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# “You Don’t Need a Rocket Scientist to Figure Out What Could Happen”: Reasoning Practices in Police Use of Force Trials

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## Abstract

Trials involving police as defendants are rare but are significant events that give insight into police violence and its adjudication. This article explores the reasoning practices through which court actors navigate the disjunctive accounts created by competing claims of “what happened” in a police shooting. The data is drawn from trial testimony of officers and “use of force experts” in police deadly force cases in the United States. We focus on use of force experts who use a veneer of science and police logic to assert particular visions of officer “reasonableness.” We suggest that the systems of reasoning that lawyers and witnesses use in these cases create accounts of police violence that conflict with mundane reasoning and challenge credibility. We show that the proliferation of different reasoning practices and the elaboration of a “police logic” serve to insulate officers from criticism and accountability—albeit, not always successfully.

## Introduction

In 2016 in Mesa Arizona, Daniel Shaver, a professional pest exterminator, stayed at a La Quinta hotel during his travels. After inviting two guests to his room to drink, he and one of the guests began to examine the air rifle pellet gun he used for his job, pointing it out the window to look through the scope. This was seen by the guests below who interpreted it as a threat and reported it to the front desk. The hotel called the police who responded with a seven-person team that surrounded the room. Officer Philip Brailsford was one of two officers assigned “lethal coverage,” providing cover for the other officers. After the first guest was taken into custody (the second guest departed before police arrived), Shaver’s interaction with the police quickly

escalated. The body-worn camera video shows Shaver, dressed in baggy gym shorts and a T-shirt, on his knees begging for his life as an officer's voice delivers loud, demeaning, and conflicting instructions about how he is to crawl toward them (LA Times 2017). After Shaver reaches behind his back twice, Brailsford shoots him, killing him instantly. Brailsford was tried for second-degree murder. At trial (*State of Arizona v Philip Brailsford* 2016), a key defense contention was that Brailsford believed Shaver was reaching for a gun. In the aftermath, no gun was found. The prosecution contended Shaver was drunk and confused, and the action Brailsford perceived as reaching for a gun was "really" Shaver trying to pull up his gym shorts.

Trials pose a puzzle for decision makers: how to interpret competing accounts about the same event that are presented as the truth. Pollner (1974, 39) points to these differing accounts as "disjunctive experiences and/or accounts of what is purported to be the same world" framing the question as follows (Pollner 1974, 36): "[H]ow can persons who are simultaneously looking at the same world experience and/or describe that world in disparate and contradictory ways?" Pollner argues that the resolution of such disjunctures provides insight into mundane reasoning, which consists of an assumed, shared intersubjective world and the inference practices used to comprehend that world.

Use of force police trials are rare but important events. As Ralph (2017) argues, police trials are critical arenas in which we encounter the meaning and nature of police violence. Like all trials, police trials endeavor to resolve the question "[W]hat happened?" This makes trials an important setting in which to study a society's reasoning practices and how they are mobilized to achieve various ends (Lynch 2007). Importantly, we focus on conflicting accounts for police violence and the reasoning practices of lawyers, defendants, and use of force experts in conjunction with the technology (for example, science and training) employed by trial participants to guide the mundane reasoning of onlookers, whether a jury or members of the public, *toward* and *away* from their solutions to disjunctive puzzles.

Pollner's concept of disjunctive accounts provides an interesting starting point for making visible different systems of reasoning employed by the court and how they contrast with the practices of mundane reasoning. In police trials, the disjuncture revolves around the legal construct of officers' reasonableness. For example, when Officer Philip Brailsford shot Daniel Shaver, the defense claimed he was in "reasonable fear" that Shaver presented a threat while the prosecution argued he was not (*State of Arizona v Philip Brailsford* 2016). Jurors are not surprised by such contradictions as they expect opposing lawyers to propose different accounts and argue that their account best represents "the truth" within the strictures of legal reasoning (Burns 2008). However, such accounts can sometimes pose significant challenges to the assumptions of mundane reasoning (Garfinkel 1967).

This paper examines testimony in three trials to illustrate how disjunctive accounts are introduced in court and how candidate solutions are proposed by competing sides. Our approach uses ethnomethodology (EM) to guide our analysis of these trial proceedings. EM examines members' methods for producing the social orderliness of everyday life (Garfinkel 1967). For Garfinkel, everyday life has a recognizable and coherent orderliness that members of society mutually construct through practices that are constitutive features of any social setting. This approach has been successfully employed to study institutional settings such as the courts

(see Komter 2020; Travers and Manzo 2016; Pomerantz and Atkinson 1984). Ethnomethodologists have studied the constitutive features of court settings (Atkinson and Drew 1979), plea bargaining (Maynard 1984), how jurors make sense of evidence in their deliberations (Manzo 1994; Maynard and Manzo 1993), scientific expertise (Burns 2008; Lynch and Cole 2005; Peyrot and Burns 2001), and military courts (Kolanoski 2017). We treat the trial as a site for studying the practical reasoning (Manzo 1994) of prosecutors and defense attorneys as they attempt to resolve the disjunctive accounts (Pollner 1974) posed by the evidence in the case.

Our data is drawn from a larger research project that examines how lawyers, witnesses, and judges use video evidence in trials of officer-involved shootings. The project used a purposive sample of eight criminal trials of police officers accused of killing citizens<sup>1</sup>—four convictions and four acquittals—to allow for analysis of the possible effects of video evidence. Because police trials are rare and the proliferation of body-worn camera video evidence is relatively new, when we started the study in 2019 there were relatively few trials to choose from. According to Stinson and Wentzlof (2019), 104 state and local law enforcement officers were *arrested* on murder or manslaughter charges in America between 2005 and 2019 (of these there were only twenty convictions; twenty-three were acquitted by jury trial). We had more narrow criteria than Stinson and Wentzlof (2019). We required that the incident was an on-duty shooting, that video of the incident was used in a jury trial, and that the transcripts and/or video of the trial proceedings were available for study. We found cases through news feeds and resources such as the Washington Post Police Shootings Database. The earliest case that met our criteria was that of James Forcillo, tried in Canada in 2015. Thus, our cases span 2015–2019. We excluded a few cases due to availability; for example, the trial of Betty Jo Shelby, whose transcripts were sealed. We studied each trial using official court transcripts and/or the trial's video proceedings posted to YouTube and the Law and Crime Network to examine the sense-making practices deployed in the court as accounts for these deadly shootings.

During our research, the importance of use of force expert witnesses became clear. In the majority of our trials (six out of eight), both the prosecution and the defense called expert witnesses to discuss the use of force. All use of force experts drew on training and policy to explain why officers use force and why a particular instance of force was justified or not. In two trials in particular, those of Philip Brailsford and Roy Oliver, the use of force experts referenced “Force Science,” which we learned referred to a credentialing entity called the Force Science Institute (FSI). In this paper, we focus on three trials to allow a depth of analysis within the constraints of space. Our interest in the FSI informed the selection of Brailsford's and Oliver's trials. The trial of Ray Tensing is also included because it demonstrates the reasoning practices that can be used in testimony by lawyers and witnesses when explaining the use of force *vis-à-vis* training and policy. Our efforts are qualitative and exploratory; we examine how the concept of the “reasonable officer” is constructed through the dynamics of court processes. We report several ways in which court actors support and contradict an officer's claims in the service of guiding the mundane reasoner, including a) how legal

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<sup>1</sup> Except for the trial of Marco Proano in which Proano shot at a car full of teenagers, none of whom died. He was convicted of using excessive force in violation of the victim's civil rights. Proano was also the only federal case in our sample, and the only case in which experts were barred from testifying.

doctrine privileges the perception of the officer and instructs the jury accordingly; b) how use of force experts construct and use purportedly scientific claims; and c) how use of force experts and defendants construct and use a “police logic.”

Each of our cases was brought to court on the weight of video evidence that called into question the legality of the officer’s action, and our case examples include reference to video used during testimony. As Brayne *et al.* (2018) observe: “The process of transforming lived experience into digital, visual evidence can engender accountability, facilitate resistance to power, and reshape relations between the individual and the state” (1149). This is particularly important in police trials where one realm of state actors is attempting to hold another accountable. However, we have found that legal arguments adapt to video in ways that render it subject to interpretation. Thus, disjunctive accounts are not eliminated by the presence of video evidence. Instead, reasoning practices adapt to offer disjunctive interpretations of video utilizing the reasoning practices discussed below.

Jurors reconcile the contradictions raised at trial in a manner that comports with legal reasoning and being a “good” juror (Garfinkel 1967). Specifically, the law privileges the officer’s perception in these matters of violence. Certainly, the pressure to employ legal reasoning asserts itself on jurors owing to the processes that constitute making twelve strangers a “jury,” such as being empaneled and authorized to pass judgment on the legal matter in question and receiving instructions on how to use relevant law and procedure to make their decision. Juries are generally instructed to use their common sense when weighing the evidence and the credibility of witnesses (*c.f.* Chagares 2021). However, legal reasoning does not *supplant* common sense models of the world. This would conceptualize jurors’ decision-making as, drawing on Garfinkel, a “lay replica of the judge” (1967, 115). Rather, Garfinkel argued jurors take seriously their task to engage legal reasoning as important societal matters but do it in ways that allow them to preserve the importance of mundane reasoning. This tension is in many ways irreconcilable despite the ways the law and legal procedure attempt to control its use.

We argue court actors contest “officer reasonableness” by drawing on legal, scientific, and what we call “police” logic to create disjunctive accounts of police violence.<sup>2</sup> We are not concerned with whether any candidate solution has greater or lesser weight in resolving these disjunctures; what we are describing are the mutually exclusive plausible accounts that pose potential challenges to intersubjectivity. Our focus is on the discursive strategies deployed by each side to support or undercut proposed solutions to the critical disjunctive accounts in the case. We call attention to the essential malleability of the meanings ascribed to the same actions, with court actors using an array of discursive strategies that can fundamentally challenge mundane reasoning. We show that the proliferation of different reasoning practices and the elaboration of a “police logic” serve to insulate officers from criticism and accountability—albeit, not always successfully.

In the following, we first discuss the legal doctrine that formed the “reasonable officer” legal construct showing how it privileges the police perspective, and then

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<sup>2</sup> Our focus is on officer accounts of violence recognizing that their accounts can differ from citizen’s accounts of the same event (See Rojek *et al.* 2012). A unique feature of trials where the victim has died is that the competing accounts must come from lawyers and other witnesses.

examine the specialized area of use of force expertise and how the FSI featured in our cases. We then explore force expert and officer testimony, examining how “science” and training are used in arguments about officers’ privileged perceptions. Finally, we discuss the “reasonable officer” in relation to mundane reasoning, “police logic,” and the law.

### **Disjunctive Accounts and the Privileging of Officer Perspectives**

Officer reasonableness was enshrined in the Supreme Court decision *Graham v. Connor* (1989), which circumscribed the conditions under which the police can exercise force. Specifically, while *Graham* concluded that the reasonableness of any use of force “is not capable of precise definition or mechanical application,” the Court also noted:

the “reasonableness” of a particular use of force must be judged from the perspective of a reasonable officer on the scene, rather than with the 20/20 vision of hindsight . . . [and] . . . [t]he calculus of reasonableness must embody allowance for the fact that police officers are often forced to make split-second judgments—in circumstances that are tense, uncertain, and rapidly evolving.

This decision was significant in defining the standard for assessing officer reasonableness while still leaving a great deal of interpretation to the triers of fact. This was the court’s intent when they noted that “the test of reasonableness under the Fourth Amendment is not capable of precise definition or mechanical application” (*Graham v. Connor* 1989). It is in this space for interpretation that the several threads of our analysis come together. In this paper, we review expert witnesses and their claims to science on the one hand, and defendant officers’ invocations of training and its technologies on the other. While these might seem only tangentially related, we suggest that both claims about science and claims about training are employed to pose and resolve key disjunctures that ultimately hinge on officer reasonableness. In three cases, those of ex-officers Philip Brailsford, Roy Oliver, and Ray Tensing, key questions of perception were posed: Did Brailsford reasonably see a draw stroke? Did Roy Oliver reasonably see a car about to hit his partner? Did Ray Tensing reasonably perceive himself to be dragged by a car he had reached into?

It is our position throughout that these are not fundamentally scientific questions, and we explore the limitations of the scientific claims that use of force experts have brought to bear on them to question the value of use of force expertise in police trials. Given the significant leeway that the law affords for interpreting reasonableness, a critical assessment of *how* this interpretation is achieved is necessary. This is not intended as a broad critique of science in the courtroom but, rather, a specific investigation of how a particular type of expertise claiming the mantle of science has emerged and influenced police trials.

*Graham* requires using the objective facts of the situation in combination with the legal construct of a reasonable officer’s perception of the scene to determine whether the officer’s actions were reasonable. The combination of “objectivity” and “perception” can be somewhat confusing. We find some clarity in the plaintiff’s oral argument (*Graham v Connor* Oral Argument, 4-14) in which he objected to the

lower court's use of a "hybrid" constitutional test that drew on the "objective reasonableness" standard of the Fourth Amendment and the subjective test of the Eighth Amendment (which focused on the officer's intent, specifically whether force was malicious and sadistic). The plaintiff argued that the Fourth Amendment was the *only* correct standard, and the court agreed. Thus, officer intent is not relevant to determining the reasonableness of use of force. While an arguably subjective account of "perception" is allowed, it is the officer's interpretation of events, actions, and behaviors that are judged—objective factors. It is not the officer's intent in initiating the stop, or his or her feelings about the suspect—subjective factors.

In practice, this means taking the defendant officer's account of their perspective and asking whether a reasonable officer would have perceived the same thing. Officers are aware of the legal privilege of their perspective, and their testimony often reflects this knowledge. For example, in the trial of ex-officer Ray Tensing (discussed in more detail below), Tensing stated that the prosecution's expert "has had time and months to evaluate this and study this. I made a split-second decision. And the experts can sit here and evaluate it and study the body cam and break it down, but they were not in my mind during these seconds" (*State of Ohio v Tensing* 2016).

Tensing is asserting a frame for interpretation that we call "police logic." Here he aligns his conduct with *Graham* by using the language of "split-second decision," implicitly using legal reasoning to interpret his behavior. He also challenges the ability of an expert to testify from an officer's perspective, a tactic that is used only with the prosecution's expert witness. He suggests that his account should be prioritized over that of the expert.

Although multiple types of reasoning are used in court, there is no specific type of reasoning that corresponds to a specific court actor. Rather, people are fluid in their reasoning claims. In their discussions of officer reasonableness and in posing solutions to disjunctive accounts, lawyers and witnesses' discursive strategies can draw on multiple kinds of reasoning in ways that blend or contrast the logic of one frame with another. For example, we see a clear reliance on mundane reasoning to assess issues like the propriety of officer conduct, as when lawyers call on jurors to use their "common sense" to assess a given fact of the case. Take for example the defense opening statements in the Brailsford trial:

[Brailsford] is no killer. He was a first responder responding to a call, a 9-1-1 call, with citizens asking for assistance because there was a man in a window five stories up shouldering, scoping, and pointing a weapon that appeared to people down there like he was looking for targets. That's how the case began. And I'm not saying [the victim] Daniel Shaver's a bad man or he's an awful man. But his actions that night left some bad impressions on a lot of reasonable people that led them to be scared, that led them to feel a need to call the Mesa Police Department for help, and fearful of what could happen when you have a man in a window five stories up. You don't need a rocket scientist to figure out what could happen, although you have one on the jury (*State of Arizona v Philip Brailsford* 2016).

The defense argues here that the couple who initiated the call were reasonably in fear because it is commonsensical what can happen when a person points a gun out of a

fifth-floor window. He relies on a shared intersubjective world in which we agree that seeing a pointed gun and perceiving danger are synonymous. In doing this, the defense provides an alternative account of Brailsford as a person whose actions do not fit the cultural category of a “killer” but, rather, a “first responder” who helped “reasonable” and “scared” citizens who asked for help. He invites the jury to use their common sense by employing the cultural idiom “you don’t need to be a rocket scientist” to suggest the situation is easy to interpret without any need for expertise.

By contrast, in an exchange during the retrial of ex-Officer Ray Tensing (*State of Ohio v Tensing 2017*), Prosecutor Tieger also draws on mundane reasoning in this case to create doubt about Tensing’s claims, which were framed within a “police logic.” Tieger concluded his lengthy cross-examination of Tensing by interrogating Tensing’s repeated insistence he did not mean to kill Sam Dubose, the man he shot point-blank in the head. Tieger’s framing of the interrogation suggests a common sense interpretation that Tensing’s claim is ridiculous: how can Tensing, trained in the use of firearms, not intend to kill Dubose when he fired his gun? Yet Tensing’s objection followed a common pattern in our trials, in which officers (and force experts) described shooting a person as “stopping the threat” rather than acknowledging it as ending a life. In this instance, the prosecution’s questioning lays bare “police logic” to show how incommensurate it is with mundane reasoning:

[Q = Prosecutor Tieger, A = Ray Tensing]

- Q. And after all that, you’re telling the jury, after all those purposeful acts that you did, that you didn’t mean to kill him?
- A. I meant to stop the threat. I didn’t shoot to kill him, I didn’t shoot to wound him, I – I shot to stop his actions.
- Q. What did you think would happen once you did all that? That he would just walk away?
- A. After the?
- Q. After you shot him in the head, did you think he would just walk away?
- A. I never thought about that.
- Q. That’s all I have, Judge. Thank you.

The prosecution uses a rhetorical strategy of incredulity to draw attention to the disjuncture between the police logic of “stopping the threat” and the mundane reasoning that tells us that shooting someone in the head can kill them. The prosecution contrasts Tensing’s previous “purposeful” acts with the vague notion of “stopping the threat” while Tensing continues to resist any framing or answer that would implicate intent to kill.

In police training, “stopping the threat” is a standard account for taking and justifying violent action (Klinger 2012; Patrick and Hall 2017), which the police use in their court testimony. In our data, both officers and experts use this logic as an account of violence. For example, in the Brailsford trial, defense expert witness Emanuel Kapelsohn explained how officers are taught to shoot:

Officers are taught to shoot neither to wound nor to kill, and that’s a little confusing for many people to understand. Officers are taught to aim at the center mass because it’s the largest part of the target. So, they’re most likely to

hit the threat rather than miss it entirely. The bullet is most likely to stop within the target because that's a thick part of the target, and that may result in death to a suspect or it may not (*State of Arizona v Philip Brailsford* 2016).

We suggest that “stopping the threat” is not simply a justification for violent action; rather, it is a category of action through which officers conceptualize the use of force. It focuses the officer on the technical aspects of taking action by objectifying the human subject as a “target” and separating violent action from its human consequence.

Both Brailsford's defense attorney (Piccarreta) and Tensing's prosecutor (Tieger) use mundane reasoning in these excerpts to develop interpretations of officer reasonableness. In Piccarreta's opening, he foreshadows the arguments of the trial and frames them in a common-sense interpretation that the situation Brailsford found himself in was inherently dangerous. In Tensing's case, Tieger highlights the contradiction between mundane reasoning and “police logic” by exposing the proposition that one can “stop a threat” by killing a person without intending to kill a person. Tensing, on the other hand, aligns himself with police policy and training by claiming that he wanted to “stop the threat,” posing an alternative to the common assumption that aiming a gun and shooting at a person is preceded by intent to kill: he had intent (it was not accidental) but his intent was in line with the reasonable actions of a police officer taking action in the course of duty.

A key proposition challenged in police trials is the commensurability of the perceptions of officers and jurors. This challenge is made through different and competing claims that draw on different forms of reasoning; that is, how different claims are brought to bear on reasonableness privileges an officer's perspective of what happened. When experts are brought in to explain police perspectives, it suggests that unique knowledge is necessary to understand what a police officer sees or how they make decisions (Goodwin 1994; Sierra-Arevalo 2021). Interpretations of officer reasonableness are built through the efforts of lawyers and witnesses in their shared assumptions and their disagreements. We turn next to a unique feature of the police trial: the “use of force” witness.

### **Force Expertise and Scientific Claims**

Use of force experts can testify for both defense and prosecution, as they did in six of our eight cases. To our knowledge, there is no formal accreditation of this field and its training by an independent body. Nor is there a comprehensive typology of its practitioners, who can vary from PhD academics in formally established disciplines; sub-disciplines in the sciences, social sciences, and the law (for example, a JD); former and current law enforcement officers with credentials from entities like the FSI; and those who have received an advanced graduate degree but do not primarily identify as an academic. These experts have become more common in recent decades as the *Graham* decision prompted changes in organizational policies and procedures, officer training, and the development of force and decision-making models.

Because the police trial's puzzle is centered on the officer's perception at a particular moment in time, it is not something that can easily be measured or

quantified. Nevertheless, use of force experts make “scientific” claims about such matters that can hold considerable sway in court. In part, this is because court procedures problematize the intersubjective world in ways that set the stage for rendering an objective solution—what are the “facts” despite claims to the contrary—and scientific claims fit easily within that frame. Yet, undeniably, scientific claims also hold sway because of a long history of scientific and social scientific expertise yielding insightful answers to questions put before the court (Gotham and Kennedy 2019; Anderson and Winfree 1987).

In this section, we explore what makes *use of force experts’* claims to science suspect on the one hand, and arguably irrelevant on the other. We contend that use of force experts cannot solve the question of “what happened” in a use of force encounter but we find their claims offer candidate solutions to disjunctive accounts in ways that suit the objective “fact-finding” focus of the court. Most commonly, use of force experts make claims about officer perception and decision-making that are inconsistent and biased in favor of the side that hired them. While such bias may be viewed as the natural product of the court’s adversarial process (Jasanoff 1995), we draw attention to how scientific and non-scientific testimony are interwoven in ways that (attempt to) create an “objective” explanation of a subjective experience. This is done using what we characterize as a “veneer of science,” a process where testimony interweaves scientific language or claims with personal opinion and anecdote to produce claims that sound authoritative, objective, and scholarly.

Use of force experts played a significant role in the trial of Officer Roy Oliver for the killing of Jordan Edwards in Balch Springs, Texas (*State of Texas v Roy Oliver* 2017). Oliver and his partner, Officer Tyler Gross had been dispatched to disperse a large house party of local teenagers. While officers were speaking with the party host, they heard multiple gunshots outside of the home and ran to investigate. Gross began scanning the crowd of panicked teenagers while Oliver went to his patrol car to secure a rifle.

Gross was attempting to stop a vehicle, whose driver ignored his command to stop, as Oliver was approaching from down the street. Oliver claimed that, as he moved closer, he saw the vehicle was about to hit Gross and began shooting at the vehicle. He continued shooting as it drove past him, killing teenage passenger, Jordan Edwards. Gross did not fire his drawn weapon. Of note, no one in the vehicle or at the party was involved in the gunshots heard by the officers. Oliver was tried for Edward’s murder and two use of force experts were hired to testify. Philip Hayden, the prosecution witness, testified that Gross was never in any danger and Oliver’s decision was unjustified. Jay Coons, the defense witness, testified that the shooting was justified.

To bring experts into court, a certification hearing establishes their credibility in the field of expertise and, potentially, their field’s credibility. United States courts do not use neutral experts but, rather, allow competing sides to hire experts. Expert witnesses have long been used in courts and are an exception to the prohibition on offering opinions in court (Milroy 2017). While court rulings have established standards intended to limit the opinions offered by experts, the extent to which this has been successful is debatable (Edmond and Roque 2012). As Jasanoff (1995, 45) notes:

... what the common law adjudicator sees in practice are two carefully constructed representations of reality, each resting on a foundation of expert knowledge but each profoundly conditioned by the culture of expert witnessing as it intersects with the interests, ingenuity and resources of the proffering party.

Standards for admissibility are the primary gatekeeping mechanism used by courts for experts. In the United States, the Federal Rule of Evidence 702 states: “If scientific, technical, or other specialized knowledge will assist the trier of fact ... a witness qualified as an expert ... may testify thereto in the form of an opinion.” Three cases guide the admissibility of experts: *Frye v United States* (1923), *Daubert v Merrell Dow Pharmaceuticals* (1993), and *Kumho Tire v Carmichael* (1999).

*Frye* demanded recognition of expertise based upon “general acceptance in the particular field in which it belongs.” *Daubert* raised this standard of admissibility by insisting that expertise be reliable: that it be based on methodologically sound, tested science with reliable results.<sup>3</sup> While the language in *Daubert* suggested that the reliability test was only for sciences, *Kumho Tire* expanded the *Daubert* criteria, stating that judges have a gatekeeping obligation to ensure the reliability of expert testimony and that “the *Daubert* ‘gatekeeping’ obligation applies not only to ‘scientific’ testimony but to all expert testimony.” Although judges are charged with being gatekeepers in determining the admissibility of expert evidence, they have considerable discretion when deciding who to admit and on what grounds.

Although use of force experts often rely on scientific claims in their testimony, we find in our trials that the ostensibly rigorous process to bring them into court is, in practice, rather cursory. This has meant that dubious research and claims have gone unchallenged in court. When admitting use of force experts, precedent as a prior expert witness and experience in law enforcement takes an outsized role compared to investigations of the scientific merits of their credentials or claims.

During the expert proffer hearings at the Roy Oliver trial, both defense witness Jay Coons and prosecution witness Philip Hayden made over twenty-five wide-ranging points about their qualifications. Both testified they had been certified as use of force expert witnesses in previous trials. Other questions about their qualifications covered their military, policing, and educational experience. Both had doctoral degrees. Hayden received an Ed.D., which he described as “dealing with the human factor of education and psychologically, how do they learn, how do they perform, what their actions might be, and how they perceive themselves.” These credentials were linked to use of force expertise through reference to his network of associations. Both had connections to the FSI, a for-profit organization that produces research on the use of force as well as providing training to law enforcement agencies and use of force expert witnesses. Asked if he knew FSI founder Bill Lewinski, Hayden testified they

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<sup>3</sup> We critique expert claims to science using *Daubert* as guidance, which states “Factors that a judge should consider include whether the theory or technique in question can be and has been tested, whether it has been subjected to peer review and publication, its known or potential error rate, the existence and maintenance of standards controlling its operation, and whether it is widely accepted in the relevant scientific community.” (*Daubert v Merrell Dow Pharmaceuticals* 1993). We acknowledge that this definition of science is not immune to critique itself. However, for the purposes of this paper, the court standard for science is a relevant measure against which to judge whether an expert’s claims to science are legitimate.

had been friends for over thirty years and that he [Hayden] was a Board Member of the FSI. Hayden also discussed his military and professional career with the FBI, including his many instructor positions and publications in the FBI's in-house journal.

Coons listed his experiences and rank as a Captain in the Harris County Sheriff's Office and emphasized his educational credentials. Coons held a doctorate in criminal justice and taught courses in ethics, organization administration, and statistics at local universities. Five months prior to the trial, he was certified through the FSI. Asked by the defense if he felt qualified as an expert to talk to the jury about the "use of force and the scientific part of it, the human factors?" he replied, "[Y]es sir, I do." In both cases, the focus on witness credibility emphasized their police career experiences rather than the validity of their scientific claims or the relationship of their education to those claims.

In our data, use of force expert testimony emerged as the significant lens through which each side renders disjunctive accounts of force incidents as sensible to the court. Use of force experts are brought into court to provide insight into what an officer's perspective of an event may have been. Expert testimony often draws on objective framings of human experience, which can include claims about phenomena such as "tunnel vision" and "auditory exclusion" or other physical-psychological factors that might affect perception (Dinota et al. 2021). These experts also testify about department policy and training regarding the use of force and police subculture to assert what an officer should know or expect given certain circumstances. Together, this focus on objective forms of knowledge suggests that the subjective experience of the officer on trial can be quantified and measured.

Normally, experts are brought in to assist juries with information that is highly technical or not common knowledge. By calling use of force experts in police trials, lawyers suggest that police experience is not knowable without special instruction. The implication is that there is incommensurate experience between officers and jury members that requires expertise to provide unique insights into officer perspective. Use of force experts build their claim to legitimacy and credibility based on their law enforcement experience on the one hand, and possession of various academic and non-academic credentials on the other.

We found that a significant source of use of force experts' credentialing, such as that used in Roy Oliver's trial, came from the FSI. We first came across the term "force science" in the Brailsford trial, where the defense use of force expert, Emmanuel Kapelsohn, used the term as if it was an academic discipline rather than the name of a for-profit training institute. While not all use of force experts are trained by the FSI, nor was it the only source of credentialing for any expert in our cases, this enterprise stood out as significant in promulgating some themes that were common in use of force expert testimony. We also note that the naming of the institute itself can be misleading in court testimony. When an expert says during an admissibility hearing "I am trained in Force Science," it sounds as if they are referring to an accredited academic field of study of the type referred to in *Daubert* rather than to a private training institute.

We note that the FSI is only one of a number of "cottage industries" (R. v. *Forcillo* 2018) that have emerged around the commodification of expertise on police use of force. For example, David Grossman's "killology" perspective makes claims about the physiological and psychological effects of lethal force, teaching "officers to kill with

less hesitation” (McLaughlin 2020). His work has garnered criticism in the media but limited systematic academic attention (c.f. Simon 2021). These “cottage industries” are connected to a growing network of policy and training platforms. For example, Lexipol, a for-profit corporation that provides training and policy services in the public safety sector broadly (Eagly and Schwartz 2022) has merged with the popular and widely distributed magazine/website *PoliceOne*, which has a significant law enforcement audience. *PoliceOne* is supportive of the FSI and includes over two hundred articles (as of March 2022) in a section dedicated to the FSI on its website with a preface describing the FSI as “Destroying Myths and Discovering Cold Facts” (PoliceOne 2022).<sup>4</sup> We focus our critique on the FSI due to its centrality in our cases and in its connections to this growing network.

The FSI’s influence is not without controversy. In 1999, FSI founder Bill Lewinski published an article in the magazine, *The Police Marksman*, explaining how police officers could justifiably shoot someone in the back. His interest in bridging academic research and law enforcement originated in the mid-1980s as a response to a judge’s claim there was no academic research on tunnel vision and auditory exclusion (Griffith 2010). Lewinski’s research into police performance in high-stress situations such as shootings led to the creation of the FSI in 2004, which, according to its website, trains thousands of people each year in the “science” of “police action versus reaction.” His approach begins with the concept of reaction time, as initially derived from experimental psychology, and elaborates on its application to police shootings using research in the fields of transportation and wound ballistics (Lewinski et al. 2014). In policing, “action beats reaction” is the belief that a suspect will always be able to “act” faster than a police officer can “react” (Patrick and Hall 2017, 177), and much of the FSI research is designed to prove this assertion.

In our estimation, the FSI has been instrumental in developing the concept of “action beats reaction” in the police context (for example, Wisecarver and Tucker 2007). However, in the *State of Texas v Christopher Hess* (2017), the prosecution attempted to prevent the defense’s use of force expert from testifying about action versus reaction because he did not have Force Science training. The defense successfully argued that “action versus reaction” is “common knowledge held among police officers” and does not require Force Science training to learn (See Christopher Hess Trial Day 3 at 1:02:00). We believe officers’ “common knowledge” about action beats reaction reflects the influence of Force Science training and writing (through venues such as *PoliceOne* magazine) on a wide audience of police officers.

According to the FSI website “Force Science is the research and application of unbiased scientific principles and processes to determine the true nature of human behavior in high-stress and deadly force encounters.” The words “unbiased” and “true nature” stand out as red flags, given that the Institute’s research claims support for some of the most controversial aspects of police shootings; for example, shooting someone in the back or shooting before a weapon is seen. In this respect, the FSI is a resource for “litigation-driven research” that poses a general concern for courts when assessing the role of experts (see Risinger 2000, fn 13).

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<sup>4</sup> *PoliceOne* has since redesigned their website and while Force Science Institute is no longer its own section, there is a continued strong presence of FSI related articles as of January 2024; <https://www.police1.com/search?q=%22force+science+institute%22#nt=navsearch>

In court, Force Science is presented as drawing from the disciplines of physics, biology, kinesiology, and psychology. In their testimony, use of force experts utilize a combination of peer-reviewed and non-peer-reviewed<sup>5</sup> publications, along with their own experiences and beliefs about how police and suspects behave. Through this process, well-established facts like the physiological existence of reaction time are blended with and lend credibility to less credible theories of—and sometimes pure opinions about—decision-making, rationality, and social interaction.

While the FSI has grown in size and stature, ongoing criticisms have branded it as producing pseudoscience. Criticisms have come from legal and academic fields, reflecting a “mainstream science” pushback against “junk science” similar to what Sheila Jasanoff (1995, 131) observed in the case of “clinical ecology.” Policing scholar Sam Walker (2015) describes the FSI as providing questionable research support for a “threat-focused vision” of police work that eschews de-escalation and tactical disengagement in favor of a warrior mentality. Media and communications scholars Feigenbaum and Weissmann (2016, 494) similarly describe the FSI as promoting a “vulnerable warrior” frame that “reimagine[s] police killings not as excessive force, but instead as pre-emptive acts of self-defense.”

Cognitive psychologist Lisa Fournier disputes Lewinski’s claims that “perception and judgement . . . can be separated in time from biomechanical motions” and parsed into discrete processes, pointing out they are not supported by the perception/attention literature (Fournier 2012, 1). She notes that Lewinski’s research employs “subtraction logic”—a discredited idea based on the faulty assumption that “by subtracting out the time it takes to execute one action, you can figure out the time it takes to do others” (Fournier 2012, 2).

Professional recognition from the law enforcement community has been mixed. Veiled criticisms of Force Science have emerged from police organizations such as the Police Executive Research Forum (PERF) (2015, 19). British Columbia’s Office of the Police Complaint Commissioner said in 2012 that they “will never consult with Lewinski again because Lewinski is ‘biased towards the police’” (Bedi 2022, 533–34). But in the United States, months after the Justice Department criticized Lewinski’s research as “lacking in both foundation and reliability,” he was hired to testify on behalf of one of their agents, and the agency subsequently paid to send numerous employees to the FSI for training (Apuzzo 2015, 1).

Nonetheless, the FSI is increasingly recognized as an important credentialing institution for law enforcement officers to become force experts who testify in court cases. The FSI regularly offers forty-hour certification training producing a large number of Force Science “experts” touting their expertise in use of force trials. Thus, the FSI has become a clearinghouse in the expertise market, an example of what some scholars describe more generally as reflective of “the commodification of the expert” (Jasanoff 1995, 45).

In the Roy Oliver trial, both sides’ experts were affiliated in some way with the FSI, and each drew on aspects of its training or research in their testimony. Yet, these experts differed significantly in their interpretation of Oliver’s decision to shoot by defining the decision-making timeframe in radically different ways. Importantly, this

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<sup>5</sup> By our calculation, 40 percent (10/25) of Lewinski’s publications on the FSI website are in the non-peer-reviewed Law Enforcement Executive Forum.

was not a disagreement based on scientific debate about the use of force; rather, it was a more fundamental failure to agree on what constitutes a decision—something which neither expert testified to directly, nor did either attorney interrogate. Jay Coons defined the decision-making event as less than a second long (starting at the point where Oliver heard the car window shatter) while Philip Hayden defined the decision-making event as nine seconds long (starting when Oliver began running towards the scene). We first discuss the content of their arguments, and then return to the nature of their disagreement.

Coons focused on the moment Oliver aimed his weapon, and argued, consistent with *Graham v. Connor*, that Oliver made a split-second decision. Coons used the OODA loop, a decision-making model that stands for Observe, Orient, Decide, and Act to demarcate “decision zones,” which were overlaid onto the prosecution’s video timeline of events. The OODA loop, a descriptive model imported from the U.S. Air Force pilot training (Boyd 1995), purports to identify the internal psychological processes by which a person responds to a stimulus (Stoughton *et al.* 2020). As used in court, the OODA loop concept proposes to capture the discrete stages officers use during a force encounter that presents an officer’s split-second force decision as one grounded in discrete and purposive acts.

For example, in the Oliver trial (*State of Texas v Roy Oliver* 2017), Coons uses the OODA loop to argue that what Oliver saw when he made his decision to shoot was different from what he saw when he started shooting. Coons created a timeline using Oliver’s body-worn camera video, assigning Oliver’s perception, decision-making, and the action of firing the shot to different stages of the OODA loop:

- A. So what we need, we need to figure out two points. The first point we need to figure out is when Officer Oliver made the decision to shoot, because that’s what’s important, not when the first shot was fired. When did officer—
- Q. Why is that important?
- A. Because that’s when he was seeing what he was seeing. He says, based on what I’m seeing, I need to fire my weapon. Because we know now the time he makes that observation and makes that decision, the action is following and it’s going to be offset.

Coons uses the OODA loop model to assert that he can tell us *when* Oliver decided to shoot, and, therefore, what Oliver was seeing at that time.

One of the key disjunctures in this trial was whether the car had passed Officer Gross when Oliver fired his gun. Here, Coons offers a candidate solution to the disjuncture: what Oliver saw when he decided to shoot was not what was happening when he fired his gun but what was happening shortly before—in other words, before it was clear the car had passed the partner. Thus, rather than trying to claim the video or its interpretation was wrong, Coons claims jurors have to look at a different part of the video to understand Oliver’s perspective and decision-making.

Coons used these decision zones in combination with “subtraction logic” (Fournier 2012) to claim “what we can see is actually Oliver, Officer Oliver made the decision to stop shooting before he ever fired his first shot.” At this point, the defense counsel used a rhetorical strategy to lay claim on scientific validity, asking, “And that just

doesn't seem possible, but all of the research confirms that?" To which Coons responds, "It's solid science. It's solid science."

Prosecution witness Hayden also discussed reaction time but unlike Coons he does not explicitly reference the OODA loop in his testimony. He also asserts the scientific validity of Force Science research; for example, describing Lewinski's Tempe Police study on reaction time, stating "it was a very clinical situation. It was very, very clean. It was done in a laboratory-type atmosphere." Here, he alludes to the belief that laboratory-style experimental findings are always more objective and valid than, for example, field studies. He does not explain how and why a laboratory study of reaction time in shooting should be considered relevant to the "real world" conditions of a police shooting. His invocation of "laboratory-type atmosphere" rhetorically lays claim to scientific validity on the one hand, but on the other hand, focuses the question of Oliver's decision to shoot on objective facts such as reaction time rather than subjective questions such as what was Oliver's perception.

Using the Tempe study findings, Hayden concludes it takes about a quarter of a second for a person to decide not to shoot, although it could be faster or slower depending on the person. However, when asked whether Oliver was justified in shooting, he asserts Oliver's decision-making timeframe was nine seconds—the period from when Oliver began running to Gross's car until the first shot. Thus, according to Hayden, Oliver had ample time to decide not to shoot.

Although these experts testify on reaction time and action-reaction sequences, there is no standard or agreement for understanding how this applies to a decision to shoot. Hayden implies a decision to shoot can begin as soon as an officer approaches a situation, while Coons narrows the timeframe to a "split second" that begins with the "stimulus" (that is, the sound of the window breaking). Hayden's use of the nine-second window for making a decision was unique in our cases, the first and only time that we found a witness claiming that the decision started before a direct stimulus. In the end, the jury found Oliver guilty and he was sentenced to fifteen years in prison.

We have raised many questions about whether Force Science research is valid, yet even if one were to accept it as valid, the opinions rendered in court go beyond what science can prove. The problem with allowing experts to opine on the internal processes of decision-making—in the Oliver trial, *when* Oliver decided to shoot—is that in doing so they attempt to turn subjective experiences into objective facts, which assumes objective knowledge is always valid and applicable. Yet, unlike identification forensic sciences such as DNA analysis, use of force experts opine on the perspectives and inner experiences of a specific officer at a specific moment in time. Regardless of the validity of, for example, reaction times in experimental studies or models like the OODA loop, the question the court grapples with is officer reasonableness. This question is unresolvable through experimentation and is more philosophical than scientific.

### **Police Logic in Court**

In the first section, we gave an example of what we characterized as "police logic" in Tensing's claim that he shot to "stop the threat." In testimony, police logic is used primarily by police expert witnesses and by the defendant and witness officers (those who were there at the scene of the shooting event). While experts use scientific

language or claim to posit specific physiological reactions to stress in use of force encounters, they (and other police witnesses) also build the concept of a unique police perspective through reference to police training. We observe both prosecutors and defense attorneys interrogating officer training as a recurring tactic for delimiting what is “reasonable” according to legal and organizational standards and determining the criminal culpability of an officer’s actions. The tactical nature of a lawyer’s questioning is exemplified in the ways that officer training provides competing resolutions to key disjunctures in a case.

Police training is undertaken with the important yet lofty goal of ensuring conformity to an organization’s policies and procedures, despite the acknowledged reality that officer discretionary decision-making pervades police work (Goldstein 1993; Thacher 2016). In this way, training is envisioned as a *prospective* tool (CACF 2000; PERF 2016) that prepares officers to make correct/defensible decisions by formulating rules and policies to guide conduct. However, the existence of rules does not predict conduct; all rules are fundamentally defeasible (Bittner 1970).

In court, training is used *retrospectively* to interpret officer decisions, actions, and perspectives. We find that officer and expert testimony exploits the relationship between rules and conduct by referencing training and policy as a basis for determining “reasonableness,” making these exchanges a perspicuous setting to see how police logic is employed.

The Brailsford trial offers an example of how training can be offered as a candidate solution to a central disjunctive puzzle of officer reasonableness: of two similarly situated officers assigned “lethal coverage” who observed Daniel Shaver’s action of reaching his arm behind his back, why did only one officer (Brailsford) shoot? How did one officer (Brailsford) perceive this action as a “threat” whereas the other officer (Elmore) did not? During Brailsford’s testimony, the defense used still photographs from the video to show the precise coordination of Brailsford’s finger moving onto and pulling the trigger of his gun, with the motion of Shaver’s arm moving behind his back and his hand disappearing from sight. This was explained within a discourse of training to argue Brailsford had followed policies regarding the use of force when he pulled the trigger and killed Shaver.

- Q. And did you make the decision to discharge your weapon before his hand comes forward?
- A. Correct.
- Q. And why was that?
- A. I’m trained that I can’t wait to see in a situation like this, where it is a gun call it is a highly, it’s an emergency situation, this level of threat we are trained that we cannot wait until the gun comes into view. For one, I can’t see what’s coming from the hand coming forward because it’s a blur and it’s happening so fast. And so, in order to actually see the gun, I would have to wait until the hand is stopped. And at that point, several shots could have been fired and due to the proximity of Mr. Shaver to us, and being in such a tight hallway with no cover, he could have very easily fired and hit any one of us (*State of Arizona v Philip Brailsford* 2016).

The same training is used to explain why the other officer (Elmore), also on lethal coverage and who had Shaver’s hand in view for the whole time, did *not* pull his

trigger. This critique is not to suggest that training is unimportant but, rather, to draw attention to the ways in which discourse about training can be employed to explain opposing decisions.

Importantly, Brailsford's claims about why he had to shoot *before* he saw a gun references earlier testimony by defense expert witness Emanuel Kapelsohn's claims about training, perception, and action vs. reaction sequences. Kapelsohn discusses these topics in over seventeen pages of testimony, engaging in a "teaching" style of answering questions that assumes training is reasonable and correct. Kapelsohn claims that police officers are trained to shoot before they see a gun because:

If he has to see the gun, it will be too late to keep the person from firing the gun. Once the gun comes into view, the suspect's action of pulling the trigger and firing the gun is faster than any possible reaction of the officer to stop that from happening if the officer waits that long (*State of Arizona v Brailsford* 2016).

He supports this claim by describing Olympic swimmers lagging behind the sound of the starting pistol and drivers taking a second to apply their brakes when a dog runs in front of the car. He continues:

So that same principle is taught in tactical terms to police officers. Even if the officer is pointing his gun at someone and that person has his hand down by his leg, the person can lift a gun and fire it as fast as or faster than the officer can simply pull the trigger of the gun they already have pointed.

And, in a situation like this, if Officer Brailsford would wait to see Mr. Shaver's hand coming forward and of course while it's coming forward, it's a blur while it's a movement, but when it stops, if he sees there's a gun in it, there's no way the officer can fire fast enough to keep Mr. Shaver from firing the gun that he would've had in his hand because the officer has to see that gun, decide to pull the trigger, send the nerve impulse down the arm and pull the trigger, and that takes time. It takes several tenths of a second at best, even if the officer is prying [sic] for it (*State of Arizona v Brailsford* 2016).

Kapelsohn's logic is circular. He ascribes action to "suspects" and "reaction" to police officers in a way that allows him to define "action" such that a police officer's judgement can always be interpreted as "right." In Kapelsohn's framing, police must anticipate a "suspect's" action and pre-emptively "react." Thus, shooting someone before seeing their weapon is always justifiable. This is rendered as a logical response by referencing action vs. reaction and physiological constraints of the human body. In the end, the jury acquitted Brailsford.

These discussions of training go to the heart of the question, *what is officer reasonableness?* In each of our cases, officers made contested claims that their actions represented the reasonable and well-trained response expected of police officers. This points to the intricate connection between training and legal reasoning. Legal scholar Anna Lvovsky (2021) points out that *Graham v. Connor* makes an explicit distinction between the reasonable officer and the reasonably well-trained officer, directing courts to consider the former rather than the latter. In her analysis of lower court

cases, her findings correspond to ours: training is often used to a) “insulate” the accused officer’s decision-making from criticism by showing how it reflected institutional policies, or b) suggest an officer’s experience gives him (or her) superior abilities to the layperson (2021, 527–29).

There are instances where training is *not* followed and in such instances officers routinely invoke their discretion to justify their decision. This was exemplified in the trial of Officer Ray Tensing for the shooting of Sam Dubose (*State of Ohio v Raymond Tensing* 2016 and 2017). Tensing encountered Dubose during a pretextual traffic stop for a missing license plate. At a critical moment in the stop, Tensing asked Dubose to step out of the car while beginning to open the car door. Simultaneously, Dubose pulled the door closed with his left hand, while starting the ignition with his right hand. Tensing reached into the car to grab the key, which in policing is considered a tactical error and violation of a training “rule”—don’t ever reach into a vehicle. Tensing testified he instinctively reacted by reaching for the keys hoping to prevent Dubose from leaving. He further testified that, as Dubose started his car, “he mashed his foot on the accelerator” to flee the scene, and his hand became caught in the steering wheel. Tensing claimed Dubose was ignoring his commands to “stop” as the car was dragging him down the street, and he was in fear for his life. To “stop the threat” Tensing pulled out his gun firing the only shot he could see, which was to Dubose’s head, killing him instantly.

Testimony from the prosecutor’s forensic video expert, however, disputed Tensing’s claim: using a frame-by-frame analysis of the video the expert argued the car did not move until *after* the shot was fired. Upon cross-examination, the prosecution expert conceded the car *may* have moved, but no more than “a foot or so” before the shot. Thus, the critical disjunctive puzzle of the trial became: Tensing claimed the car was dragging him, while the prosecution claimed it was not moving. If the car was moving, then the decision to shoot could be viewed as reasonable under *Graham v. Connor*. If it was not moving, shooting Dubose caused the car to accelerate and knock Tensing to the ground, and the use of force was unreasonable.

Tensing’s claims about being dragged were treated as outright lies by the prosecution at his retrial. That is, their candidate solution to the disjunctive puzzle was that Tensing had made up a story to justify his actions. In addition, they called into question Tensing’s reasonableness in reaching into the car, an action which can predictably cause the situation (dragging) Tensing claimed had happened. In his cross-examination of Tensing, the prosecutor’s focus was on Tensing’s failure to follow his training:

- Q. Would you say that you forgot your training at that point?
- A. My training had said if you’re going to reach into a car, do it with your non—your non gun hand. It was an instinctive reaction to reach in the car.
- Q. Your training really didn’t say that, did it, Mr. Tensing? It said don’t reach in with your dominant hand. It never said reach in with your nondominant hand, did it?
- A. It said if you’re going to reach into a car, don’t do it with your gun hand.
- Q. You wouldn’t say—and then a couple other times, it said, just, never reach in a car. Do you remember the slide I put up that said Never, Never, Never, Never reach in a car?
- A. Yes, sir, I do remember that.

- Q. And you remember Chief Hughes telling you that?  
 A. Yes, sir.  
 Q. Right?  
 A. But even he said that there are times when you do reach into cars (*State of Ohio v Raymond Tensing* 2017).

Tensing counters the prosecutor's emphasis on compliance with training by arguing training does not outweigh the specifics of the situation, which may require the officer to pay "full authority to the actual situation" not to the training model (Garfinkel and Sacks 1970, 363):

- Q. But nobody said it's okay to reach in and try to knock out car keys, did they?  
 A. Sir, again, there's no absolutes. Every situation is different (*State of Ohio v Raymond Tensing* 2017).

Invoking training is not merely a legal issue—for example, was it followed by a yes or a no? Rather, the challenge facing officers is explaining how specific training features and organizational rules are *precisely* applied and/or disregarded in a particular situation. In police subculture, the idea of paying full authority to the actual situation privileges experience over abstract rules (Crank 2015, Manning 1978) that prioritizes officer discretion.

In this example, rather than using training in and of itself to defend his actions, Tensing asserts the limitations of training *without* denying its value. That is, he does not suggest that his training was inadequate or wrong but, rather, makes a broader point that a (well-trained) officer must take into account the situation and use his/her discretion when deciding if and how their training applies to making a decision. We can see that police logic in court incorporates the defeasibility of rules to allow for claims about the importance of training while maintaining that "there are no absolutes." Thus, police officers do not necessarily have to follow training to be reasonable. In the end, Tensing was tried twice, both times resulting in a hung jury.

## Discussion

We began this paper suggesting that trials pose a puzzle to participants: disjunctive accounts are presented to the triers of fact for their deliberation and decision. While this deliberation is conducted using the law and mundane reasoning, assistance in the form of outside expertise is allowed and at times is necessary, especially in highly technical matters that require knowledge beyond what might be assumed within the realm of a juror. The question becomes how much and what type of technical knowledge is required, or even possible to assert, about the critical question facing jurors in police shootings: did the officer act reasonably? Here, there is a fundamental tension between efforts to quantify the facts of the case and the qualitative nature of the task at hand.

We draw together several themes to reflect on the crucial question before the court of "officer reasonableness" and ask how that reasonableness is determined and whether or not use of force experts are necessary for it. We have shown how defense experts strategically use different types of reasoning and knowledge to produce

accounts that rationalize police actions in terms of “police logic” that blends together law, science, and opinion. Prosecution experts make similar strategic moves to discredit a particular police officer while upholding the validity of police action and the legitimacy of the police institution overall.

***The legal context: Graham v Connor and the reasonable officer***

*Graham* puts the focus on objective facts rather than subjective motivations to determine whether a specific use of force is reasonable. *Graham* adopts the objective reasonableness test from the Fourth Amendment, which balances the rights of the citizen against the interests of the state to determine reasonableness, but with some specific considerations related to policing. In oral arguments, Officer Connor’s lawyer, Mark Levy, argued that juries would be inclined to envision a perfect officer and hold the defendant officer to that standard. He argued that police discretion to use force must be preserved. The court agreed with Levy, adopting much of his argument in its decision to set constraints on how an officer can be assessed—leading to the creation of the “reasonable officer standard,” which prioritizes the perspective of a similar, “reasonable” officer on the scene. This, then, makes the reasonable officer test somewhat different from the Fourth Amendment’s “objective reasonableness” test, leading some scholars to term it “subjective objectivity” (Alpert and Smith 1994).

While the court explicitly excludes the subjective in terms of motive, subjectivity finds its way back in through the concept of an “officer’s perspective on the scene.” The officer’s perspective is (re)constructed in court through the various reasoning practices of lawyers and officer/expert witnesses. What we find is that use of force experts use scientific claims to construct arguments around officer decision-making, using a “teaching” discourse that situates it within the context of training and police policy. However, use of force experts put an objective frame on the officer’s subjective experience, implying that “officer perspective” is primarily about measurable physiological reactions rather than decision-making or interpretation of the facts and circumstances. Thus, experts’ interpretation of what “perspective” means has a significant role in defining the “reasonable officer.”

Use of force experts tend to couch their opinions in scientific rhetoric that makes their testimony sound more definitive (Edmond and Roque 2012) and obscures the epistemological issues faced by courts in how to determine officer reasonableness. We have shown, particularly with reference to “action beats reaction” and “stopping the threat”, that the police logic and scientific claims utilized by use of force experts can be quite contradictory to mundane reasoning. When experts or defendants argue for interpretations that defy common sense and cannot be validated by scientific evidence, we do not think that *Graham* intended to privilege such interpretations.

***Use of force experts and scientific claims***

There is an important role for scientific expertise in court cases where the science in question can offer specific technical knowledge to the triers of fact, which would not be considered within the realm of common knowledge in society and is relevant to deciding the ultimate question put before them. The question we raise is whether use of force expertise adds such knowledge in our cases. When the defense attorney for

Philip Brailsford stated to the jurors “you don’t need a rocket scientist to figure out what could happen,” he was exhorting them to use their common sense to understand the circumstances that contributed to Brailsford’s decision to shoot Daniel Shaver. By saying Shaver’s “actions that night left some bad impressions on a lot of reasonable people,” he explicitly draws a connection between Brailsford’s and the average person’s reasonableness, suggesting that “reasonable” is a concept accessible to mundane reasoning. Yet, when mounting his defense, he called on use of force expert Emanuel Kappelsohn, who invoked the field of “Force Science” to explain every aspect of the scene and Brailsford’s decisions, thereby suggesting that police perspectives require specialized knowledge to understand them.

Use of force experts have established a foothold in the courtroom by exploiting the accepted norms of scientific inquiry and expertise using, among other things, research claims developed by the FSI. Unlike most academic fields, the FSI is narrowly focused on a morally charged subject matter: police officers’ application of force. The way use of force experts in our trials apply Force Science claims to the use of force encounter is unsystematic, contradicts the scientifically accepted findings from the perception/attention literature, and is biased in favor of the experts’ advocacy position in court. This approach contradicts the caution by advocates of “police science” to refrain from such political and social advocacy (Hoover 2005), arguments from the field of forensic criminology that experts must circumscribe the limits of their expertise (see Milroy 2017; Gotham and Kennedy 2019), and exhortations to practice “epistemic modesty” (Edmond et al. 2016, 2) when testifying in court.

The rising prominence of Force Science research in expert testimony and law enforcement training more broadly is concerning because of its contribution to the development of a “police logic” that is used to rationalize force decisions—potentially insulating officers from accountability. Our critique of the FSI has identified an array of sources from a variety of disciplines (scientific, legal, police professional, media) that have expressed reservations about its legitimacy owing to claims that contradict discipline-specific frameworks, and at times defy mundane reasoning. Our research raises questions about how and why use of force experts are admitted to court and what potential limits should be placed on these expert opinions.

Enterprises such as the FSI play an important role in creating an industry of “experts” drawn from both police and academic circles. Our preliminary exploration raises a number of questions for future research, including: What kinds of credentials, from what kinds of institutions, support claims to expertise in the use of force? How are academic credentials and experience blended to create authoritative expert testimonial accounts? How is use of force expertise linked to a larger industry of for-profit knowledge producers that include entities like Lexipol<sup>6</sup> and the insurance industry?

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<sup>6</sup> While the insurance industry’s inclusion in this list may not be immediately obvious, its focus on liability intersects with police training in significant ways. The industry has become an important player in promulgating and shaping department policies and training on the use of force to decrease liability by subsidizing subscriptions to third-party policy-writing services (primarily Lexipol) and underwriting otherwise unaffordable training methods such as shooting simulators (Rappaport 2016).

***Is police logic necessary to understand the use of force?***

We have developed a discussion of “police logic” throughout, which we suggest relies on an amalgam of “scientific” and organizational claims about police-specific ways of conducting and interpreting an interaction with the public. *Graham* has contributed to the development of this logic by prioritizing an officer’s “perspective” over other possible perspectives such as the citizen/victim and the jury’s. Officer perspective has been interpreted by the courts to include physiological factors as well as decision-making processes, training, and awareness of policy. This logic sets the police perspective as fundamentally different from the jury’s perspective, which privileges defense arguments that suggest that the jury should take what they learn about police logic as more relevant than their mundane reasoning.

In our cases, lawyers argue that the perceptions of police are different from those of the jury, in part because the jury is seeing or hearing about the incident in comfortable, safe circumstances after the fact. Indeed, in the oral arguments in *Graham*, Mark Levy stated his concern that juries would substitute their judgment for a police officer’s, saying “[T]hey’re going to be deliberating this in the calm hindsight of the courtroom, and it’s going to be all too easy for them to conclude that it would have been better for the police to have acted differently” (*Graham v Connor* Oral Arguments 54). The implication is that the jury has the capacity to be calmer and benefit from knowing that the officer was not harmed in the end and that such perspectives are unfair in assessing the perspective of the officer that he or she was in danger.

However, Sergeant Michael Quinn (a retired trainer from the Minneapolis Police Department) provides an alternative view of the difference between police and jury perception (MPR News 2017). Discussing the not-guilty decision in the trial of Officer Jeronimo Yanez for the 2017 shooting death of Philando Castille, he states:

I think it is really difficult for a citizen to put themselves in the shoes of a reasonable officer at the scene of a scenario like this—And I understand . . . why they came back with a not-guilty after viewing the video. Not being police officers, not being put in that situation themselves . . . they can say “whoa,” that would have scared me too ‘cause if he’s reaching down and he’s already said he’s got a gun, I’d have a right to be afraid (MPR News 2017).

He argues that the jury is more likely to be scared by the situation than a police officer and more likely to accept an officer’s claim of reasonable fear. He goes on to argue that a reasonable officer would not have been afraid and would not have acted the way Yanez acted.

Quinn then broadens his perspective, suggesting that this shooting was a predictable outcome of a shift in how police and US society more broadly view the justification for force:

Our society is going in this direction where it’s not a matter anymore of shooting when you have to shoot. Using deadly force when you have to use deadly force. We’re going in a direction where we’re using deadly force because we say I perceived a threat to my life, of death or great bodily harm. We don’t have to articulate anymore what the threat was. And until we change

that thinking back to this idea that you use it only when it's necessary when all your options are gone . . . I think you're going to see more shootings like this. And that's a bad thing for society, that's bad for everyone, and it's bad for the cops because nobody wants to go through what Yanez went through after this, in the aftermath. But the police officers and the training we are doing is done, we've done it to ourselves (MPR News 2017).

What strikes us about Quinn's position is that the shift he sees in how an officer justifies lethal force reflects the framing of experts in our trials. For example, it recalls Kapelsohn's justifications for shooting *before* seeing a weapon. The "action beats reaction" concept supports the use of force as a pre-emptive act of self-defense (Feigenbaum and Weissmann 2016).

An important consequence of police logic is how it fundamentally shapes officers' expectations of what constitutes appropriate citizen conduct to the degree that it may exclude possible or plausible explanations of citizen conduct that are grounded in mundane reasoning. Legal scholar I. Bennett Capers (2018) points to how Supreme Court decisions in criminal procedure cases that comment on police-citizen interactions construct a "good citizen" who, for example:

finds the presence of armed police officers whether it be at an airport or a vehicle checkpoint or at his place of employment [ ] a 'cause for assurance.' For this very reason, the good citizen would never run from the police, disobey a police order, or engage in evasive behavior, however wrong or dangerous the order may prove to be (2018, 663 court case citations omitted).

He argues that these rulings impact police training and policy and, importantly, help to produce police perceptions about what to expect from a citizen.

We see the tension between a "good citizen" and the average citizen in our trials. For example, the prosecution in the Brailsford trial offered three plausible reasons for Daniel Shaver to move his hands: that he was trying to pull up his pants, that he was anticipating being cuffed, or that he was trying to regain his balance. Indeed, during the interaction, his difficulty with balance was apparent to the Sergeant issuing the orders, who told him, "Hands straight up in the air, do not put your hands down for any reason, you think you're gonna fall, you better fall on your face, your hands go into the small of your back or down, we are going to shoot you" (see Mesa Police/Daniel Shaver Body Cam at 16:54). The expectation that citizens allow their pants to drop or fall without bracing themselves strikes us as unrealistic, and the way that police logic disallows for such normal reactions problematically excludes an important aspect of the police-citizen interaction—that is the citizen's reasonable perspective.

One alternative to prioritizing officer perception is to change the standard from the reasonableness of the officer's *belief* in the need to use force to include a focus on the reasonableness of the officer's *actions*. Lee (2018) proposes model legislation to remedy this gap, which would include taking into account both the officer's belief in the need to use force with a three-factor test of the reasonableness of an officer's actions: a) whether the victim/suspect had a weapon and whether he/she refused to drop it; b) whether the officer engaged in de-escalation measures prior to using

deadly force; and c) whether the officer engaged in any pre-seizure conduct that increased the risk of deadly confrontation. Importantly, Lee notes much of what she proposes is already part of many police department's regulations, but which do not have the force of law.

## Conclusion

In his discussion on police violence, anthropologist Laurence Ralph argues that scholars have created an "epistemic murk" (2017, 253) in which we claim to not know about or to be able to measure extra-legal use of force. However, we find that use of force experts have created their own epistemic murk around police use of force by using a mishmash of common ideas, scientific findings, and police experiences to make claims about officer reasonableness. These practices challenge mundane reasoning, positing that police perspectives should be judged using police logic. In doing so, use of force expertise can become a "methodological alibi" (Ralph 2017, 265) that claims what can and cannot be known about police violence in the name of "science."

What is concerning about the influence of questionable scientific research, such as that produced by the FSI, is not only the effect it may have on the outcomes of trials. Indeed, the trials we analyzed include an acquittal (Brailsford), a conviction (Oliver), and a hung jury (Tensing), suggesting that use of force expertise does not have a simple, predictable effect on juries. Rather, the concern is how these expert claims are clearly operational in police practice more broadly and contribute to building a "police logic" that is at times quite contradictory to mundane reasoning.

Throughout this paper, we have explored a "police logic" that draws on discourse about training, legal instruction (especially as defined by *Graham*), and scientific research in ways that serve to situate police decision-making as different from "common sense" or mundane reasoning. In this way, the practices of use of force experts can undercut the goals of current professional police reforms which have moved in the direction of critically reviewing and learning from use of force incidents and sentinel reviews (see Thacher 2020).

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## References

- Alpert, Geoffrey and William Smith. "How Reasonable is the Reasonable Man? Police and Excessive Force." *Journal of Criminal Law and Criminology* 85, no. 2 (1994): 481–501.
- Anderson, Patrick R., and L. Thomas Winfree. *Expert Witnesses: Criminologists in the Courtroom*. SUNY Series in Critical Issues in Criminal Justice. Albany, N.Y.: SUNY Press, 1987.
- Apuzzo, Matt. "Training Officers to Shoot First, and He Will Answer Questions Later." *The New York Times*, Aug. 2, 2015. <https://www.nytimes.com/2015/08/02/us/training-officers-to-shoot-first-and-he-will-answer-questions-later.html>

- Atkinson, J. Maxwell, and Paul Drew. *Order in Court: The Organisation of Verbal Interaction in Judicial Settings*. United Kingdom: Springer, 1979.
- Bedi, Sheila. "The Myths of Effective Law Enforcement and the Demand to Defund the Police." *Stanford Journal of Civil Rights and Civil Liberties*, Forthcoming. *Northwestern Public Law Research Paper 22-14* (2022): 498–550. <https://ssrn.com/abstract=4071082>.
- Bittner, Egon. *The Functions of the Police in Modern Society*. Rockville, MD: National Institute of Mental Health, Center for Studies of Crime and Delinquency, 1970.
- Boyd, John R. "The Essence of Winning and Losing." Powerpoint presentation, 1995.
- Brayne, Sarah, Karen Levy, and Bryce C. Newell. "Visual Data and the Law." *Law & Social Inquiry* 43, no. 4 (2018): 1149–63. doi: [10.1111/lsi.12373](https://doi.org/10.1111/lsi.12373)
- Burns, Stacey L. "Demonstrating 'Reasonable Fear' at Trial: Is it Science or Junk Science?" *Human Studies* 31, no. 2 (2008): 107–31.
- The Canadian Association of Chiefs of Police (CACP). "A National Use of Force Framework," 2000.
- Capers, I. Bennett. "Criminal Procedure and the Good Citizen." *Columbia Law Review* 118, no. 2 (2018): 653–712.
- Chagares, Michael. *Model Criminal Jury Table of Contents and Instructions: Chapter Three*. United States Court of Appeals Third Circuit, 2021. <https://www.ca3.uscourts.gov/model-criminal-jury-table-contents-and-instructions>.
- Christopher Hess Trial Day 3 – Det. Dale Richardson – Body Cam Footage. Video. *Law and Crime Network*, 2020. <https://www.youtube.com/watch?v=4EPTuZ9rQJQ>.
- Crank, John P. *Understanding Police Culture*. Oxfordshire, England; New York, New York: Routledge, 2015.
- Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).
- Dinota, Paula, Bryce Stoliker, Adam Vaughan, Judith Andersen, and Gregory Anderson. "Stress and Memory: A Systematic State-of-the-Art Review with Evidence-Gathering Recommendations for Police." *Policing: An International Journal* 44, no. 1 (2021): 1–17. doi: [10.1108/PJPSM-06-2020-0093](https://doi.org/10.1108/PJPSM-06-2020-0093).
- Eagly, Ingrid, and Joanna Schwartz. "Lexipol's Fight Against Police Reform." *Indiana Law Journal* 90, no. 1 (2022): 1–57. <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ss&db=ift&AN=155098988&site=eds-live&scope=site>.
- Edmond, Gary, and Mehera San Roque. "The Cool Crucible: Forensic Science and the Frailty of the Criminal Trial." *Current Issues in Criminal Justice* 24, no.1 (2012): 51–68. doi: [10.1080/10345329.2012.12035944](https://doi.org/10.1080/10345329.2012.12035944).
- Edmond, Gary, Bryan Found, Kristy Martire, Kaye Ballantyne, David Hamer, Rachel Searston, Matthew Thompson, et al. "Model Forensic Science." *Australian Journal of Forensic Sciences* 48, no. 5 (2016): 496–537. doi: [10.1080/00450618.2015.1128969](https://doi.org/10.1080/00450618.2015.1128969).
- Feigenbaum, A. and D. Weissmann. "Vulnerable Warriors: The Atmospheric Marketing of Military and Policing Equipment Before and After 9/11." *Critical Studies on Terrorism* 9, no. 3 (2016): 482–98.
- Fournier, Lisa. Glenn v. Washington County et al. Case 3:08-cv-00950-MO Document 133-11 Filed 06/28/12. (2012). Available from [https://s3.amazonaws.com/pacer-documents/D.%20Or.%2008-cv-00950%20dckt%20000133\\_011%20filed%202012-06-28.pdf](https://s3.amazonaws.com/pacer-documents/D.%20Or.%2008-cv-00950%20dckt%20000133_011%20filed%202012-06-28.pdf) [Retrieved February 10, 2022].
- Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).
- Garfinkel, Harold. *Studies in Ethnomethodology*. Englewood Cliffs, NJ: Prentice Hall, 1967.
- Garfinkel, Harold, and Harvey Sacks. On Formal Structures of Practical Action. In McKinney, J. and E. Tiryakin, eds. 337–66. *Theoretical Sociology: Perspectives and Developments*. New York: Appleton Century Crofts, 1970.
- Goldstein, Herbert. "Confronting the Complexity of the Policing Function." In Lloyd E. Ohlin & Frank J. Remington, eds. 23–71. *Discretion in Criminal Justice: The Tension Between Individualization and Uniformity*. Albany, NY: University of New York Press, 1993.
- Goodwin, Charles. "Professional Vision." *American Anthropologist* 96, no. 3 (1994): 606–33.
- Gotham, Kevin Fox, and Daniel Bruce Kennedy. *Practicing Forensic Criminology*. San Diego, CA: Academic Press, 2019.
- Graham v. Connor, 490 U.S. 386, (U.S. Supreme Court 1989).
- Graham, v. Connor. Oyez. Oral argument. February 21, 1989. Accessed January 19, 2024. <https://www.oyez.org/cases/1988/87-6571>.
- Griffith, David. "Force Scientist." *Patrol Magazine*, March 22, 2010.

- Hoover, L.T. "From Police Administration to Police Science: The Development of a Police Academic Establishment in the United States." *Police Quarterly* 8, no. 1 (January 1, 2005): 8–22. doi: [10.1177/1098611104267324](https://doi.org/10.1177/1098611104267324).
- Jasanoff, Sheila. *Science at the Bar: Law Science and Technology in America*. Cambridge, MA: Harvard University Press, 1995.
- Klinger, David. *Into the Kill Zone: A Cop's Eye View of Deadly Force*. John Wiley & Sons, Massachusetts: Harvard University Press, 2012.
- Kolanoski, Martina. "Undoing the Legal Capacities of a Military Object: A Case Study on the (In)Visibility of Civilians." *Law & Social Inquiry* 42, no. 2 (2017): 377–97.
- Komter, Martha. (2020). *Dilemmas in the Courtroom: A Study of Trials of Violent Crime in the Netherlands*. New York, NY: Routledge, 2020.
- Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999).
- Lee, Cynthia. "Reforming the Law on Police Use of Deadly Force: De-Escalation, Pre-Seizure Conduct, and Imperfect Self-Defense." (2018). 2018 U. Ill. L. Rev. 629; GWU Law School Public Law Research Paper No. 2017-65; GWU Legal Studies Research Paper No. 2017-65. Available at SSRN: <https://ssrn.com/abstract=3036934>.
- Lewinski, William, William Hudson, and Jennifer Dysterheft. "Police Officer Reaction Time to Start and Stop Shooting: The Influence of Decision-Making and Pattern Recognition." In *Law Enforcement Executive Forum* 14, no. 2 (2014): 1–16.
- Los Angeles Times. "Body-Cam Video Of Daniel Shaver Shooting." 2017. Available at <https://www.youtube.com/watch?v=VBUUx0jUKxc>. [Retrieved 2, Feb, 2023].
- Lvovsky, Anna. "Rethinking Police Expertise." *The Yale Law Journal* 131, no. 2 (2021): 475–572.
- Lynch, Michael. "Law Courts as Perspicuous Sites for Ethnomethodological Investigations." In S. Hester and D. Francis eds, *Orders of Ordinary Action: Respecifying Sociological Knowledge*. London: Ashgate, (2007): 107–19.
- Lynch, Michael, and Simon Cole. "Science and Technology Studies on Trial: Dilemmas of Expertise." *Social Studies of Science* 35, no. 2 (2005): 269–311. doi: [10.1177/0306312705048715](https://doi.org/10.1177/0306312705048715).
- Manning, Peter. "Police: Policing, Mandates, and Appearances." In *Policing: A View from the Street*, 7–31. Edited by Peter Manning and John VanMaanen. Santa Monica, California: Goodyear, 1978.
- Manzo, John. "You Wouldn't Take a Seven-Year-Old and Ask Him All These Questions?" Jurors' Use of Practical Reasoning in Supporting Their Arguments." *Law & Social Inquiry* 19, no.3 (1994): 639–63.
- Maynard, Doug. *Inside Plea Bargaining: The Language of Negotiation*. New York: Springer, 1984.
- Maynard, Doug, and John Manzo. "On the Sociology of Justice: Theoretical Notes From an Actual Jury Deliberation." *Sociological Theory* 11, no. 2 (1993): 171–93. doi: [10.2307/202141](https://doi.org/10.2307/202141).
- McLaughlin, Kelly. One of America's Most Popular Police Trainers is Teaching Officers How to Kill. *Insider*, (June 2, 2020). <https://www.insider.com/bulletproof-dave-grossman-police-trainer-teaching-officers-how-to-kill-2020-6>.
- MESA Police/Daniel Shaver Shooting Body Cam. Video. *Phoenix Copwatch*, 2019. <https://www.youtube.com/watch?v=nj1krAxmLaw>.
- Milroy, Christopher. "A Brief History of the Expert Witness." *Academic Forensic Pathology* 7, no. 4 (2017): 516–26.
- MPR News Staff (Host). The Dashcam Video: The Death of Philando Castile and the Trial of Jeronimo Yanez [Audio podcast video]. In *74 Seconds*. MPR News, June 20, 2017. <https://www.mprnews.org/story/2017/06/20/74-seconds-podcast-dashcam-video-episode16>
- Patrick, Urey, & John Hall. *In Defense of Self and Others: Issues, Facts & Fallacies, the Realities of Law Enforcement's Use of Deadly Force*. North Carolina: Carolina Academic Press, 2017.
- Peyrot, Mark, and Stacy Burns. "Sociologists on Trial: Theoretical Competition and Juror Reasoning." *The American Sociologist* 32, no. 4 (2001): 42–69.
- Police Executive Research Forum (PERF). "Re-engineering Training on Police Use of Force: Critical Issues in Policing Series," 2015.
- . "PERF's Critical Decision-Making Model," 2016.
- PoliceOne. [www.police1.com/columnists/Force-Science/#](http://www.police1.com/columnists/Force-Science/#). 2022.
- Pollner, Melvin. "Mundane Reasoning." *Philosophy of the Social Sciences* 4, no. 1 (1974): 35–54.
- Pomerantz, Anita, and J. Maxwell Atkinson. "Ethnomethodology Conversation Analysis and the Study of Courtroom Interaction." *Topics in Psychology and Law* 8 (1984): 283–97.

- R. v. Forcillo 2018 ONCA 402
- Ralph, Laurence. "The Extralegal Force Embedded in the Law (United States)." In *Writing the World of Policing: The Difference Ethnography Makes*, D. Fassin, ed. Chicago: University of Chicago Press, 2017: 248–68.
- Rappaport, John. "How Private Insurers Regulate Public Police." *Harvard Law Review* 130, no. 6 (2016): 1539–1614.
- Risinger, D. Michael. "Preliminary Thoughts on a Functional Taxonomy of Expertise for the Post-Kumho World." *Seton Hall Law Review* 3, no. 2 (2000): 508–39.
- Rojek, Jeff, Geoffrey Alpert, and Hayden Smith. "Examining Officer and Citizen Accounts of Police Use of Force Incidents." *Crime & Delinquency* 58, no. 2 (2012): 301–27.
- Sierra-Arévalo, Michael. "American Policing and the Danger Imperative." *Law & Society Review* 55, no. 1 (2021): 70–103.
- Simon, Samantha. "Training for War: Academy Socialization and Warrior Policing." *Social Problems* 70, no. 4 (2021): 1–23. doi: [10.1093/socpro/spab057](https://doi.org/10.1093/socpro/spab057).
- State of Arizona v Philip Brailsford. (2016). 2016-004743-001. Maricopa County Superior Court.
- State of Ohio v Raymond Tensing. (2016). B1503961. Court of Common Pleas. Hamilton County, OH.
- . (2017). B1503961. Court of Common Pleas. Hamilton County, OH.
- State of Texas v Christopher Hess. (2017). 292nd Judicial District Court.
- State of Texas v Roy Oliver. (2017). F17-18595-V, F17-00579-V, F17-00576-V. 292nd Judicial District Court.
- Stinson, Philip M., and Chloe Wentzlof. "Research brief one-sheet–no. 9: On-duty shootings: Police officers charged with murder or manslaughter, 2005-2019." (2019). Bowling Green University, Bowling Green, OH: Criminal Justice Faculty Publications 101. <https://scholarworks.bgsu.edu/crim%20just%20pub/101>
- Stoughton, Seth, Jeffrey Noble, and Geoffrey Alpert. *Evaluating Police Uses of Force*. New York: NYU Press, 2020.
- Thacher, David. "Channeling Police Discretion: The Hidden Potential of Focused Deterrence." *The University of Chicago Legal Forum* 2016, no. 13 (2016): 533–77.
- . "The Learning Model of Use of Force Reviews." *Law and Social Inquiry* 45, no. 3 (2020): 1–32. doi: [10.1017/lsi.2019.80](https://doi.org/10.1017/lsi.2019.80).
- Travers, Max, and John Manzo. *Law in Action: Ethnomethodological and Conversation Analytic Approaches to Law*. London, UK: Routledge, 2016.
- Walker, Samuel. *The War for the Soul of American Policing*. Omaha, University of Nebraska at Omaha, 2015: 1–4.
- Wisecarver, Chris, and Melvin Tucker. "The Force Science Reactionary Gap." *Law and Order* 55, no. 9 (2007): 12–14.