way nature made it. Men don't drop illegal anchor babies, alien mothers do" (11). As the authors argue, the term "mother" here is specifically employed to dehumanize women, for "[i]nterpreting the words of Pearce, these are not women (which would be the equivalent of men), but mothers/bodies that "drop illegal anchor babies" (11). Indeed, pregnant Latinas are deemed *even more* threatening through their discursive representation as non-humans who produce "weapons", which in turn justifies the use of gratuitous and inhuman force against them, as seen in Rosario's case. Rosario's life as

well as that of her unborn baby is ungrievable because she is socially coded as both dangerous and non-human, through a rhetoric of "dropping" illegal babies reminiscent of the military language of dropping bombs.

As Lilia D. Monzó and Peter McLaren argue in their article "Challenging the Violence and Invisibility Against Women of Color—A Marxist Imperative", Black and Brown women have been demonized by figures such as Ronald Reagan and more recently Donald Trump, and constructed as "lazy females living off honest (White) taxpayers' money" (41). This figure of the "welfare queen" has been planted in the American structural unconscious ever since Reagan created the idea that welfare fraud was a national epidemic, and ties into the discursive construction of Latina women as "baby droppers", who raise their "illegal babies" with American citizens' tax money. This alleged fraudulence further contributes to the dehumanization and demonization of Latina women and, as Monzó and McLaren argue, "justifies violence…as deserved" (42). To understand the extent of the violence experienced by Rosario, her assault has to be studied in light of such nativist and nationalist tactics that aim to otherize racialized groups by positioning them as threats deserving of violence, as well as the militarization efforts and intensified surveillance, monitoring, and regulation of Latina bodies following 9/11. Such vulnerability puts her at further risk of being apprehended in excessively violent ways. The question of whether Rosario is undocumented or not, or even born in the U.S. is of virtually no importance to the officer: he ruled Rosario as a combative subject in need of violent subduing, regardless of how pregnant she looked, or how many times she cried it.

Electroshock policing contributes to reifying racist social relations, configurations, and police practices through the infliction of excessive force and unnecessary suffering onto people made vulnerable by way of being criminalized. Rather than protecting apprehended individuals'

wellbeing and safety, particularly already disenfranchised populations, use of Tasers renders them more vulnerable to abuse. The traumatic character of both the debilitating pain inflicted by the Taser and the excessive force it enables to instrumentalize potentially impact the human body in ways Axon is not even aware of. The next section explores the consequences of this vulnerability to excessive suffering by focusing on electrical pain as it inscribes a history of suffering onto the body through somatic processes, and what the implications of such pain could be for the day to day life and wellbeing of survivors of NMI like Sheketha Holman and Dailene Rosario.

II. THE BODILY MEMORY OF PAIN: AFFECTIVE-COGNITIVE IMPAIRMENT FOLLOWING NMI

As the experiences of Sheketha Holman and Dailene Rosario show, many of the injuries and harms that ensue from NMI may not cross the biological threshold of death, but they still lead to pain and suffering that directly call into question the safety of Axon's weapons. Following from the analysis above, and in response to Axon's absent account of suffering in NMI, I ask: does the debilitating pain that characterizes electrical incapacitation affect one's affective, cognitive, and neurological capacities, in ways that complicate the alleged protection of life of Axon's weapons? In this section of the chapter, I examine the psychophysiological and overall cognitive-affective impacts of CEW NMI on survivors' bodies. I explore the visceral and somatic implications of electroshock-induced muscle contractions on one's wellbeing, and discuss the cognitive-affective impact of experiences involving heightened physical, emotional and psychological distress from Tasering.

In a study titled "The Forensic Force® Series: Psychophysiological Responses to TASER®-ECD Influence" (2010), forensic criminologist Ron Martinelli and law enforcement training consultant Jerry Staton report "ECD neuromuscular incapacitation (NMI) appears to be so acute and painful as to overwhelm the sensory systems of many subjects to a point where they seek to physically escape from 'custody' in order to avoid the painful effects of ECD NMI" (104). Part of the authors' research methodology involved video-based assessments of the psychophysiological effects of CEW-based NMI, which allowed them to raise critical concerns regarding the effects of debilitating electrical pain. Video, specifically, appears better suited to record injuries and harm that do not leave more visible physical injuries, as well as emotions and affects, that ensue from NMI. Their methodology also allowed them to draw conclusions regarding how the availability of Axon's weapons to police officers may actually escalate situations of arrest through biological mechanisms. The authors argue that shocked individuals:

> …may experience an involuntary PER [Pain or Panic Escape Response] wherein the brain engages its automatic survival mechanism and orders the body to escape from the intense, acute pain of the ECD. This PER may be misinterpreted by involved officers as "resistance" to orders and commands while the subject is under load, which, in turn, may cause the officer to activate the TASER® on the affected subject again or repeatedly to force his or her compliance. (104)

Use of CEWs by police officers not only creates harmful affective responses of allover suffering and fear, but may actually contribute to escalating apprehended individuals' encounters with police through automatic, somatic mechanisms of survival, wherein the bodies of apprehended individuals attempt to protect them from external threat.

As the human body activates its automatic mechanisms of defense and altercations quickly escalate, officers either deem the use of excessive force to be justified, or they do not even consider the force applied to be excessive, but rather proportional to their perceived threat. But as Martinelli and Staton's research suggests, most officers carrying and using Tasers in the US—which, as I have shown in the first chapter, is nearly all of them—may not have been properly trained in "basic human psychophysiology and its relationship to the use of force" (106). Instead, police officers seem to assume that whenever "they issue loud orders or commands to a noncompliant or resistive subject, that subject is fully able to comprehend and comply with those orders. [Martinelli and Staton's] research indicates that this is not necessarily the case" (106). Martinelli and Staton report that during CEW NMI, a stressed subject may show increased agitation, panic, confusion, incoherence, psychological "freezing," or a pain/panic escape response. Critically, they stress that this state of hypervigilance results in *no* cognitive processing or rational thought taking place in the midbrain, "therefore, no amount of screamed, repeated orders or uses of an ECD for 'pain compliance' induced via probes or 'drive stuns' will be effective in forcing comprehension and compliance…In fact, repeated TASER® exposures…may create…the opposite effect by generating an involuntary PER" (105).As mentioned above, in the presence of an extreme threat, apprehended individuals' bodies will autonomously attempt to get away from it in response to pain or panic.

The human body has specific mechanisms through which it experiences and remembers pain. Nociceptors are a set of primary sensory neurons part of the body's somatosensory system—the latter is part of our sensory system which allows our bodies to interpret external sensations occurring anywhere in or on the body, as opposed to one's "localized at a sense organ" (Oxford). Charles Sherrington, who discovered these stimulus detectors, defined the

nociceptive reaction as characterized by reflex withdrawal, autonomic responses, and pain (Woolf and Ma 353). Because "harmfulness is the characteristic of the stimuli by which [the nerve endings] are provocable," nociceptors are responsible for recognizing and reacting to harmful stimuli as we interact with our external environment (Woolf and Ma 353). While pain is an unpleasant sensation, it also serves a purpose by acting as a "protective mechanism to prevent damage to tissues and causes the individual to react to remove or escape the painful stimulus. The sensory experience of pain has been described as 'the psychical adjunct of a protective reflex'" (Burton et al. 109).

While incapacitation itself is difficult to ascribe to one anatomical region, one study conducted on swine using a Taser X26 linked NMI to the cumulative stimulation of multiple spinal reflexes (Despa et al. 419). Sensory and motor nerves are simultaneously stimulated, leading "to the onset of a chaotic reflex response" (420). In other words, the researchers identify simultaneous stimulation of sensory and motor nerves as the primary "cause" of incapacitation once the body reaches a certain threshold for stimulation. This may come as little surprise, since this is also how Axon describes its weapons' mode of operation (see Axon, *X26 User Manual* 5). However, these findings also point to the fact that CEW-based NMI achieves its purpose when and through *excessively* stimulating spinal reflexes. That is, not only is the "chaotic" reflex response spurred by simultaneous and excessive stimulation of sensory and motor nerves exactly what guarantees the weapon's proper functioning, but the overstimulation of spinal reflexes critically restricts and impairs one's withdrawal reflex until they are effectively incapacitated.

Reflex withdrawal—a spinal reflex through which the body attempts to protect itself from damaging stimuli—is an integral part of the nociceptive reaction. Together with autonomic responses (such as a change in the body's lactate or pH levels, for instance) and the experience of

pain, reflex withdrawal is meant to protect the body from harmful stimuli. As Martinelli and Staton mention, the brain of an individual experiencing a "phobic scale response (fear) due to a sudden threat… immediately prepares the body to respond by involuntarily infusing itself with stimulants such as adrenalin and epinephrine, and pain blockers such as endorphins and dopamine" (Martinelli and Staton 105)

In involving changes in the body's autonomic system, suffering, as well as attempts to escape the threat of a Taser wielding officer, an apprehended individual's experience of NMI clearly communicates attempts by the body to protect itself from excessive harm. During NMI, pain is inevitable and incapacitation is involuntary; CEW-based NMI works by forcefully incapacitating the subject precisely by making it impossible for them to remove themselves from a threatening or harmful situation. In other words, use of Axon's Tasers, as well as their efficiency, appears to hinge on targeting and hijacking individuals' stress response: one's capacity to fight is made impossible by virtue of losing their capacity to leave a situation of imminent danger. Instead, use of Tasers forces one to freeze against their will by interrupting the biological functioning of their stress response mechanism, and makes use of high amounts of pain to do so. Martinelli and Staton also remark that the very "survival chemicals that stimulate the body to allow for faster and stronger defensive responses with limited to no sense of pain" also impede normal survival mechanisms by impacting vision through perceptual narrowing or "tunnel vision," myopic vision, and loss of depth perception. NMI also holds potential to affect auditory capabilities, and occlude hearing, resulting in diminished or total loss of hearing (105). They add that the hearing issues experienced by their research subjects "are consistent with auditory occlusion/exclusion that frequently occurs during high stress situations when the body

pools blood and fluids away from the auditory canals and toward the center of the brain as a survival mechanism. (106)

While much has been written on excited delirium, a rare but still impactful and potentially deadly medical condition that can occur following CEW-based NMI characterized by "psychotic behavior, elevated temperature, and an extreme fight-or-flight response by the nervous system," little has been written on the psychosomatic implications of a temporarily unavailable fight-or-flight response following forceful incapacitation besides Martinelli and Staton's study. However, somatic therapy specialist Babette Rothschild provides some insights on both the cognitive and affective processes through which the body's defense mechanisms are engaged in situations of assault. In her pivotal manuscript *The Body Remembers: The Psychophysiology of Trauma and Trauma Treatment* (2000), Rothschild explains that the body's somatic nervous system, or SomNS, is responsible for voluntary movement achieved by contracting skeletal muscles (50). She affirms "fight or flight responses depend on SomNS's controlling of muscles contracting to create movement" (53). Crucially, Rothschild remarks that individuals who have been assaulted can lack proper fight or flight responses (53).

According to Rothschild's argument, such psychophysiological but more broadly affective impairment happens through our body's ability to remember painful and traumatic experiences through our senses, whose input is the basis for the process of experiencing but also that of memory or remembering, which can be recalled according to similar stimuli (44). Often, however, individuals with post-traumatic stress or post-traumatic stress disorder lack the explicit information necessary to make sense of their "distressing somatic symptoms—body sensations—many of which are implicit memories of trauma" (44). Importantly, Rothschild's argument regarding impaired stress responses following trauma appears to be in line with Martinelli and

Staton's argument regarding damaged survival mechanisms following high stress situations—processes which would normally occur organically in the body either do not occur at all, or occur in different ways, which correspond to the cognitive-affective impairment to which I have been drawing attention.

If traumatic, high voltage electrical injury can hold important consequences. In an article named "Life after Electrical Injury: Risk Factors for Psychiatric Sequelae," (1999) Kathleen Kelley et al. affirm that "long-term effects of electrical injury have been commonly reported. In addition to persistent somatic complaints, these sequelae may include cognitive and emotional deficits that significantly hamper work, family, and community functioning and may affect patients with less apparent injury as well as those with severe physical trauma" (356). This was reiterated in a neuropsychological study published in 2006, which reported that electrical injury patients also reported significantly more depressive symptoms than the controls with which they were matched (Pliskin et al. 19). Similarly, according to Martinelli and Staton, 13% of the subjects in their study "reported presenting with hypervigilance consisting of panic, confusion, and "being too stressed to do anything" (104). Neuropsychology researchers Darrin Aase et al. also show in their article "Mood and Cognition after Electrical Injury: A Follow-up Study" that:

> individuals who have experienced an electrical injury (EI) have been reported to demonstrate both acute and delayed cognitive and psychiatric symptoms…[and] often report physical, cognitive, and affective changes. Compared with individuals who have been victims of other traumatic experiences, electrically injured (EI) patients endorse more somatic and internalizing affective distress" (125).

The authors identify this distress as the presence of psychiatric symptoms in "the post-acute phase" of injury having a detrimental impact on some areas of cognitive functioning, but note

that cognitive change may precede psychiatric symptoms or that the two may occur independently from one another (129). The somatic and affective impairment that Kelley et al, Pliskin et al., and Aase et al. mention was self-reported by and recorded in EI patients having received emergency and acute care services, as well as multiple follow-up assessments following medical recognition of their electrical injury as such. It is worth nothing that cases of Tasing such as Sheketha Holman's and Dailene Rosario's could not and were not considered cases of electrical injury, for the harm they suffered did not require long-term emergency hospitalization, as it did not threaten to end either of their lives.

As CEW NMI interrupts and effectively short-circuits a significant biological and affective response of the body, there may be "no cognitive processing or rational thought" taking place in the midbrain, but the body still reacts to "remembered threat" after the fact (Martinelli and Staton 105; Rothschild 10). The body remembers both the threat and debilitating, incapacitating pain, and can go on over- or underusing its instantaneous, intuitive defensive mechanisms for mobilization of fight or flight (Rothschild 11, 13). As Rothschild shows, survivors of trauma may feel supplementary suffering through feelings of shame and guilt for disordered responses to threat such as "freezing or 'going dead' and not doing more to protect themselves or others by fighting back or running away" (12). Axon makes use of unbearable, inescapable pain so as to allow officers to achieve incapacitation in NMI through forcing the freeze response. People subjected to CEWs might in turn have disordered affective responses, such as distorted perceptions of threat, and supplementary suffering that undermines the quality of life of survivors of CEW NMI in significant ways, as the studies above suggest, and as life experiences show. Indeed, as much of the consequences of NMI are affective, their effects travel, influence and affect other spheres of the survivor's life and often manifest as painful memories at

best, and debilitating constraints to lived experience at worst—long after the stressor is out of sight.

III. Shocking Impairment: Precarity and Biopolitical Population Management

The long-term consequences of NMI, especially when used on vulnerable people, hold potential to yield further debilitating suffering, as well as a set of circumstances that significantly undermine the livelihoods of survivors and of the people around them. In this final section, I turn to the social consequences of this cognitive-affective impairment. I aim to broaden the assessment of how Tasers can and do inflict harm through considering the structural violence that the bodily process of enforcing law and order through the weaponization of electrical pain leads to, as well as how Axon's weaponization of pain through their technology may shape the nature of contemporary policing techniques.

As Richie shows, the criminalization of Black women leads both to experiences of police brutality as well as serious and long lasting disenfranchisement (123). Particularly as families have to come together in hospital emergency waiting rooms or for regular checkups, as well as for court dates, meetings with counselors to file complaints, and even jail visits or pickups, individual trauma quickly becomes familial trauma. Sheketha Holman also carries the bodily memory of the stress and consequences of her altercation with law enforcement. So does her daughter who witnessed this encounter and experienced the stress of seeing her mother brutalized without being able to act as she was handcuffed and sitting in the police car. The condition of her unborn child is unknown, but it may have suffered both firsthand and secondhand stress. After the violent altercation recorded on surveillance footage, police officers

handcuffed Sheketha Holman and she was taken to hospital, then spent three days behind bars and was charged with resisting arrest and trespassing (Revesz 2016). Both the charges were dropped, but it remains that Holman experienced acute stress, inconvenience, discomfort and pain, and ultimately had to go to jail for filming her daughter's arrest.

To this day, Axon has not recognized the abuse that its weapon has facilitated in effecting in Holman's case. Neither has the Harris County police department, whose officers assaulted Holman. Following her assault, Holman pressed charges against the Harris County deputies, which the Harris County District Attorney dismissed, claiming that they "cannot prove beyond reasonable doubt" that Holman was unjustly Tased or suffered excessive force (Willey, "Deputies Escape Punishment"). Holman then filed a complaint with the Harris County Sherriff's Office Internal Affairs. She waited for months, only to receive a letter in the mail nearly a year and a half after the fact stating her complaint was "not sustained" and that "no further action will be taken" against the offending officers (Willey, "Deputies Escape Punishment"). The US's carceral ideology and public policy leaves "Black women who experience male violence at heightened risk that their victimization will be criminalized as opposed to their rights being protected (Richie 123). That is, state agencies blame Black women victims of male violence instead of protecting them; their vulnerability renders them further vulnerable, and further impacted.

Richie suggests it is possible to extend this argument beyond Black women, and include any "woman who has learned that the state will not protect her" or other vulnerable groups (124). Rosario was charged with resisting arrest, disorderly conduct and harassment for requesting a search warrant when officers attempted to enter her apartment (Miles, Carrega). Charges against Rosario were later dropped as well, but the teenage girl experienced fear, stress, and suffering, of

which her daughter currently also bears the weight. In an interview with Reuters as part of their Shock Tactics series entitled "They're "higher risk" targets, yet still get shocked with Tasers," Dailene Rosario disclosed that she gave birth, and that her baby survived (Smith et al). She nonetheless faced continuous difficulty throughout the rest of her pregnancy, as well as after. In February 2018, Rosario told Reuters her daughter, Raileey, developed uncontrollable tremors and coughing fits shortly after being born. Rosario spent nearly the entire month of November 2018 with her two-month old baby at the hospital, who was undergoing tests for a seizure disorder (Smith et al.). "Now [the tremors] happen so frequently…we can only just monitor her and try to keep her relaxed, " Rosario told Reuters (Smith et al.). As a result of the acute stress that her unwarranted apprehension and arrest provoked, Rosario suffers further stress many months after the fact. Her daughter also suffers consequences of this stress and pain, showing signs of uncontrolled cognitive disturbances, which will likely require future hospitalizations.

Rosario's lawyer told CBS News that the Internal Affairs Department as well as the Bronx District Attorney's office are allegedly investigating the police officers involved in Rosario's assault (CBSN New York). In January 2018, however, Rosario's lawyer disclosed that prosecutors are still delaying charges against the NYPD officer, almost a year after her assault (Carrega 2018). To this day, there are no new developments to Rosario's story, but she is suing the city of New York, NYPD Sgt. Robert Durst, Officer Taralena Gerrato and other unidentified officers for "falsely arresting and zapping her with a Taser during the incident on Feb. 10 in the hallway of her Wakefield building" (Carrega 2018). Victims of NMI who suffered the somatosensory trauma inherent to the Taser's functioning are reminded of this encounter on a daily basis as they navigate institutions characterized by structural neglect and collective attrition. In other words, bodily memory is not the only reminder of trauma, pain, and

humiliation—the harm effected by CEW NMI directs survivors towards institutions that already fail them, and works in concert with mechanisms of oppression already in place. This further sediments or even amplifies the stress, anxiety and depression survivors of electrical injury reported, and which also affect their families and loved ones.

However differently, Holman and Rosario both experienced precarity, institutional neglect, and even abandonment. These conditions of existence, as differentiated as they are, are telling of similar experiences wherein the two women's safety, wellbeing and quality of life are both undermined and neglected. These processes of attrition are continuous with histories of oppression, and the debilitating pain, stress and affective damage that CEW NMI affects further exacerbates their felt impact. As Lauren Berlant writes,

> The phrase slow death refers to the physical wearing out of a population and the deterioration of people in that population that is very nearly a defining condition of their experience and historical existence. The general emphasis of the phrase is on the phenomenon of mass physical attenuation under global/national regimes of capitalist structural subordination and governmentality. (754)

In contributing to this physical process of "wearing out" vulnerable individuals, NMI in policing undermines affective capacities and visceral survival reflexes, with implications that significantly deteriorate the quality of life of survivors of police brutality. As Lewer has also argued, "while some nonlethal weapons are truly benign in that they don't directly maim or kill people, many share the potential to provoke unintended consequences, including prolonged suffering, slow death, or long-term psychological damage" ("Objections to Weapons of Less Destruction" 39). As I have shown above, Tasers are part of such weapons that may not always

kill or wound, but facilitate experiences of suffering that urge us to reconsider the temporalities according to which we understand harm and suffering.

As a result of her violent encounter with law enforcement, Holman created a GoFundMe page where she asked for help to pay off her debt and get back on her feet after the incident. Holman discloses that she is about to lose her car, as the police towed it after she got arrested, and that she is now "behind on everything". Both the mode of operation of Tasers and the conditions they create facilitate abuse of violence by law enforcement, leading to traumatic encounters with harmful and incapacitating implications that range from further economic precarity to a possibly affected newborn. Holman now took down the page, but a few weeks before she did so she had raised just over $200. As I have also mentioned, her requests for support from state agencies and institutions proved unfruitful. Holman's precarity following her shocking is contingent on barriers to her grievability, themselves informed by racism and its manifestation in the criminalization of Black women. As Judith Butler argues in "Precarious Life, Vulnerability, and the Ethics of Cohabitation":

> Whether explicitly stated or not, every political effort to manage populations involves a tactical distribution of precarity, more often than not articulated through an unequal distribution of precarity, one that depends on dominant norms regarding whose life is grievable and worth protecting and whose life is ungrievable, or marginally or episodically grievable and so, in that sense, already lost in part or in whole, and thus less worthy of protection and sustenance. (148)

Importantly, Butler identifies high stakes for grievability, namely access to protection and sustenance. As Holman and Rosario's experiences show, different social constructions make it so that figures of authority may perceive them as deserving both violence and excessive force.

CEW NMI reifies such relations of oppression through the infliction of pain, which Axon deems irrelevant as the lives of the individuals its weapons are perhaps not meant to be used against, yet still are, are difficulty grievable due to attitudes, practices, and legislation among others that position them as requiring violence rather than protection. As I have been arguing, the mode of policing that Tasers allow further harms and reifies the ungrievability of some, leading to tangible impairment and debilitating consequences.

In *The Right to Maim* (2017), Jasbir Puar suggests debility is profitable for it constitutes one of the main conduits through which finance capital attempts to sustain itself (13). Similarly as debility is a channel for financial capital, Axon and law enforcement harness the human body's somatosensory capacities as a medium to exploit towards securing social order. That is, Axon's nation-wide institutionalization of Taser stun guns done in collaboration with medical practitioners, researchers and the American state has produced a contemporary mechanism of biopolitical state security through the infliction of electrical injury and pain. NMI-based policing, whose mode of operation simultaneously makes use of the body's affective capacities at the same time as its maker denies their importance; the US state harnesses life in order to better control it. As Puar argues, "disability is foundational to the development of cultural strategies in neoliberalism to 'seize hold of life in order to suppress it.' These strategies of seizure are the essence of bio-politics" (23). In CEW policing, impairment is both a cause and consequence of the seizure of life that use of Tasers performs towards disciplinary purposes.

The Taser's protection of life allows its sustained suppression, which deadly technology does not afford. Puar's discussion of biopolitical settler colonialism in Palestine in her chapter "Will Not Let Die," presents some points in common with the use of non-lethal electroshock weaponry against vulnerable individuals in the US through a discussion of Berlant's notion of

slow death. Puar argues that "if slow death is conceptualized as primarily through the vector of "let die" or "make die," maiming functions as "will not let die" and, its supposed humanitarian complement, "will not make die." Maiming masquerades as "let live" when in fact it acts as "will not let die" (139). In entailing "letting die", however, slow death also entails processes of wearing out as Berlant mentions—which themselves leave decisions regarding targeted individuals' lives at the discretion of the state, who then decides the rate of this slow death and the forms it takes. In other words, the mode of biopolitical population management that CEW NMI facilitates involves both "not making die" (for so-called humanitarian purposes), but also "letting die."

Assessments of non-lethality that incorporate real life experiences in all their color, and read them alongside human rights criticisms and through histories of subjugation effected through violence allow for the electrical damage that the Taser inflicts to emerge as a component in a technique of population management driven by affective impairment. This technique is facilitated by the technology of the Taser, but also by the different state agencies, internal regulations and lack thereof, and institutional mechanisms that authorize use and misuse of the weapons. Anaïs affirms that STS research on non-lethality must decenter the human as the sole agent, and consider factors materials and factors such as "texts, dossiers, memoranda, M-79 grenade launchers, international humanitarian law, letters from concerned citizens, gas masks, rubber bullets, training manuals, and wind directions"(*Disarming Intervention* 52). She contends that such elements are not "passive externalities…but elements with agency that open up new spaces of possibility and as things that make things happen" (52). While technologies themselves cannot be the sole actors of social change, neither are they the sole agents of oppression. But as Anna Feigenbaum argues in her discussion of law enforcement's use of tear gas during protests,

tracing certain artefacts through recordings or documentation of gas canisters for instance can create “chains of global accountability” (21). Technological artifacts or recordings of them constitute “pieces of evidence that map out the manufacturers and governments that are exporting tear gas,” or endorsing the use of Tasers (21).

CEW technology, its instrumentalization of a rhetoric of non-lethality and its weaponization of pain cannot be understood without attending to the foundational changes in Axon’s development of stun technology. But also to the role US law enforcement has historically played in utilizing violence towards disciplining racialized women, even when there is no apparent reason or need to do so. Officers carrying electroshock weaponry instead of guns may kill less people who are already targeted by police, but I argue that use of CEWs by American police forces does nothing to diminish the excessive violence that police use against Black American and Latinx women, nor the harm, suffering, and precarity it yields. The neglect that characterizes the processes of collective attrition they are victims of also corresponds to the US state’s indifference towards “letting die” its most vulnerable populations. As the state supposedly attempts to allow for more individuals to survive their encounters with law enforcement, the affective impairment that NMI inflicts problematizes any distinction between “make live” and “let die”, and even between “let live” and “will not let die” as Puar suggests. The institutionalization of Axon’s weapons and their availability to what appear like mostly untrained officers holds the potential to unnecessarily escalate situations, and cause impairment that tangibly undermines the lives of survivors of NMI. Holman and Rosario’s experiences of police brutality prove that the biopolitical mode of population management formed by CEW policing lets apprehended people live, precisely so that it can let them slowly die.

Conclusion:

Death or Debility: the Need for a Harm Reduction Approach to Non-Lethal Intervention

As research and developments on non-lethal equipment and weaponry were both growing in the late 1980s and 1990s in the United States, Axon differentiated itself from previous stun gun companies through the introduction of a marketing discourse around non-lethal intervention that appeals to humane values of safety, protection and life. In direct response to human rights organizations such as Amnesty International, the United Nations, and the American Civil Liberties Union, yet in complete refusal of accountability, Axon legitimates its weapon in the first place through a discursive appeal to non-lethality in reaction to ongoing public debates. This framework has enabled Axon to instrumentalize care, safety, protection, and even accountability as rhetorical devices it can use in it support for the infliction of pain so acute that the United Nations has compared it to torture (*Report of the Committee against Torture* 32). Amnesty International's condemning of the use of electricity for discipline because it can inflict "pain without leaving substantial visible marks on the human body" echoes Darius Rejali's discussion of stealth torture that I addressed in the introduction (*USA: Cruelty in Control?* 2). Rejali argues that techniques such as electroshock policing are more common in "democratic" countries because they are "clean" forms of torture; they leave no marks other than small wounds or burns ("Electricity: The Global History of a Torture Technology" 3).

The intersection of torture and democracy provides a productive perspective from which to reflect on Axon's emergence as the main provider of CEWs in the US and globally. As I mentioned in Chapter 1, Axon's corporate trajectory emphasizes the nervous system as a target to secure discipline. From changing its corporate name (Taser International) to a neurological

term (Axon), to developing stun guns that not only operate according to pain compliance, but also affect both sensory and motor functions to force incapacitation, Axon harnesses affective capacities at the same time as it obscures the torturous and abusive character of CEW policing by avoiding discussions of pain, suffering and degrading treatment from Taser use. Axon's Tasers facilitate the infliction of non-lethal injuries at the same time as its makers claim their weapons reduce its occurrence. Importantly, Axon's addition of an electrical mechanism that harnesses and hijacks motor capacities to its stun guns, and the fact that its representatives equate this change with increased safety compared to previous stun guns operating solely through pain compliance and not NMI, shows that Axon acknowledges that a technology that reduces the space given to pain in its function is safer. Through their corporate discourse, Axon's representatives recognize that the explicit infliction of pain towards discipline is unsafe or unethical, yet implicitly suggest that its infliction is both acceptable and necessary. In other words, Axon is aware that the infliction of pain is not safe, yet claims that its weapons are. This process of disengagement and disavowal is at the foundation of Axon's weaponization of pain.

Even when the medical researchers conducting the first published study of Taser use in the field record both life threatening and non-life threatening harms occurred through use of Tasers, they still fail to make them operative in their assessment through designating them as "insignificant" or negligible. Through designating them as secondary to the weapon's functioning, or as isolated incidents occurring collaterally and arbitrarily along with or following use of a Taser on grounds of insufficient evidence. The only way Axon acknowledges harms incurred through use of Tasers as such is if a causal relationship between severely compromised vital markers or biological death and the electrical current delivered by the CEW can be demonstrated. This framework does not leave much room for assessing, or even considering,

injuries that do not cross the threshold of biological death, but still critically affect apprehended individuals' faculties and their experiences of acute distress.

As discussed in Chapter 2, corporate non-lethality reduces lived existence to the fact of being alive—this framework itself is made possible by Axon's relationship to emergency medicine specialists, some of whom demonstrate explicit conflict of interest by being paid by or employed at Axon, and even owning shares of the company. The assessments of injury that these medical specialists make are reductive, methodologically flawed, and they fail to communicate the lived reality of Tasering. Gaps in Axon's framework of non-lethality as safety emerge when assessing the safety of Taser X26 for human body through alternative understandings of what can be impacted and harmed. As faulty as this framework may be, it is precisely the gaps in it—which translate into negations of harm—that allow Axon to claim the 99.75% safety rate of its device. Through simultaneously inflicting pain and disavowing the harmful character of it, I argue, Axon weaponizes pain. Together, corporate and medical gatekeeping practices and their indifference towards the role of pain in disciplinary practices further undermine American standards for lived existence.

Understandings of electrical harm as localized and causal communicate denial of the affective experience of electroshock shape, during which the consequences of NMI in the form of altered pH and protein levels in reaction to pain or fear for instance, manifest everywhere in the body, often in both invisible and delayed ways. By downplaying the effects of electrical pain, yet still harnessing it centrally in its CEW's technical mechanism, Axon weaponizes the infliction of pain. I have shown that the makers of Tasers still refuse to admit the damage inflicted through use of their bestselling Taser X26, but rather insists that its new generation remodel, the X26P, is essentially the same, but safer. Further research revealed that the X26P

actually emits about half the charge of the X26, which Axon does not disclose itself. The X26 is still in circulation to this day, and police officers continue to use it. In other words, Axon attempts to provide technological solutions to social issues as it refuses to take accountability in the form of recalling its Tasers X26, for instance, and rather does so through empty gestures that not only do very little to make encounters with law enforcement less violent, but actually facilitate recourse to excessive force. Axon's technical mechanism for its Taser weapons, its corporate discourse of non-lethality, and the medical legitimacy that authorizes their use by discounting both pain and the ways in which the human body can be harmed and injured by CEWs facilitate a practice of biopolitical governance based on the infliction of violence to govern through affective impairment.

This practice disproportionately affects racialized people, whose criminalization renders them more vulnerable to experiences of excessive force and abuse at the hands of the state apparatus that is meant to protect them. Chapter 3 approached the implications of Axon's infliction of pain by grounding the abuse use of its weapons by police facilitates in histories of deeply racialized, gendered and classicized suffering. The legacies of chattel slavery, anti-terrorist legislation and practice post-9/11, classist welfare policies, and racist constructions of racialized womanhood and ungrievability among others cause African American and Latina women like Sheketha Holman and Dailene Rosario to become even more socially vulnerable by rendering them at increased risk of experiencing uncalled for and disproportionate state violence. Even when racialized subjects are unarmed, and not showing signs of combative resistance or threat to their own safety or the public's, and show visible signs of vulnerability like physical disability and pregnancy, their historical criminalization and the availability of excessive, yet non-lethal, force options to police officers such as Axon's Taser lead to experiences defined by

acute suffering. These conditions, along with lax internal Taser use regulation and inefficient or absent police training in first response and de-escalation, facilitate particularly traumatic encounters with law enforcement for racialized women. As Axon's warnings cautioning officers against using Tasers on vulnerable people mentions, the research available on the effects of electrical current on people at higher risk of serious harm, or whose lives are more precarious, is scarce.

My contribution to this research lies in suggesting that in weaponizing pain and facilitating the use of excessive force, CEWs yield debilitating affective damage that impacts survivors of NMI's experience of daily life. The experiences of vulnerable people such as Holman and Rosario show that even when demonstrating no physical resistance or threat to oneself or others, no one is safe from the violence of CEW NMI. Particularly for individuals whose precarity ensues from dispossession and criminalization, CEWs may reduce the risk for death, but at the expense of a pain and stress free lived experience. Poorly trained officers equate effective first response with use of force, and when histories of gendered and classicized racism meet vague guidelines for Taser use against vulnerable people, these conditions can lead to bleak encounters with law enforcement.

The immediate consequences of Tasers' infliction of debilitating pain, and even its anticipation, can include fear, panic stress, and overall acute physical suffering and emotional distress. As I have shown, Axon's weapons do not so much preserve or protect civilians' wellbeing, they actually undermine it through affecting and disrupting the normal course of the body's autonomic stress response—or its ability to mobilize fight, flight or freeze responses to defend itself from external threat or damaging stimuli. As temporary as Axon may claim this cognitive-affective interruption is, the mechanism of NMI found in Axon's weapons inflicts deep

psychosomatic harm and affective-cognitive damage. Crucially, the subject that inhabits the biopolitical space formed through CEW-based policing is one whose body carries the memory of suffering, of which the debilitating consequences are tangibly felt. Trauma lives on in survivors of NMI's bodies, and manifests through distressing physical sensations, impaired survival mechanisms such as disordered fight or flight responses, which can render survivors further vulnerable to assault and abuse. As Rotschild has suggested, many of these somatic symptoms are "implicit memories of trauma" (44).

The traumatic aftermath of NMI leaves vulnerable individuals both unsafe and unprotected, as the very institutions meant to defend their rights to a pain-free existence fail them. The experiences of Holman and Rosario show that legal recourse provides little relief, and rather exacerbates the stressful and potentially depressing consequences of police brutality. In facilitating the targeted distribution of affective impairment, the policing practice founded on Axon's weapon upholds regimes of debility defined by the experience of unnecessary violence, precarity, and institutional neglect. The infliction of incontestable unnecessary violence itself works in in tandem with preexisting mechanisms of collective attrition rooted in social abandonment and slow death. The nation-wide institutionalization of Tasers by police constitutes a technique of biopolitical population management grounded in letting live, in order to let die.

The binary of life and death underwriting the mode of so-called non-lethal policing Axon's weapons enable appears to actually be one where the two possible options for apprehended subjects are death, or debility. As such, it is crucial to broaden the scope of non-lethal intervention to include a commitment to harm reduction. As this thesis has shown, corporate, scientific, and cultural attitudes towards suffering and the infliction of pain as inconsequential, normal, or even warranted thwart productive engagement with the exploitation

of the human senses as capital for the enforcement of law and order. Paradoxically to Axon's goal of protecting life, the alleged non-lethal mode of policing Tasers facilitate actually undermines the quality of it. The condition of Axon's protection of life is its reduction to the mere state of being alive—which hinders discussions of the way it is lived during and following NMI. CEW NMI harnesses affective capacities at the same time as it disavows doing so, giving rise to a mode of policing that weaponizes pain and hijacks the senses to create submission.

In bridging fields of critical care studies, trauma and pain studies, psychology and neuroscience, science and technology studies, cultural studies, and gender studies, this thesis has shown that more capacious understandings of what can be harmed, and how it can be harmed, are necessary to account for "non-lethal injuries" such as the experience of debilitating pain and its damaging consequences. Through this, I argued for the necessity of different methodologies for both historicizing Tasers and recording the harm they inflict that take into account the real, felt experience of Tasering and the set of social and cultural conditions that influence the unfolding of police altercations. Going back to Rejali's discussion of electricity and electrical convulsive therapy devices (ECTs) in psychiatric contexts, he notes that ECTs are actually not the ancestors of CEWs, as Tasers deliver 50,000-volt shocks, while ECT reaches 100 to 150 volts at most ("Electricity: Global History of a Torture Technology" 2). They are two different techniques, with different aims. However, Rejali believes that the importance of ECTs for studying electricity and the infliction of pain lies in the psychologists' desire for their patients to *survive*. Interdisciplinary inquiry opens up new possibilities for drawing genealogies that allow us to approach the issue of electricity's infliction of torturous pain more efficiently according to similar conceptions of necessary suffering.

Drawing on Darius Rejali's account of a technique of torture called the Vietnam, Puar writes: "the Vietnam is traceless, leaving the bodies of its victims undifferentiated from unscathed ones…'if it were not for the photographs, no one would know that it had been practiced.' The only evidence of the Vietnam comes in the form of the photograph" ("Terrorist Assemblages" 30). Notwithstanding that the Vietnam was only used with an electrical component in Brazil in the 1970s and that electroshock policing or discipline is primarily electrical, the two techniques share the crucial feature of leaving no marks on the body. However, as Puar remarks, specific recording techniques and mediums problematize the invisibility or temporary character of such techniques of stealth torture. It seems that the primary issue both forms of "stealth torture" such as the Vietnam and CEW-policing in American policing disavow is the infliction of *visible* pain, of a specifically physical nature. Durational media may help observe situations a posteriori or during research, and capture and communicate more faithfully and respectfully the experiences of survivors of CEW NMI as it allows to account for duration. Video, specifically, appears better suited to record injuries and harm as well as emotions and affects that ensue from NMI.

Nonetheless, as I have argued about the Taser, no medium in and of itself can provide accountability, regardless of how suited and improved its technical features are. As Wendy Brown has shown, responses to social issues that present commodities as viable solutions to conflicting social dynamics "depoliticize[s] what has been historically produced, and especially depoliticize capitalism itself" (704). Collective resistance does require witnessing, but solely recording it cannot and will not stop police brutality, despite Axon stressing that its new generation of Tasers having a built-in camera makes them more accountable. Dailene Rosario's experience demonstrates the importance of bystander presence, and how the availability of

cellphone footage changes how much of the affective experience of electroshock can be gathered. Sheketha Holman's experience demonstrates this as well, albeit differently, as her own witnessing led to her brutal arrest. Police attempted to suppress bystander intervention in both Holman's daughter's arrest and hers, leaving surveillance footage as the physical evidence of her assault. A Twitter search for #ShekethaHolman shows that Holman got support from a grassroots organization named *Keep It Real Now*, which tackles the criminalization of racialized individuals in the U.S. and targeted structural violence. *Keep It Real Now* produces t-shirts that read "I AM NOT A CRIMINAL", and bear a target inside a "no symbol" on their back. Holman wore one of these t-shirts to court. Resistance is built through both witnessing and intervening, during the fact if possible, as well as after. Especially when it engages with the larger social issues that technological solutions are meant to mask, such as the persistent targeting of Black people for state violence through their criminalization, such resistance holds potential to create particularly strong networks of solidarity and articulate more effective requests to state authorities.

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