THE DEMATERIALIZTION OF VIOLENCE THROUGH "LESS-THAN-LETHAL" WEAPONS DEPLOYMENT SINCE 2000

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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The law enforcement schema of the United States stands to reinforce the status quo of the state apparatus. Although we remain adhered to the title of liberal democracy, displays of power act to quench dissent, a rising feature of a world made inequitable by historical decision-making. In 2020, as has become commonplace since the rise of alternative globalization demonstrations in the 1990s, United States law enforcement continues to use "non-lethal" weapons against protestors advocating against police violence (Shantz, 2012, p. 11). This use of force extends past local agencies and into federal paramilitary deployments in Portland, Chicago, New York, Philadelphia, Detroit, and more which actively sidestep choices by localities to limit the use of these "less-lethal" alternatives (Baker et al., 2020).

In this paper, I will be examining "less-lethal" weaponry through their development and use within the institutional context of the United States since 2000. The developmental process focuses solely on the development of Kinetic Impact Projectiles (KIPs), a class of "less-lethal" ammunition, over this period. A later application of Normalization Process Theory (NPT) explores how use-of-force criteria, the expanded use of "less-lethal" weapons, and the formation of institutional normalcy act to dematerialize violence, reinforce state power, and undermine human rights in internal state policing. The recommendations offered herein seek to inform and empower communities who wish to mitigate any perceived harm and partake in a process of restructuring their idea of policing.

BULLETS, BATONS, AND BEAN BAGS

The idea of the bullet, the baton, and the bean bag seem to show a progression in force and violent tendency. A common understanding of a bullet is primarily in their lethal metallic form. The baton becomes something with a purpose to strike, but likely not kill. The bean bag is

simply a toy or perhaps even a piece of lounge furniture. These components, however, all remain pieces of this "less-lethal" question, as they have been coated in rubber and sold as solutions to a nation's grievances.

"Less-than-lethal, Less-lethal, Non-lethal" all refer to a category of weapon that intends not to kill a target, but rather to temporarily incapacitate. Including ammunitions, explosives, chemical agents, electroshock devices, and directed energy devices, law enforcement agencies and militaries often use these objects to limit perceived anti-state or criminal actions by civilians or non-active combatants. More precisely, the United States Department of Defense defines "non-lethal" weapons through its DoD Directive 3000.03E as:

> Weapons, devices, and munitions that are explicitly designed and primarily employed to incapacitate targeted personnel or materiel immediately, while minimizing fatalities, permanent injury to personnel, and undesired damage to property in the target area or environment. [Non-lethal weapons] are intended to have reversible effects on personnel and materiel. (Department of Defense, 2018, p. 12).

The Department of Defense goes further to define incapacitation and reversible effects. To incapacitate is "to disable, inhibit, or degrade one or more functions or capabilities of a target to render it ineffective" and reversible effects are defined by "the ability to return the target to its pre-engagement functionality, usually measured by the time and level of effort required for recovery of the target" (Department of Defense, 2018, p. 12).

Within this now-defined scope of "non-lethal" weaponry, there exist Kinetic Impact Projectiles (KIPs). KIPs are a class of "less-than-lethal" ammunition used by police across the United States and the world. Typically known as rubber bullets, rubber batons, or bean bag rounds, security forces, in-particular the 31% of police departments whose officers or supervisors

actively carry these rounds, use these arms to disperse crowds deemed unlawful by the state (Smith et al., 2010, p. 3-7).

Historically, The National Institute of Justice (NIJ) led much of the research into the development of these weapons, alongside academic and governmental partners such as the Institute for Non-Lethal Defense Technologies (INLDT) at Penn State University and the Department of Defense (DoD) (Cecconi, 2005). In 2000, "the NIJ had 17 ongoing projects on "non-lethal weapons" that had begun during the mid to late 1990s. The focus of research was on safety and effectiveness studies of blunt impact projectiles and OC ("pepper spray")" (Davidson, 2009, p. 70).

After the September 11, 2001 attacks on the World Trade Center, the role of the NIJ grew to fill the expanded security task of a PATRIOT Act America. This research even included the arming of strategic civilian personnel on-board airplanes when The Aviation and Transportation Security Act called upon the NIJ to "assess the range of less-than-lethal weaponry available for use by a flight deck crewmember" (Aviation and Transportation Act, 2001). Shown in Figure 1 on page 4, the formation of an expanded "less-lethal program" integrated a number of public and private institutions towards a common goal which highlighted the need to force compliance on suspects and prisoners.

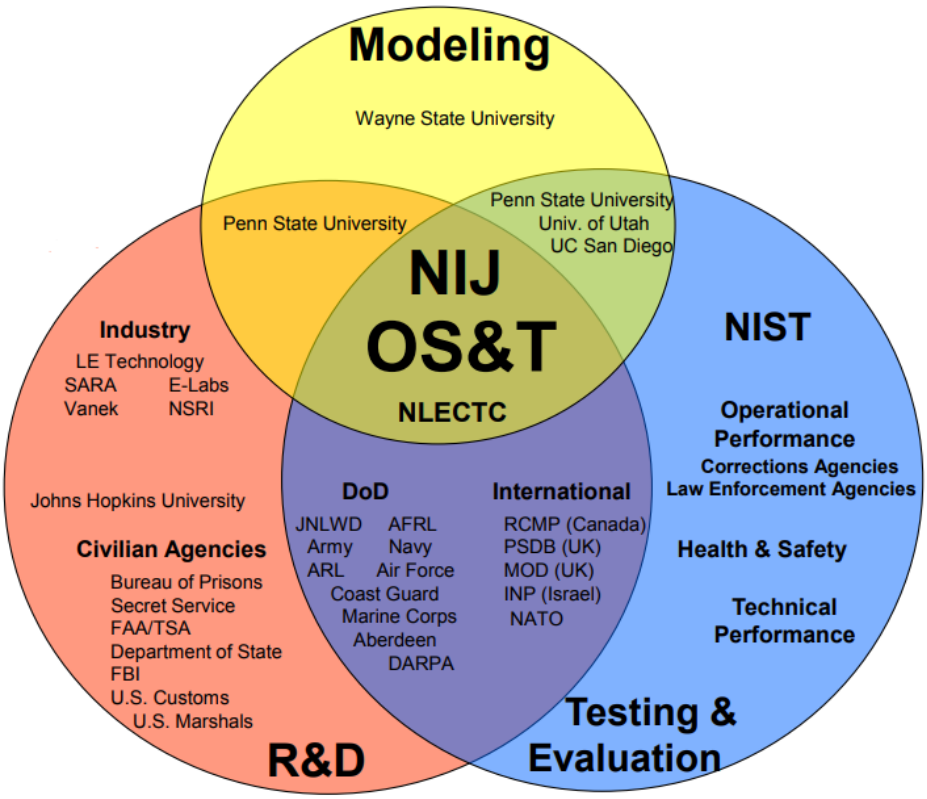

Figure 1: Organizational "Less-Lethal Program" Map. This figure shows the role that each public and private entity held within the "less-lethal program". The number and scale of the institutions differs greatly within the given circles with a majority of the actors focused on research and design. (Cecconi, 2005, p. 50).

As more institutions adopted these technologies, questioning rose from "organizations such as Amnesty International and the American Civil Liberties Union" over the role these devices play (Albert et al., 2011, p. 1). During this period, as a result of the Iraq War and other associated administrative measures by then-president George W. Bush, civil disobedience and direct action in the United States continued to rise (Heaney & Rojas, 2007). Additionally, previous trends toward protest management by police already resulted in new elements of targeting, including surveillance and targeted arrest, which avoid the negative stigma produced by police action deemed violent (Gillham & Noakes, 2007).

As a common deterrent, research focused on safety and effectivity increased to counter these claims. Still, in the period from 1990 to 2017, the use of Kinetic Impact Projectiles (KIPs)

by law enforcement agencies resulted in permanent disability and death in 15% and 3% of cases, respectively (Haar et al., 2017, p. 3).

Institutional research funded by the National Institute of Justice balanced these claims by pushing the idea of the Taser and pepper spray. In 2010, analysis "showed that pepper spray use reduced the likelihood of injury to suspects by 70 percent", while increasing the risk of officer injury to 39 percent (Albert et al., 2011, pg. 13). Additionally, Conductive Energy Devices (CEDs), or Tasers, "significantly reduced the likelihood of injuries" (Albert et al., 2011, pg. 14). These claims follow from language which ignored the disparity between officer risk of injury and suspect risk of injury. Additionally, the research limited the scope of "healthy" adults, claiming that the risks of CEDs "are clinically insignificant in healthy individuals but [they] could be harmful or even life threatening in at-risk populations (e.g., obese subjects with heart disease and/or intoxicated on drugs who struggle with police)" (Smith et al., 2010, p. 22). Of note, at least 12.1% of the United States population falls within this at-risk category (Blackwell et al., 2014).

This shift away from a critical study of KIPs as best paths forward marks an increased body of evidence which shows blunt impact devices shot from the barrel of a gun with 3,500 Newtons of force are dangerous to human health and life (Raymond et al., 2009). Despite this, KIPs are still in use with the DoD Non-Lethal Weapons Program deploying a "Spider Non-Lethal Launcher" since 2013 which "fires two variants of non-lethal effects (sting ball and flash bang) and adds increased escalation-of-force capability to units executing area denial missions" (Department of Defense, 2015, p. 4).

A REFORMATION OF LETHALITY

"Less-lethal" weapons build their common understanding by operating on their root idea of lethality. We understand the concept of "non-lethal" only insomuch as we understand the concept of lethal. This idea of lethality has so conjoined itself with the idea of violence that the common image of violence is one that causes direct bodily harm, the significance of which is altered by our perceptions of the one committing the act, but focuses on the proximity placed away from full health. The aforementioned definitions of non-lethal weapons by the DoD further this by simply pushing the idea of reversible incapacitation rather than a clear avoidance of serious injury or death. Mark Vorobej, associate professor of philosophy and director of the Centre for Peace Studies at McMaster University in Canada, points out that the Oxford English Dictionary definition "emphasizes what individuals *do* to others, at the cost of ignoring what *happens* to people" (Vorobej, 2016, p. 52). This common definition ignores structural violence or that inherent in policing or war.

THE DEMATERIALIZATION OF VIOLENCE

When applied to war and social conflicts with power apparatuses, Brad Evans, political philosopher and critical theorist, describes the "emergent dematerialization of the consequences of violence… as a war against the critical witnessing of war" (Evans & Lennard, 2018, p. 292). For many individuals, the understanding of violence in these sanctioned corners of society, whether it be the street protest or the warfront, is separated both symbolically and materially from their existence. Part of this symbolic interplay is normativity, one of the five fundamental dimensions of violence defined by Vorobej alongside harm, agency, victimhood, and instrumentality (Vorobej, 2016, p.4). For within the status quo, an individual would perceive

those who act against the state as a form of other, less they, too, are explicitly sympathetic, which itself is limited if they are not directly taking part in the material reality of those acting as "others". This otherness is associated with a form of dehumanization as media forms and interpersonal conversation discuss abstract groups of others whether it be "protestors", "terrorists", or "rioters". Symbolic annihilation of non-lethal violence by the state occurs specifically in this case when the common definition of violence, media representations of violence, and the experience of violence all lack the ability to fully grasp the reality of non-lethal weapons as used in policing and war. Combining these aspects of power and privilege, violence is made entirely symbolic and foreign.

Our ability to critique the reformation of lethality is worsened by the relation to death in our society. Health is the premier quality of our life that is understood with death simply being its absence. It is quantified through measurements of height, weight, and intelligence and distributed to people through articles, papers, and charts telling individuals the best way to live their life in health. For example, this quantification goes as far as representing the COVID-19 pandemic as simply a line graph which fundamentally fails to portray the human toll or reality of death, as seen in Figure 2 on page 8. Meanwhile, associated news operates to recommend best paths to "flatten the curve" or stay healthy, rather than explicitly tackling the existential risk surrounding society (Roberts, 2020). Altogether, the idea of death is held at a distance. The reality of it is made abstract and its symbolic value made null or only active as a negation of life. As stated by Baudrillard, "at the very core of the "rationality" of our culture is an exclusion that precedes every other… preceding all these and serving as their model: the exclusion of the dead and of death" (Baudrillard, 1993, p. 126).

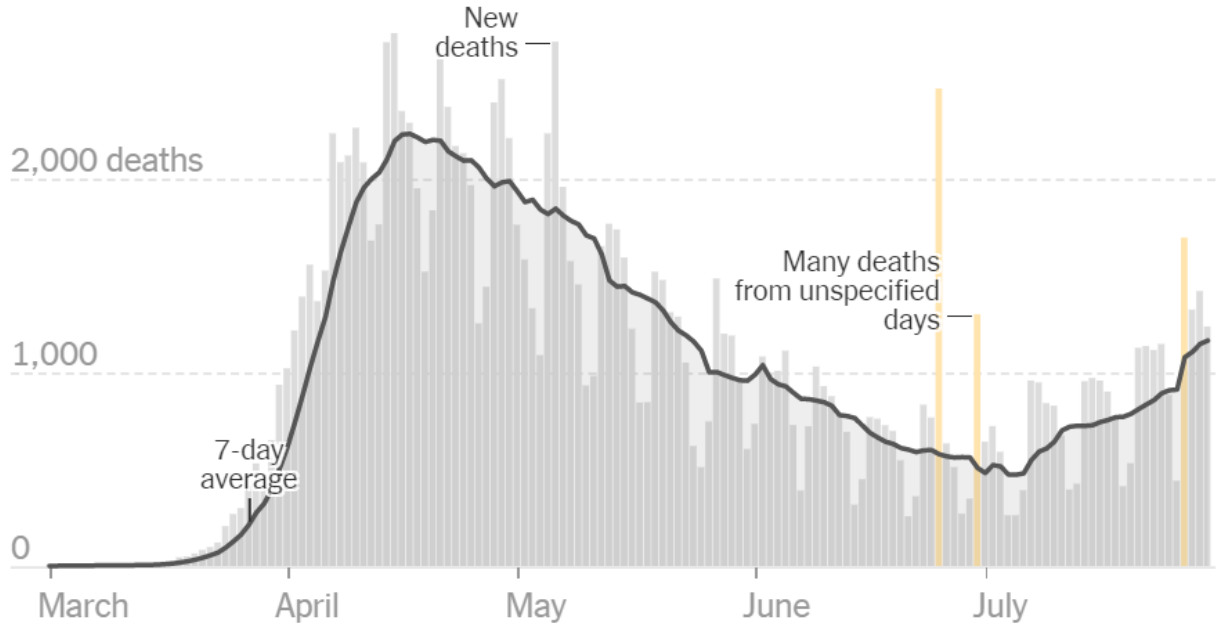

Figure 2: COVID-19 Deaths by Day: This line graph seeks to represent the reality of death, but acts to further separate the sign from the signified. The graph uses a specific visual form as a sign of the underlying data which must be interpreted. Death, as is signed through these data, still remains within societal confines which restrict the public experience of material nonexistence. (The New York Times, 2020).

This phenomenon is intertangled with the ease at which state forces can use power. It is expected, given that the state is an entity with a monopoly on violence, that, as the state modifies its idea of violence and perpetuates these acts through media and policy, a positive feedback loop would begin which deconstructs the freedom of people (Weber, 1978). This investment in a kind of hyperindividualistic, state-centered policing brings with it an increased denial of codified human rights when the state is challenged. John B. Alexander, a senior fellow at the Joint Special Operations University from 2005 to 2015, in "Non-Lethal Weapons: No Road to Hell" expressed this dehumanization in crude language when responding to the risk non-lethal weapons pose to people with disabilities, as shown in Figure 3 on page 9. It should be noted that the Joint Special Operations University is an agency within the United States Special Operations Command tasked

with providing “relevant SOF-specific education to … partners to influence the current and future strategic environment” (Joint Special Operations University, 2020, p. 7)

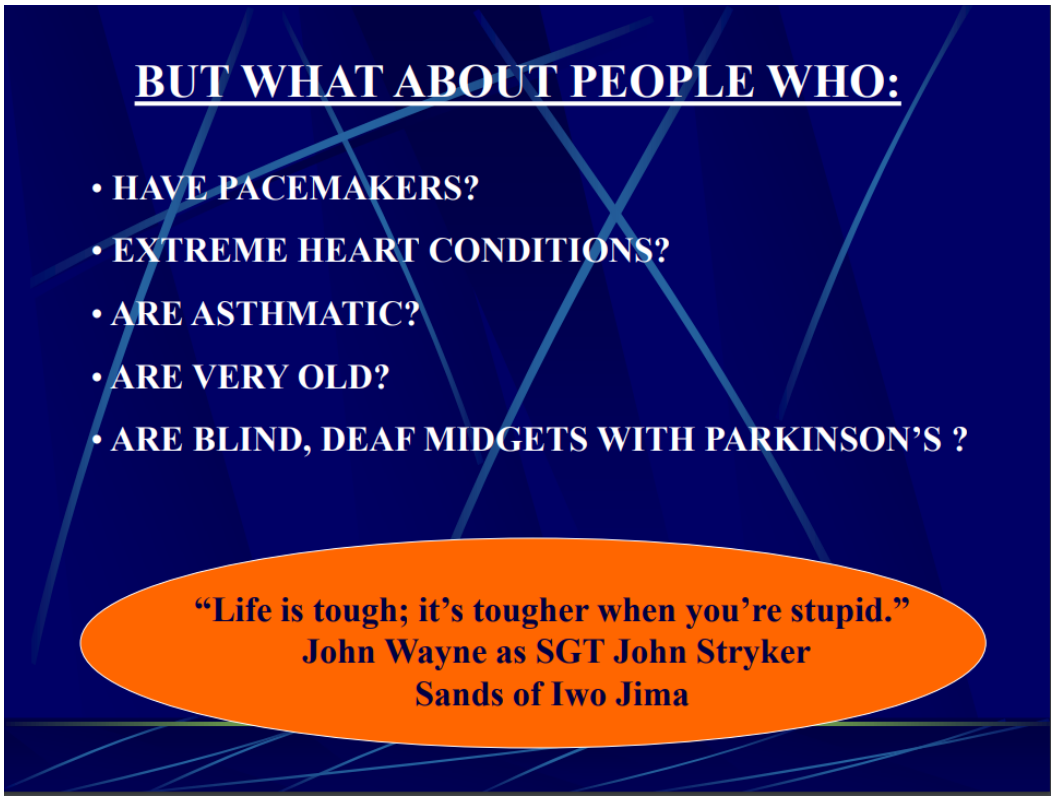

Figure 3: Institutional Discussion of Lethality. This slide from John Alexander shows the kind of language used around the risk of “less-lethal” weapons by those in key state institutions. Possible harm is justified against the elderly and people with disabilities by ignoring the decision of state actors, instead highlighting the supposed stupidity in challenging the state. (Alexander, 2005, p. 34).

THE POLICY OF STATE ESCALATION

“Less-lethal” weapons allow the beginning of the dematerialization process by precipitating a symbolic evaluation of human life. More specifically, the use of force continuum, a standardized, agency-level guideline for when a degree of force is deemed necessary, is a subjective notion that is projected by administrative policy onto the officer (Walker, 1993, p. 23). The ability to enact this evaluation is, in and of itself, the application of a norm. Even today,

while a vernacular understanding of "less-lethal" weapons excites the prospect of de-escalation, an NIJ non-lethal weapons review explicitly states, "law enforcement officers should never consider less-lethal weapons to be a replacement for the legal use of lethal force; rather, they should use less-lethal weapons as an instrument of force in the continuum between show of force or verbal commands and deadly force" (National Security Research, Inc & United States of America, 2002, p.61). Coupled with another finding by the NIJ that, while in interviews with officers, "researchers heard comments that hinted at a "lazy cop" syndrome" which meant that officers may turn to "less-lethal" weapons too early rather than rely on conflict resolution skills," the use of "less-lethal" weapons begins to act more as a tactic for escalation and a reinforcement of power which avoids the pitfalls of overtly lethal threats against free citizens (Albert et al., 2011, p.16).

NORMALIZATION PROCESS THEORY

The ability for the state to turn these ideas of violence into agency-level and societal-level norms is understood through an application of Normalization Process Theory (NPT). Initially developed for use in healthcare, NPT is a formal middle-range STS theory meaning that it produces a model for the behavior of sociotechnical systems through formalized logic. The theory is defined as middle-range on the basis that it derives an understanding from empirical study first, before moving to sociological abstractions (Bryant & Charmaz, 2007). NPT, in particular, seeks to explain the adoption of innovations within institutional environments, while avoiding the constructions of agency around non-humans as is the case with Actor-Network Theory (Callon, 1991; Latour, 1987). It is defined as formal on the basis that its construction follows from a set of basic propositions. The three general propositions of NPT are:

1. Material practices become routinely embedded in social contexts as the result of people working, individually and collectively, to implement them. From this follows specific propositions that assert that define a mechanism (*i.e.*, embedding is dependent on socially patterned implementation work).
2. The work of implementation is operationalized through four generative mechanisms (coherence, cognitive participation, collective action, reflexive monitoring). From this follows specific propositions that define components of a mechanism (*i.e.*, those factors that shape socially patterned implementation work).
3. The production and reproduction of a material practice requires continuous investment by agents in ensembles of action that carry forward in time and space. From this follows specific propositions that define actors' investments in a mechanism (*i.e.*, how the mechanism is energized). (May et al., 2009, Appendix 4)

The method of applying this framework begins with an examination the core constructs of NPT within a proper social and organizational context, as shown in Figure 4 on page 12. These four core constructs are coherence, cognitive participation, collective action, and reflexive monitoring which are all defined by their relationship to routine embedding, embedding work, and the production and reproduction of a practice. When looking to policing, the NPT concept model may be modified with a subset of particulars which apply to the study case, as shown in Figure 5 on page 12. By looking to the semiotics of use of force, rates of use, the dissemination of "less-lethal" weapons and general opinion, the process by which "less-lethal" weapons tend to develop and operate within an individualistic, state-centered policing model may be understood. When working together, these four constructs can be understood as moving towards or reinforcing a norm, which, as previously shown, results in a dematerialization of violent action by police.

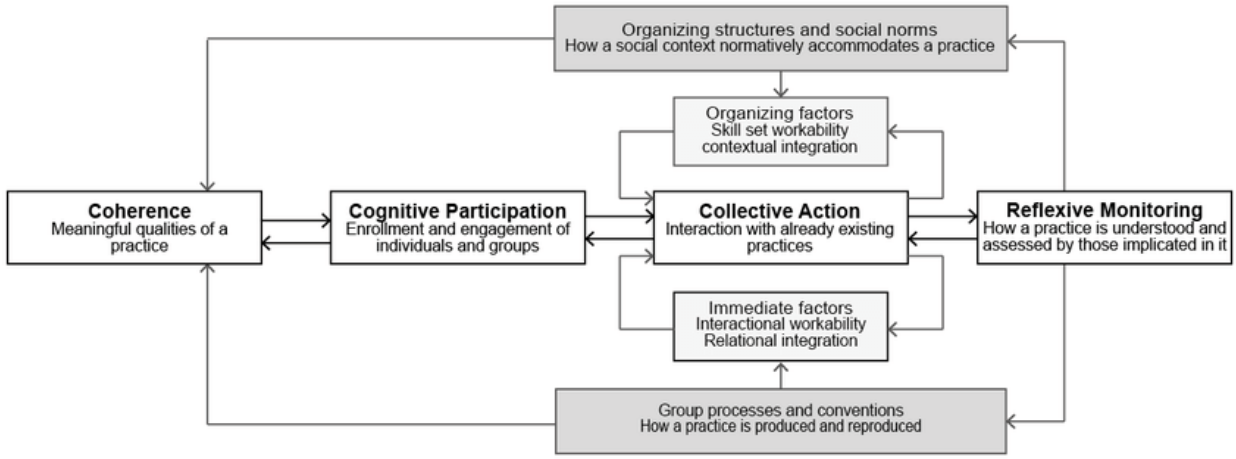

Figure 4: NPT Concept model. This figure outlines the base constructs of NPT and their interactions with the social and organizational structures relevant to a given institutional innovation or practice. The constructs themselves represent the interplay between the production of a practice and the scripting of normativity. (Vis et al., 2019).

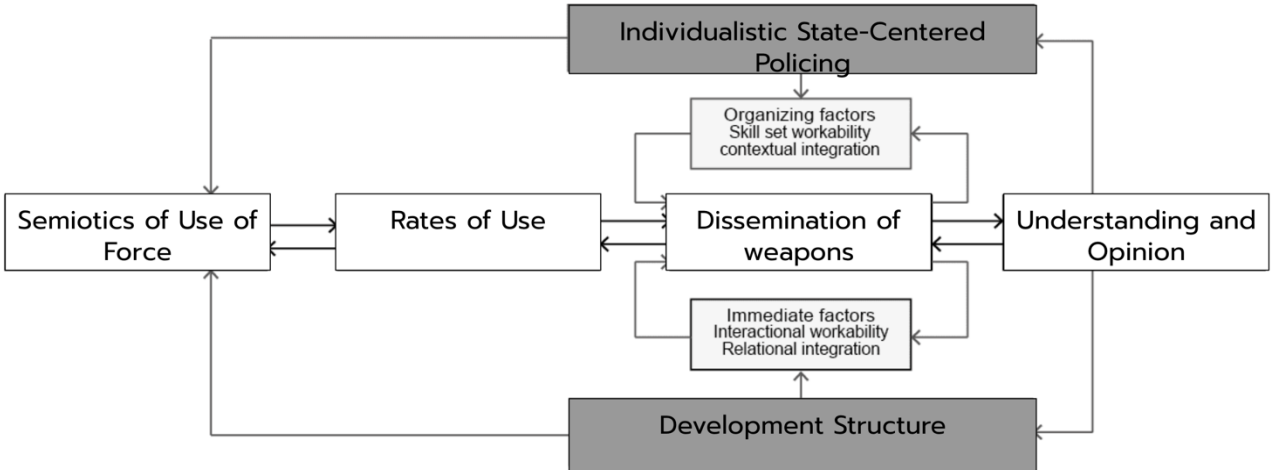

Figure 5: Particular NPT Concept Model. This figure displays the direct fields through which the base constructs of NPT will be understood. Additionally, the organizational structure and group processes are given distinct labels to further focus the object of study. (Adapted by Tryston Raecke from Vis et al., 2019).

COHERENCE

Broken into four components, "coherence is the **sense-making work** that people do individually and collectively when they are faced with the problem of operationalizing some set of practices" (May et al., 2015). The first component of this work is differentiation. Here, one must understand that the technology is different than some other alternative. In the case of "less-lethal" weaponry, this differentiation is made clear through research, policy, and administrative storytelling. A line is drawn in the grass even through the name of the weapon which contrasts it against lethal alternatives. In terms of accessible information, however, the story told around "less-lethal" devices hides the nefarious nature by which they punish those outside a narrowly defined scope of health. Instead, safety, as previously mentioned, is excused on a comparative basis.

The second component of the work, communal specification, focuses on building a set of objectives and expected benefits amongst a community. Much of this work is done by the administration of policing as well. Here, guidelines are produced which seek to limit officer injury, while forcing compliance of those who do not submit. This goal is explicitly focused on an element of control and may also be tied into higher level politics as well. Insomuch as the Department of Justice is dictated by the political whims of the actor leading the American administration, so too would the use of force guidelines offered down this chain.

The third component, individual specification, follows a similar practice to communal specification, but on an officer level. "Less-lethal" weapons, in particular, drive the ability of officers to manipulate behavior under these collective guidelines. The on-the-ground experience of policing and the cultural apparatus which praises conformity to a narrow legal framework assist in this understanding. While it is typically flawed, as officers do not have the same legal

training as a lawyer, per say, these grounds of legality and rights form a basic foundation of what is needed from the officer.

The fourth component, internalization, is the system by which the individuals on the ground, officers, attribute worth to the new technology, here "less-lethal" weapons. Under the framework of the prior three components, the worthiness of the new development is one which limits their need to commit an act of harm unto the person they are arresting. Conversely, however, it also retains worth as an element by which force can be easily escalated without the same kind of repercussion present when beating an individual with a baton or fist (both other "non-lethal" alternatives).

COGNITIVE PARTICIPATION

Cognitive Participation is "the **relational work** that people do to build and sustain a community of practice around a new technology or complex intervention" (May et al., 2015). The first component of this work is initiation. Here, a technology needs to address whether there are key people driving the adoption and development of the technology. In the case of "less-lethal" weapons, this is once given by the policy of the policing administration which dictates how officers can use and have access to the weaponry.

Enrollment, the second component of this work, is not a primary concern within the scope of policing. Focusing on any need to reorganize the nature of the work to accommodate the new technology simply is mostly a non-issue if the agency of the people using it is limited. In the case of police officers, the direct enrollment in the use of the technology may be given from above, but likely will not be challenged, unless it negates an active portion within the idea of

policing. This negation is not present, given that the technology increases police power, rather than lessening it.

The third component of this work is legitimation. The work of making a technology right or valid is given, in the case of "less-lethal" weaponry, by the story telling previously mentioned. Once properly positioned in the guidelines of action and rectified with claims of safety, the weapons are deemed legitimate insomuch as they further the role of police power. Similarly to enrollment, one has little trouble making something legitimate if it does not challenge their understanding of self at first glance.

The fourth component of this work is activation. Thought of as a need to delineate a path to sustain and involve oneself in a practice, activation does not challenge the status quo of policing either. The sustaining practices are the same reporting and justification measures already in place, perhaps made easier given the title of "less-lethal" weapons.

COLLECTIVE ACTION

Collective action is "the **operational work** that people do to enact a set of practices, whether these represent a new technology or complex healthcare intervention" (May et al., 2015). The first component of this work is interactional workability. Interactional workability refers to the work that people do with each other and with objects when they begin to make them operational in a given setting. A factor limiting this workability is in fact this issue of violence and the complication of where to place "less-lethal" weapons on the continuum of use of force. Its power is limited by the administrative setting of rules and the application of use of force guidelines unto the officers.

The second component of this work is relational integration. This is the work done in the realm of accountability and confidence of a system. When “less-lethal” weapons are only pushed into the same accountability framework as before, issues arise when their nature becomes questionable in relation to other elements of force. When one questions the danger and lethality of “less-lethal” weaponry, their entire placement in a force continuum is called into question.

The third component of this work is skill set workability. This component of labor division remains unchanged in the adoption of “less-lethal” weapons. Much of the skill set remains the same throughout the event of policing.

The fourth component of this work is contextual integration. This resource managing determines the policies and procedures that are in effect at a given context. When officers are not trained properly on the policy of de-escalation, for example, the ability for “less-lethal” weapons to work in context fails.

REFLEXIVE MONITORING

Reflexive monitoring is “the **appraisal work** that people do to assess and understand the ways that a new set of practices affect them and others around them” (May et al., 2015). This paper, altogether operates in this space and seeks to inform the practice of “less-lethal” weapons generally.

The first component of this work is systematization. Systematization occurs when individuals collect information and determine effectivity. Here it can be seen that methods must be set up to support this systemization which informs the subsequent components of reflexive monitoring. The nature by which sources are selected and emphasized is symbolic of the technology in question.

The second component of this work is communal appraisal. This appraisal looks to formal or informal groups to evaluate a practice based on the variety of information from systemization. This is the position of the administration and study that is primarily commited by institutions in general. Under this umbrella of work includes the assessments done by the Department of Justice and National Institute of Justice.

The third component of this work is individual appraisal. As opposed to communal appraisal, this form of evaluation looks towards the individual and its effects in their personal contexts. As opposed to looking towards institutions, this work is typically done on the ground or by organizers. It can be seen in the realm of political statements by individuals, including myself on the validity of these weapons. In the space of police officers, this work remains important in their continual use of these weapons as they represent their occupation and labor.

The fourth component of this work is reconfiguration. This particular appraisal work looks to reconfigure the procedures around a technology. Forms of change which arise from this element may differ depending on the source. A factor of a policing institution is that it must, by its attachment to law, remain stable. Should a policing force become unpredictable, so too would its position be open for question by a populace which it serves. As such, little reconfiguration is done on a large scale by police departments without outsized pressure to do so from outside.

REMATERIALIZING VIOLENCE

It is expected that the key areas which may alter behavior, should norm-setting be revealed, are coherence and collective action. Coherence in the belief of meaning behind the use of “less-lethal” weapons when in a global context relies on the silencing of outside institutional pressures which may dissent with action, or the alignment with ones which agree. The

justification for many forms of violence by the state lie in necessity, proportionality, legality, and accountability (American Association for the International Commission of Jurists, 1985). In crowd control spaces, this idea of proportionality which is the basis for many use of force recommendations is problematized (Hoffberger, 2017). Given that it is a core driver of use of force recommendations, a challenge to this pillar fundamentally shifts the meaning of "less-lethal" use.

A similar effect of outside pressures is presented through collective action, as can be seen in the operational scenarios for US law enforcement when pressured to work with the North Atlantic Treaty Organization (NATO). More specifically, US law enforcement must "capture useful operational input in a form consistent with the accepted NATO framework, but with a focus on US law enforcement operational needs" (Institute for Non-Lethal Defense Technologies, & United States of America, 2010, p. 10). As other NATO countries continue to question the role that "less-lethal" force should play in foreign and domestic scenarios, so too will any critique work its way into the policy guidance of the United States.

With careful action and critical awareness, the damage done to our ideas of what constitutes violent action can be rectified. By looking at the institution of policing through its policy and action, there remains space for a re-imagination of its role and reach in our lives. As a society and a community, safety remains paramount. The question here lies in whether the systems to ensure safety, as set, meet the needs and wants of all members of that community in an ethical manner. The shielding of this reality through the dematerialization of violence only acts to limit the agency of people, while expanding the power of the state. It is on the part of the institution, as pressured by free people, to understand how "less-lethal" weapons play into this predicament and choose to shift the system.

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