What is Trauma?: From Science to Social Justice

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What is Trauma?: From Science to Social Justice

by

Judith Carlisle

A dissertation presented to
Washington University in St. Louis
in partial fulfillment of the
requirements for the degree
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Judith Carlisle

Washington University in St. Louis

May 2024
ABSTRACT OF THE DISSERTATION

What is Trauma?: From Science to Social Justice

by

Judith Carlisle

Doctor of Philosophy in Philosophy, Neuroscience, and Psychology

Washington University in St. Louis, 2024

Professor Carl Craver, Chair

In recent years, the term “trauma” has become increasingly controversial. Many of these controversies revolve around the definition of trauma, and the way that this definition varies across contexts. What kinds of experience can plausibly be considered “traumatic”? In some contexts, the standards are incredibly permissive, while others are much more restrictive. These different ways of understanding “trauma” prompts an important question: Who has the authority to define trauma? In other words, who decides which conception of trauma is the most “legitimate” – who decides when an experience is or is not traumatic? My project attempts to answer these questions by considering each of the different conceptions of trauma that arise in a variety of distinct contexts. In particular, I will recognize three major areas making use of the concept: I will attempt to outline the theories of trauma that arise from (1) The Diagnostic and Statistical Manual of Mental Disorders (DSM), from (2) animal researchers in neuroscience and similar laboratory settings, from (3) theories of trauma in clinical psychology. Then, I argue that there is need for yet another conception, what I call the Social Ameliorative Conception of Trauma which helps us to acknowledge and recognize potentially novel kinds/cases of trauma. Finally, I conclude by attempting to unify these disparate perspectives with my Schematic Account of Trauma.
‘We want to establish an order in our knowledge of the use of language: an order for a particular purpose, one out of many possible orders, not the order. For this purpose we shall again and again emphasize distinctions which our ordinary forms of language easily make us overlook. This may make it appear as if we saw it as our task to reform language…But these are not the cases we are dealing with. The confusions which occupy us arise when language is, as it were, idling, not when it is doing work.

Ludwig Wittgenstein, *Philosophical Investigations*

*All doors have keys. Your modern architect
Is in collusion with psychoanalysts:
When planning parents’ bedrooms, he insists
On lockless doors so that, when looking back,
The future patient of the future quack:
May find, all set for him, the Primal Scene.*

-Nabokov, *Pale Fire*
Chapter 1: Introduction

1. Introduction:

On May 25, 2020, George Floyd, a 46-year-old black man, was arrested and murdered by Minneapolis police officer Derek Chauvin, who was responding to a 911 call about a counterfeit $20 bill. Less than 20 minutes after the first police car arrived on the scene, George Floyd was pinned underneath three officers, unconscious, and showing no signs of life (Hill et al. 2020). During Chauvin's trial, Hennepin County Judge Peter Cahill argued that evidence did not support the claim that the children present during the murder of George Floyd were traumatized by their experience, as the prosecution claimed. Judge Cahill argued that the negative impact of witnessing Floyd’s death was not “so substantial and compelling” as to warrant lengthening Chauvin’s prison time, given that the children were not victims "in the sense of being physically injured or threatened with injury" and given that they "were free to leave the scene whenever they wished" (Griffith 2021a; 2021b). In describing his reasoning for refusing to increase sentencing in light of the harm inflicted on these girls, Judge Cahill points out that the girls were smiling and laughing during some parts of the video footage, suggesting that their behavior makes it unlikely that the girls were traumatized by the event. The intuition here seems to be: You cannot be traumatized by something that made you laugh. (Perhaps combined with: If things had been truly traumatizing, the girls would have left the scene). ¹

It is undeniable that this was a deeply disturbing experience for many, one that was likely to leave behind a long-lasting psychological wound. ² The traumatic nature of the event seems unquestionable—but

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¹ As I will show in the coming chapters, this decision does not fit with the current criteria for PTSD in the DSM-5. In particular, witnessing (in person) death, threatened death, actual or threatened serious injury would count as “traumatic” in the relevant sense according to the DSM. This makes sense, I think: Consider, for example, a soldier who doesn’t herself engage in combat, but who watches combat scenarios unfold in person. It would be intuitively odd to suggest that such a person could not be traumatized by their experiences of death and violence simply because they weren’t the ones being injured/threatened.

² These features of the event correspond to the intuitive and dictionary definitions of trauma. In particular, it is important that the event was (1) deeply distressing or disturbing and (2) likely to lead to psychological after-effects. The Merriam-Webster dictionary, for example, defines trauma as following: “1. An injury (such as a wound) to living tissue caused by an
who exactly was traumatized? Some answers are equally uncontroversial: George Floyd, if he had survived, would likely have been traumatized.\(^3\) Other Black community members who witnessed the event were also likely to be traumatized—despite Judge Cahill’s claims to the contrary. But could others still have been traumatized? What about other community members, who weren’t direct witnesses? Or those outside the community who learned of the tragedy in new stories or through video footage of the event—could they be traumatized by their experiences of the event? What about the Black community as a whole?

This case reflects a set of recent trends: not only are trauma claims becoming more and more common, but the widening application of the term “trauma” has also become increasingly controversial (e.g., Pandell 2022). Many of these controversies revolve around the definition of “traumatic events”, and the way that this definition varies across contexts. What kinds of experience can plausibly be considered “traumatic”? When definitions vary across contexts, which definition is the right one, or the one we should defer to in controversial cases? Who gets to decide, for example, whether witnesses to George Floyd’s murder are likely to be “traumatized” by their experiences? And where do we look to settle these matters?

In some contexts, the standards for “traumatic events” are incredibly permissive. Notoriously, TikTok-ers have been criticized for finding traumatic experiences—and their aftereffects—lurking everywhere. A recent Slate article, for example, points out that a wide variety of (normal-seeming) behaviors—including struggling to make small decisions, over preparing, overanalyzing, excessive scrolling on social media, defensiveness, and perfectionism—have all been described as “Trauma Responses” (e.g., which

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extrinsic agent; b: a disordered psychic or behavioral state resulting from severe mental or emotional stress or physical injury; c: an emotional upset. 2: an agent, force, or mechanism that causes trauma” (“Trauma” 2022).

\(^3\) This is a good time to make a note about my descriptions of traumatic events/experiences. Talking about trauma is difficult—and some may experience discomfort when reading these graphic descriptions. However, I am not going to deemphasize or under-describe the traumatic events I discuss. My goal is to be both factually accurate and descriptive. To my mind it is more accurate to say, for example, that Floyd was “murdered in the street” as opposed to saying that he was “died due to restraint and neck compression”. In this way, I care more about being truthful to the horror of the event, and less about how palatable these descriptions are to the reader. This preference, however, has its own drawbacks, given that some who read this text may be disturbed (or retraumatized) by these descriptions. Please take care when reading this text.
may arise as a result of traumatic experiences) (Palus 2021). Similarly, in many contexts, calling something a “trigger” or “triggering” has become ubiquitous as shorthand for calling some behavior out as “traumatizing” (Brady 2022).

This broader notion of trauma, however, is not particular to TikTok. There has been a recent increase in calls for “trauma-informed” systems in business, education, and healthcare sectors (e.g., Elliott et al. 2005; Lanphier 2021; Machtinger et al. 2015; Oral et al. 2016; Pawlo et al. 2019; Scheer and Poteat 2021; Thomas, Crosby, and Vanderhaar 2019). One of the motivating goals of “trauma-informed” practices is to display care and concern for all people—whether they are employees, customers, students, etc.—in light of the possibility that they have experienced some kind of trauma. In fact, many highly-cited psychology articles on trauma and post-traumatic stress disorder (PTSD) begin by noting the shocking statistics describing the high percentage—with estimates ranging from 50-80%—of Americans (and people more broadly) who experience some form of trauma during their lives (e.g., Aupperle et al. 2012; Kessler et al. 2017; Koenen et al. 2017; Morris, Compas, and Garber 2012). Recognizing the regularity of traumatic experiences, trauma-informed systems attempt to create environments in which employers and educators are properly informed about trauma and its aftereffects, allowing them to provide their employees, customers, or students with the support and resources they need to succeed.

Further, in a recent interview with The New York Times, Bessel van der Kolk, author of one of the NYT bestselling books about trauma, The Body Keeps the Score, suggests that there are likely millions of people suffering from undiagnosed PTSD (Blum 2022). This suggests that improving our understanding of trauma will likely involve reaching out to these undiagnosed individuals—researching them, learning from their experiences, and perhaps modifying our theories in light of this previously unrecognized population.

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4 This highlights an important distinction (discussed in detail below) between a traumatic experience on the one hand (e.g., being tortured) and a trauma response on the other (e.g., nightmares, flashbacks, etc.) (See Fig. 2. This distinction is between the in-the-moment responses and the post-traumatic after-effects).

5 Of course, not all of the people who experience trauma go on to develop PTSD. This is a widely recognized phenomenon, and it is not lost on the authors cited here (See e.g., Kessler et al. 2017)
Relatedly, many have raised concerns about the significant impact of racial trauma—experienced broadly by people of color—on the mental and physical well-being of a huge portion of our population (Biden 2022; Comas-Díaz 2019, Parker 2022). Are these kinds of racist and discriminatory experiences traumatic in the same way that wartime violence and rape are traumatic? Or are these experiences of a different kind—perhaps relating to whole groups of people being traumatized? Despite their variations, these different ways of talking about trauma—from trauma-informed care, from Bessel van der Kolk’s *The Body Keeps the Score*, and from social concerns about racial injustice—all presuppose that traumatic experiences (and their aftereffects) really are everywhere, and that there is something to be gained by recognizing this and responding appropriately.

In other contexts, however, the criteria for traumatic experiences are much more restrictive. In the legal context, for example, the goal is to provide financial compensation to all and only those individuals who are truly traumatized. In this context, skepticism rules the day. Such skepticism—and the restrictive definitions of trauma that go along with it—may, in fact, be plausible in this context, where widening the definition of trauma would have significant financial consequences: the wider the net for “trauma”, the more people are going to be held financially liable for their injuries. For example, if the scope of traumatic events includes those things that people find upsetting or offensive, we could see an expansion of what looks like frivolous lawsuits: A neighbor objecting to another’s posting of a political sign of their disfavored party/candidate suing claiming trauma upon seeing it; or, a local merchant failing to have sufficient stock of the flowers you’d planned to purchase on your wedding day, and on and on. Suffice it to say, an expansive definition of trauma in the legal context would have dramatic consequences for civil courts.
Again, the push for a narrower definition of trauma is not particular to concerns over legal cases. Many worry about the overapplication of the word “trauma” for other reasons. Researchers and clinicians, for example, have criticized the DSM criteria for Post-Traumatic Stress Disorder as being too permissive, arguing that more restrictive definitions of trauma would be more helpful for prediction and explanation (for arguments about prediction/explanation generally, see e.g., Boyd 1991 and Griffiths 1997, 174; for criticisms specific to PTSD and prediction/explanation, see e.g., McNally 2003, 2009, 598 and Spitzer et al. 2007, 233). McNally, when discussing explaining or understanding PTSD, argues that “expanding the concept of trauma makes it difficult to ascertain the psychobiological mechanisms generating the symptoms of PTSD. Attempts by scientists to elucidate the neurobiology of people who have had such diverse experiences are unlikely to discover many replicable findings” (McNally 2009, 598). Others worry about trivializing the PTSD diagnosis (e.g., Shephard 2008, 57; Sparr 1990, 259). Shepherd, for example, a historian who wrote about the psychological effects of 20th-century warfare, argued that “[A]ny unit of classification that simultaneously encompasses the experience of surviving Auschwitz and that of being told rude jokes at work must, by any reasonable lay standard, be a nonsense, a patent absurdity” (Shephard 2008, 57). Others still worry that an overly expansive conception of trauma could lead to the medicalization of normal human experiences (e.g., such as grief after loss) or that people may be tempted to reinterpret previous experiences as “traumatic” in a way that could make their lives go worse for them (McNally 2003, 2009).

These different standards for defining “traumatic events” show that definitions of traumatic events can be more or less stringent, with narrower, more restrictive definitions allowing fewer kinds of events to count as “traumatic” and wider, less restrictive definitions allowing for a wider variety of potentially “traumatic” events (see fig. 1). But these different definitions also prompt a number of questions: Which, if any, of these definitions should we rely on? Who has the authority to define trauma, for human purposes? In other words, where do we turn to determine whether a particular experience is or is not traumatic? Should we turn to science? If it is, which area of science gets to decide? Is it the social epidemiologist studying the societal instance of trauma? The basic scientist studying animal models of trauma? The geneticist looking at genetic predictors of PTSD? Or is it the clinical, the social worker, the first responders—those who are face
to face with trauma and the need to treat it? Or might trauma, in fact, be owned by someone other than the scientists? Might it be owned by historians and sociologists? Might it be owned by traumatized groups? Might it be owned by every individual who calls themselves traumatized?6

This dissertation will attempt to answer these questions by considering each of the different conceptions of trauma that arise in a variety of distinct contexts. In particular, I will recognize four major clusters making use of the concept: I will consider theories of trauma that arise from clinical practice—including from clinicians broadly construed, considering the way that the Diagnostic and Statistical Manual has defined PTSD and other trauma-related disorders through the years (Chapter 1) and more specifically from those influenced by Van der Kolk’s somatic theory of trauma (Chapter 3). I will also consider theories arising from animal researchers in neuroscience and elsewhere in what some might be tempted to call the “hard sciences” (Chapter 2). Finally, I will consider the theory of trauma that arises from activist communities hoping to apply the term in novel contexts. I will then attempt to apply this social notion of trauma at an aggregate level in order to argue—using family trauma as an example—that groups might also be traumatized (Chapter 5).

In each chapter, I ask the same questions: Can any of these conceptions of trauma—from the DSM, from animal research, or from van der Kolk’s somatic account—be universalized, so as to provide a context-free definition of trauma that can be fruitfully applied within a variety of different contexts? Further, are any of these definitions more objective, and so more scientific? These will be our proxies for “legitimacy”—if one of these definitions turns out to be (1) more universalizable (i.e., applicable in a wider variety of contexts) or (2) more objective (i.e., less impacted by human judgment and bias), this would give us reason to defer to this definition to resolve controversial edge cases.

6 To be clear, I am not primarily interested in the metaphysical questions about the Truth of what constitutes trauma. I will be focusing instead on questions about who has the authority to define trauma, and whether some group (e.g., scientists, clinicians, etc.) can plausibly argue that their notion of trauma is more legitimate than others. But my arguments will always be rooted in practical claims about the goodness of fit between the context/practices and the conception, and not based on an attempt to determine the necessary and sufficient conditions of a traumatic event.
First, why might we care about universalizability? Historically, science was thought to be “unified” such that true claims from different scientific disciplines or levels (e.g., physics, biology, psychology) could be reduced to a single set of universal laws and terms. According to this view, definitions, theories, and laws, when true, should be universally applicable. An element of nitrogen is defined by the number of protons in the nucleus—and this is stable and unchanging from context to context—what’s nitrogen is nitrogen and what’s not is not. Conceptualizing science as unified in this way may suggest that scientific theories and laws should be universal, along with the terms used within those theories and laws (Oppenheim and Putnam 1958). Applied at the level of theories, for example, such a view implies what Nancy Cartwright called the “vending machine” model of scientific theories, whereby a true theory should be able to take any set of conditions (i.e., inputs) and supply an answer as to how the system will behave under those conditions (i.e., outputs) (Cartwright 1999, 185; Cartwright, Shomar, and Suárez 1995; See also Alexandrova 2017, 35-36).

While we may no longer see unification—and the corresponding search for universalizable definitions and theories—as the general or primary goal of scientific inquiry, the ideal of universalizability is still a useful measuring stick: If a definition of trauma is more universalizable, and so more applicable across several different contexts, this may give us reason to defer to that definition in controversial cases (i.e., when we are attempting to determine whether some particular event could be “traumatic”).

Alternatively, we might defer to more objective theories of trauma. Objectivity has historically been understood as one of the most important aims of science, providing justification for the authority of science, and one of the main reasons to believe science brings us knowledge (Reiss and Sprenger 2020). Complicating this analysis, though, is the abundance of ways of precisifying what exactly objectivity is. Traditionally, objectivity was understood as “faithfulness to the facts,” as a kind of view from nowhere that allows us to learn about the world without any influence or contamination from the human perspective (Williams 1985).

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7 The unity of science has been criticized on many grounds. Many of these criticisms concern the implication of reductionism: if science was truly unified, then we should expect to find more successful reductions of higher level sciences (and theories, and laws) into lower level sciences (and theories, and laws)—but examples of such reductions have been exceedingly rare (Hempel and Oppenheim 1948; Salmon 2006, Ch.1). Others were more concerned with the failures of “meaning invariance” that occur when one theory replaces another (Feyerabend 1962; Kuhn 1962). Importantly, despite their various differences, most critics agree that the unity of science and explanation in science does not accord with actual scientific practice (Feyerabend 1962; Salmon 2006).
After years of criticism—primarily focused on our inability to actually achieve this kind of “view from nowhere”—alternative notions of objectivity were introduced. Some suggested that objectivity is best understood in terms of the absence of normative commitments or the “value-free ideal”, where our goal becomes more specific: Instead of abiding any human perspective, we focus in particular on human values (e.g., political, religious, etc.), and keep these from influencing the processes of gathering evidence and accepting scientific theories (Weber 2011 [1949]). Again, many were concerned with our ability to achieve this value free ideal — while others argued that it wasn't an appealing ideal in the first place (Kitcher 2011; Douglas 2009). Next, it was suggested that scientific reasoning is objective to the extent that it is free from personal biases, or where these biases can be removed through some social process (e.g., critique, peer-review, etc.)(Haack 2007). Finally, more recent views have suggested that objectivity is better understood as an essentially communal property, a feature of scientific communities and their practices, as opposed to a feature of individual findings or studies (Longino 1990). Not only are there different notions of objectivity, but as we will see, there are also distinct strategies for achieving or approximating objectivity. In each chapter, I will highlight which notions of objectivity are active and which practices are used in order to attempt to approximate that ideal. Just as the distinct goals and aims lead to distinct definitions, these different goals and aims also lead to different strategies of achieving objectivity which would be inappropriate or unsuccessful in different contexts, with different goals and aims.

Ultimately, we want to be able to use our definition of trauma to help arbitrate controversial cases. But, with so many definitions in the water, it is difficult to determine which definition we should defer to in contested cases (e.g., onlookers of the George Floyd murder). So, universalizability and objectivity are proxies for something like “legitimacy”: more universalizable or more objective definitions would likely be more accurate or more useful—and so, perhaps more “legitimate”. If a universalizable or objective definition were found, this could be used to argue that all other uses of “trauma” are (at best) metaphorical extensions of this more legitimate notion of trauma. As it turns out, I will argue that we should not expect a positive answer to this question—given that different contexts require different norms and practices, none of these conceptions of trauma will apply univocally across all contexts. Further, while the different definitions of trauma often
reflect some interest in objectivity, different notions of objectivity are at work in different contexts, making it even more unlikely that any one definition of trauma will be useful in alternative contexts. Instead, I will look for features in common across these seemingly disparate conceptions of trauma that could unify them despite their differences. In particular, I will argue that distinct conceptions can be unified by a schematic definition of trauma that highlights its dispositional structure.

In order to say more about this unifying schematic definition and the dispositional structure of trauma, I first need to introduce a distinction that will be important throughout this project, namely the distinction between having a traumatic experience on the one hand, and being traumatized by that experience on the other. This is, of course, not a new distinction. To give a sense of the ways that this distinction is important, consider this statistical fact about the incidence of PTSD: Although most people experience some sort of traumatic event in their lives (upwards of 80%) only a few of those people go on to be traumatized by that event. This feature of the world demands that we distinguish between the experience of the traumatic event (in-the-moment), and the aftermath—between experiencing the event and having been traumatized (or not) by the event. Avishai Margalit, in his book on the ethics of memory, points out that this distinction is particularly clear in the case of torture. He writes that “Torture is, above all, excruciating pain, watched on many occasions with delight and hatred. But torture as experienced and torture as remembered can—and often do—diverge. In remembering torture, the victim dwells on humiliation, whereas in experiencing torture he dwells on the pain” (Margalit 2004, 119; See Fig. 2 in particular, the top two levels/boxes).

![Diagram of Trauma Model](image)

**Post-Traumatic After Effects**
Experiences that result from the event (e.g., PTSD).
“Being Traumatized” or “Trauma Response”

**In-The-Moment Responses**
Fear, helplessness, pain, etc. experienced during the event.
“Being Traumatized” or “Trauma Response”

**The Traumatic Event**
A negatively valenced event that impinges on the subject.
e.g., being mugged

Figure 2. The term “Trauma” can refer to the event itself, the in-the-moment reactions to the event, or the subject’s longer-term, post-traumatic responses to the event.
With this distinction in mind, my main claim is that the criteria for determining which events are traumatic differ across contexts—and these differences in criteria arise due to the different goals and aims within these contexts. However, these different conceptions can agree on an abstract, schematic definition of trauma—and that trauma is best understood as a dispositional pairing between individuals and events. This schematic definition—which I outline in full detail in Chapter 6—offers a way of organizing and taxonomizing conceptions of trauma, while highlighting what these different conceptions share. According to my schematic definition:

Trauma occurs when a subject experiences an event of a certain type (e.g., negatively valenced + perpetrated by a human + feature 3…etc.) and when that subject is also disposed to respond to that experience in context-specified ways (e.g. the symptoms of PTSD).

This definition has 3 variables: (1) The subject, (2) The traumatic event, and (3) The traumatic reaction. In each distinct context, the details of each of these variables can then be filled out in more detail given the goals and aims of that context. In the clinical context, for example, these variables are specified such that: Trauma occurs when a human individual experiences an event of actual or threatened death, serious injury, or sexual violence through direct experience, by witnessing in person the event as it occurred to others, by learning that the event occurred to a family member or a close friend, or by indirect exposure in the course of occupational duties, through being exposed to grotesque details of an event and when that individual human is also disposed to respond to that event with the following symptoms (for over 1 month): (A) 1 or more Intrusive symptoms (e.g., recurrent, involuntary, and intrusive distressing memories, nightmares, flashbacks, psychological distress in response to event-related cues, physiological distress in response to event-related cues), (B) persistent avoidance of stimuli associated with the traumatic event, (C) Negative alterations in cognitions and mood associated with the traumatic event (e.g., exaggerated negative beliefs, persistent negative emotional state), (C) marked alterations in arousal and reactivity associated with the traumatic event (e.g., irritable behavior, reckless or self-destructive behavior, exaggerated startle response).
Importantly, the traumatic event and the traumatic reaction form a dispositional pair (Prior, Pargetter, and Jackson 1982; Armstrong et al. 1996). On one side of this dispositional pair is the event: A particular event is traumatizing because of its disposition to cause in-the-moment traumatic experiences and post-traumatic after-effects. On the other side of this dispositional pair is the individual: An individual has the relevant disposition insofar as they are disposed to have in-the-moment traumatic experiences and post-traumatic after-effects. In other words, trauma is a dispositional pairing between traumatized individuals and traumatizing events. This allows for two important possibilities: (1) That two people might experience the same (or very similar) event(s) and differ in whether they experience that event as traumatic in-the-moment, and (2) that two people might experience the same (or very similar) event(s) and experience that event as traumatic in-the-moment, but differ in whether that experience causes any post-traumatic after-effects.\(^8\)

This dispositional structure, despite its simplicity, also helps to distinguish trauma from other similar mental disorders (e.g., phobias), which may present with similar symptoms, but where those symptoms are not the result of an external event impinging on the subject. For example, an individual with generalized anxiety may present with many of the same symptoms as an individual with PTSD—a constant state of high alert, sleep and energy disturbances, fear and worry in the face of potential threats. In PTSD though, these anxiety-related systems are the result of a traumatic event, and so often revolve around features related to that event—feelings of fear and anxiety, for example, are not generalized, but instead are about the bombing or about the assault (including any related content or features that have become associated with the event).

This basic dispositional structure also highlights at least three important elements of trauma: (1) The event, (2) The immediate reaction to that event, and (3) The post-event after-effects (See Fig. 2). Throughout

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\(^8\) Note that the statistical fact outlined above—namely, that while most people experience some sort of traumatic event in their lives but only a few of them go on to be traumatized—is ambiguous between two readings. First, there is an Event-Type Reading: Although many people go through a traumatic event (e.g. assault), not all experience those events as traumatic in-the-moment, and only a few go on to develop post-traumatic after-effects. Second, there is a Subjective Reading: Although many people go through a traumatic event, and experience an event as traumatic (e.g. experiencing fear and helplessness while being mugged) only some of those people will go on to develop post-traumatic after-effects. In most cases, I take it that the statistical findings are reporting on the event type and not the subjective experience of the event as distressing—and so are likely relying implicitly on this first interpretation (and setting aside the role of in-the-moment experiences).
this dissertation, I will use the term “traumatic event” when I mean to refer to the event out there in the world, as opposed to any experience of that event. I will use the term “traumatic experience” to refer to the in-the-moment responses of fear, helplessness, pain, etc. experienced during the event itself (e.g. pain while being tortured). Finally, I will refer to the post-traumatic-after-effects in terms of the individual “being traumatized” or the individual having a “trauma response” (e.g. feelings of helplessness that arise after being tortured).

Before I summarize my plan for the remaining chapters of this project, I want to begin with a few introductory remarks about my overall goals, important terms and distinctions relating to the metaphysics of trauma, and the state of the philosophical literature on trauma.

2. The Metaphysics of Trauma:

To put my cards on the table, I will be arguing for a pluralistic account of our conceptions of trauma. But, note that there are already a variety of different forms of concept pluralism in the literature—not to mention pluralistic accounts of other things, such as gene pluralism or species pluralism (for details on scientific pluralism in general, see Mitchell 2002; for concept pluralism, see Machery 2005, 2009, Rice 2016, and Weiskopf 2008; for gene pluralism see Griffiths and Stotz 2007; for species pluralism see Rosenberg 1986 and Ereshefsky 1998). Unlike some other pluralistic accounts, I plan to argue that while the conceptions of trauma we get in different contexts are highly variable, there is some unifying feature of these conceptions, which ties them together. As such, I will follow Mark Wilson in thinking that the concept of “trauma” has both pluralistic elements and a unifying structure at its core (Wilson 2008). Despite the concept being stretched to fit the goals and aims of a variety of different contexts, the schematic definition (including the dispositional pairing between traumatic events and affected individuals) serves to unify the otherwise disparate-seeming uses of “trauma”.

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9 I am honestly not sure if it is proper to call this a “pluralistic” (as opposed to a “unificationist”) account of concepts. The important thing is that there are both pluralistic elements of the conception and a unifying structure which is the concept.
As Brandom summarizes Wilson’s view, this dispositional structure can serve to unify the concept because “there are inferences in common…[among these] conceptions, and so structure to the relations between them. These are not…distinct concepts that have been arbitrarily assigned to the same word” (Brandom 2011, 186). This suggests a particular kind of structure—much like a model of an atlas. Using this metaphor, different “levels” or sheets of the atlas present the same area of land, according to different conventions (e.g., The Mercator projection, The Hammer projection, and The Goode projection)—where the different conventions are determined by the goals and aims of the relevant context (e.g., for use with compass and sextant., for facilitating judgments of relative area, or for comparing geological shapes, respectively).

I will also be arguing for a contextualist pluralism about trauma conceptions. As I understand contextualism, this is typically the view that the definition of some term or the standards for what counts as an example of that term depends on the context—and/or changes over time (see, e.g., Zeman 2020). So, here, the idea is that the standards for what counts as a “traumatic” will depend on the goals and aims of a particular context—and can change over time. Importantly, though, contextualism about trauma conceptions does not preclude the possibility of some unifying theory or feature that is held constant across all of the different usages/meanings.

Relatedly, my project will involve investigating different conceptions of a concept—where I understand the concept as some more unified version of the many conceptions that exist within different disciplines. The concept TRAUMA encompasses all of the individual conceptions of trauma that arise in different contexts. To extend the atlas metaphor—the concept TRAUMA would be the entire atlas, and the individual conceptions of trauma would be the individual pages (i.e., The Mercator projection, The Hammer projection, and The Goode projection).

Importantly, I do not mean to suggest that one single entity can play both (1) the epistemic role of being grasped by individual minds and (2) the semantic role of determining the reference of a concept (Putnam 1975; Brandom 2011). Nor do I mean to be invoking some Fregean conception of concepts

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10 With that preliminary note aside, the details of my schematic definition will be worked out in detail in Chapter 6.
whereby we gain access to the truth by grasping abstract concepts that are external and available for consumption by multiple individuals (Goldman 2007, 9). On such a view, the concepts we share access to as competent speakers of the language determine the reference of the terms associated with those shared concepts. This way of talking about concepts makes them out to be a special kind of abstract, external world object—like a Platonic form—that we all have cognitive access to, and that can be used to correct any linguistic misunderstandings or mistakes. This connects the epistemic to the metaphysical in a fundamental way and provides us with privileged access to concepts—through a reference relation that will be fully determinate across all possible worlds. This Fregean view is to be contrasted with an alternative picture in which our conceptions are formed based on our everyday experiences with our environment. Similar positions have been argued for elsewhere. Rob Rupert, for example, writes that:

The empirical data on concept structure and acquisition do not seem to support the idea that humans are in touch with abstract concepts (say, Platonic forms or Fregean intensions) that precisely determine extensions across all possible worlds. The data instead suggest that human concepts are more like rough and ready identification procedures, which may serve us well in our dealings with the surrounding world, but may not determine extensions in unusual or nomically altered environments.

(Rupert 1998, 112)

This alternative picture is the one that I prefer. The main point of disagreement between these views concerns the authority of the overarching concept. According to the Fregean perspective, concepts’

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11 The motivations for this view are easiest for me to grasp when I think of the theory from a historical perspective. Some popular theories from linguistics in the 90s described language as a means of communicating ideas, often suggesting that individual token ideas were recreated perfectly in the listener when the relevant concepts were referred to with language. For example, Michael Toolan offered the model of telementation which assumed “that when A speaks to B the same idea that A used and encoded into speech is picked out, highlighted, or re-created in B’s head” (Toolan 1997, 86). This idea seems to suggest that these token ideas are available for public use—just like a physical object can be passed around, our ideas can also be passed around (in our heads) with the use of language. There is an obvious concern with these sorts of theories: How can they account for linguistic error and miscommunication? If we all have access to the forms, for example, wouldn’t we all use terms correctly all the time—or at least, almost every time? The point is this: Nowadays we might think that the important question is a different one: “How can we possibly communicate successfully when we all understand our concepts in slightly different ways?” But these early researchers were puzzled by a different, almost opposite question: “How is miscommunication possible, when we all have access to the same concepts?”
definitions hold authority due to their universality across contexts and environments ((as a result of their 
harolding from an abstract realm). In contrast, the Rupert-style perspective argues that concepts' definitions 
derive authority (in part) from the way terms are used by individuals within their linguistic community. On 
this picture, though, we can still talk about the distinction between conceptions of trauma in the minds of 
clinicians and patients, and a more unified, overarching concept that arises out of these individual conceptions. 
This concept can then be used to organize and correct the individual conceptions, allowing for the group (i.e., 
the concept) to correct the individual (i.e., the conception).

This commits me to some form of externalism about mental states. Consider Tyler Burge’s 
Arthritis/tharthritis case in which Jane believes that she has arthritis in her thigh. In our world, such beliefs 
turn out to be false—or they fail to refer—because the term “arthritis” is used to refer to rheumatoid 
conditions of the joints. Her counterpart, on the other hand, is physically identical to Jane and holds the same 
belief, but she grew up in a community that uses the term “arthritis” to refer to a different disease—
tharthritis—that affects both the joints and muscles. Intuitively, the counterpart’s belief is true, while Jane’s 
belief is false. According to Burge, because these individuals have different intentional mental states, and 
because they differ only in terms of their external, social world, this case is meant to show that the truth 
conditions of our mental states (e.g., beliefs) depend in part on external features of our world. I gladly accept 
this aspect of Burge’s conclusion—namely, that the truth of the propositional content of our beliefs (e.g., “I 
have been traumatized”) will depend in part on the ways that other people in the community have agreed to 
use the word “traumatized”. Here I follow Crane in thinking that both Jane and her counterpart lack the 
concept of arthritis and are instead attempting to refer to whatever disorder is causing them pain right now in their 
thigh. Importantly, this allows for Jane’s beliefs about the pain in her thigh to be true, despite the fact that she 
fails to make use of the appropriate term (perhaps because there is not one in her language for her to make

12 There is a sense in which this also allows the individual to correct the group — but in such cases, they would want to refer 
to the overarching concept in order to do so. I am imagining cases in which a majority of people are failing to realize some 
error/misuse/misunderstanding/variations/etc. In such cases, it may be that one individual will bring these confusions to 
light by making use of (what they take to be) the concept in question. In a sense, this is what I (as an individual) am hoping 
to do with the trauma concept/conceptions.
use of). Jane’s counterpart’s beliefs about her pain are also true, but she also has the benefit of living in a society that provides her with a more specific word (“tharthritis”) for her experience. I take it that the main upshot of this case is not all that surprising in the linguistic context: we will need some sort of externalism to account for the meaning of language—we use language as a community, and that means that external world facts about usage will (at least partially) determine the truth of our sentences (e.g., “I have been traumatized”) (see, e.g., Lewis 1983, 371). Further, because at least some of our beliefs seem to have parallel propositional content and structure, and rely on concepts developed through language, we will expect the content of these beliefs to rely in part on language-usage-facts as well.

Externalism aside, philosophers will surely wonder: Is this unifying, overarching concept of trauma a natural kind? While many have argued that traditional talk of natural kinds is inappropriate when discussing psychological (or social) concepts (e.g., Churchland 1981, 1988; Boyd 1991; Hacking 1996, 2000) this does not mean we no longer care about kinds—there may be, for example, social and/or psychological kinds (Boyd 1991; Hacking 2007). In line with Boyd, I suggest that psychological kinds can still inform our practices in the scientific and research contexts. But, even still, it may be inappropriate to expect this same conception—the one defined in terms of a desire to discover psychological kinds—to be appropriate in other non-scientific contexts, including the clinical, legal, or activist contexts. So, while I agree broadly with Boyd that we might need something like a natural kind in the scientific study of trauma, this may not be the same conception of trauma we would want in non-scientific contexts (e.g., social justice contexts; See Chapter 5).

This is not a new idea. Griffiths (1997), in his work on emotions, has argued that we should recognize when we are inappropriately forcing scientific requirements onto non-scientific concepts. Scientific concepts need to play a certain role—namely, they need to make possible the tasks of operationalization, prediction, and control. This is why we have stringent criteria in place on scientific kinds (e.g., Boyd’s

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13 I am agnostic in the debate over whether psychological kinds (and social or human kinds) are also properly natural kinds. Hacking does not want to call these social kinds “natural” (Hacking 1991; see also Boyd 1991, 127-128). I am not so picky about the language, as long as we are clear about which features are associated with which kinds (i.e., as long as we are clear about what defines natural kinds vs psychological kinds). For a helpful summary of this debate, see Held (2017).
definition of natural kinds)—such criteria will ensure that we are using concepts that will be most effective in the tasks of operationalization, prediction, and control. However, not all of our conceptions are scientific conceptions, and our non-scientific conceptions may not need to meet these same stringent criteria (or might be stringent in a different, perhaps orthogonal way). When I casually remark that, “There is water in the lake over there,” there is a sense in which my statement is true, despite failing to make use of the scientific definition of water as (pure) H$_2$O. It would be overly pedantic, I think, to respond “No, that is not water, because it is not pure H$_2$O”. Such a response seems deserving of an eye roll. So, while the stringent criterion on scientific kinds results from the role they need to play, conceptions that play different, non-scientific roles will have different criteria (See Griffiths 1997 for a similar argument as it relates to emotional kinds). In the social context, for example, we often use conceptions as a way of signaling which kinds of behaviors we deem appropriate or inappropriate—something counts as “traumatic” in social contexts, not because it meets some specific DSM criteria, but because we want to call attention to the badness of the experience (e.g., “that breakup was traumatic”).

In another example—perhaps more germane to my project here—Ian Hacking describes the way that the concept of “child abuse” has been continually expanding over the years.\textsuperscript{14} Initially, the concept was only applied to infants and small babies with broken bones, but over time the concept came to refer to a variety of parenting behaviors that could be harmful to the child (e.g., exposure to parental sexual behavior) (Hacking 1991c, 1995).\textsuperscript{15} This is not to say that children at earlier times were not in fact victims of abuse, but

\textsuperscript{14} Hacking focuses on the changes in the concept over time – but it seems likely that the concept of child abuse (and trauma) will also be contextually situated in other respects, including culturally. In other words, what counts as abuse (or trauma) will likely depend on social customs and practices within a community. Some practices that seem clearly abusive or traumatic to those outside of a given culture will not always turn out to be abusive/traumatic for those within the culture (e.g. painful rituals). While this seems likely, it is not the focus of my project – I will instead focus on the ways that the concept of trauma differs in different contexts given the goals and aims of those contexts. My hope is that this analysis will leave open the possibility that there are some contexts that are primarily guided by cultural goals and aims.

\textsuperscript{15} Consider the relationship between this example of the expansion of the term “child abuse” and the discussion of ameliorative projects above. In particular, this case may support my claim that ameliorative projects that involve the expansion of a term to new cases can (at least in some cases) successfully change attitudes/behavior. As a society, we now clearly accept certain behaviors as obviously abusive, that were not deemed abusive before—suggesting that widening the application of our terms is possible, and sometimes beneficial.
that there was not yet (for whatever reason) much social pressure to highlight the variety of ways that children can be abused. As these different forms of abuse became publicly recognized, the term “child abuse” was expanded to accommodate this. Given that the term “child abuse” has been primarily used to highlight the kinds of parenting behaviors that we (as a society) deem unacceptable, this expansion is justifiable and (likely) a beneficial way of minimizing the use of harmful parenting behaviors. With these goals in mind, we can see that those early conceptions of child abuse were simply mistaken in focusing only on broken bones — this is not the only way that we can abuse our children, nor is it the only parenting behavior deserving of social criticism.

Further, given that “child abuse” “is a concept which functions in programs of social action rather than as part of a search for scientific explanation and prediction,” we would be making a mistake to require that this concept have a stable, cooccurring set of features that allow for prediction and control (Griffiths 196). This confusion about the different requirements on concepts that play different roles has led to an additional mistake, relating to legitimacy. Intuitively, we might think that any truly legitimate concept should meet these scientific requirements as well, even outside of purely scientific contexts. But as we have seen, this is surely wrong — scientific concepts need to meet these criteria in order to fulfill their scientific goals and aims. But non-scientific concepts do not need to fulfill the same roles and so do not need to meet the same criteria. So, non-scientific concepts can be perfectly legitimate without meeting the criteria for kinds. We can say that the lake contains water, even though the “water” includes much more than simple H₂O. Similarly, I will argue that it can be appropriate to say that someone (or some group) has been traumatized without necessarily meeting the most stringent scientific definition of “trauma”.

3. The State of the Philosophical Literature:

Despite its clear relevance to philosophy, politics, and the human experience more broadly, there is surprisingly little philosophical literature on trauma.¹⁶ This may be, in part, due to the widely accepted view in

¹⁶ There are, of course, nearby literatures that are quite robust – for example on violence and torture – as well as literatures that clearly have implications for a “philosophy of trauma” (e.g., including philosophical literatures on memory, emotions, natural and mental kinds, diagnoses, and diagnostic categories, etc.). I will not, of course, review all of these literatures, but
earlier generations that philosophy was to be concerned with “foundational” matters. More recently, however, as specialization has increased within philosophy and interdisciplinary research has re-emerged as respectable, philosophers have become interested in previously neglected topics and more “applied” philosophical topics (e.g., Lippert-Rasmussen, Brownlee, and Coady 2016). This means that more topics have become “fair game” for philosophical engagement, and, often with a plurality of methods.17

I am not the first to point out that philosophers have been hesitant to engage with the concept of trauma—Melissa Burchard has recently argued (2019) that philosophy’s lack of engagement with “trauma” should be corrected—especially given the possibility that philosophical tools could further our understanding of trauma in a way that would help us recognize it and respond appropriately (Burchard 2019). She points out a number of ways in which trauma is philosophically relevant, including the way that past history of trauma may interact with our rationality (e.g., by making certain behaviors seem more rational than they otherwise would). Relatedly, she suggests that “being traumatized changes (or forms) one’s understanding of both self and world, but it would be a mistake to assume that that changed understanding is simply wrong or deluded” (Burchard 2019, 3). For example, she says that exploring the way that trauma changes us “helps us see, among other things, what the world looks like when one is under significant threat and helps us understand how people are likely to act, what will be rational, when one is under significant threat” (Burchard 2019, 3). To make her case, she offers an example of a child who might seem irrational because they engage in some behavior that they know will be punished. But, the behavior, she argues, looks more rational once we see it through a “trauma lens”. For example, if the child is engaging in a behavior that they know will be punished, it may be because when they were in their abusive household, choosing when their abuse would come (e.g., by behaving in a way that will bring punishment) provides a sense of control, and so is (in some sense) rational (Burchard 2019, 3). The possibility of rational interpretations of post-traumatic behavior connects intuitively with the idea of “trauma-informed practices” mentioned above, where organizations of various

will instead attempt to draw from these resources as they are relevant to the philosophical project at hand – this is the nature of interdisciplinary work, and I hope that this project can continue as my omissions are uncovered. The chapter summaries below give a better sense of the territory I plan to cover.

17 Thanks to Casey O’Callaghan for pointing out the relevance of this historical trend among philosophers.
sorts (e.g., service providers, employers, etc.) will take measures to better understand the impact of traumatic experiences on individuals and their lives (Elliott et al. 2005).

Burchard’s focus on the epistemic rationality of trauma survivors reflects the norm of philosophical engagement with trauma and its somewhat narrow focus on the epistemology of post-traumatic beliefs and behaviors. In particular, there is a small body of literature considering the ways that traumatic experiences might make survivors more rational—especially in the specific case of sexual assault against women. In one important example of this, Karyn Freedman (2006), investigated post-traumatic beliefs (e.g., “I am never safe,” and “Adults cannot be trusted”) to determine their rationality. Such beliefs would normally be considered irrational because they (1) are not supported by sufficient evidence or (2) because they are emotionally driven. Contrasting this “intuitive” philosophical picture, Freedman suggests that a woman who has been sexually assaulted would be rational to believe that “the world is fundamentally unsafe for women because they are women” because of the “universality of the everydayness of sexual violence against women” (and that non-victims undervalue or distrust this evidence) (Freedman 2006, 105).

Given that much of the philosophical engagement with trauma relates to these post-traumatic beliefs, we might wonder whether these epistemological features could be used to unify various accounts of trauma across different contexts. In other words, we might ask whether post-traumatic beliefs are always rational in this way. It seems plausible, for example, that racial trauma could give rise to more accurate (and so, more rational) beliefs, say, about the safety of police officers. But, while I think this analysis is correct in some cases, it seems unlikely to be plausible in all cases. In other words, we can grant Freedman’s point that victims of trauma may sometimes adopt rational beliefs in light of their experiences. This way of talking about post-

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18 This seems related to questions about whether disease/disorder can be edifying (i.e., whether we can learn or gain from having had a disease/disorder) (see, for example, (Kidd 2012; Lear 2014). In this case, the question is about whether traumatic experiences can help us learn or recognize things in a new way – and thus, make us more rational.

19 In another important philosophical work in this vein, Susan Brison (2002) reflects on her own traumatic experience of being violently raped, and the aftermath of the event. She too focuses on the epistemic nature of her post-traumatic experiences, for example, noting that “the seemingly justified skepticism about everyone and everything is pertinent to epistemology” (Brison 2002, 4). While she agrees that her epistemic situation was radically altered by her experience—in the sense that she had to learn how to make sense of her new reality—she did not interpret this new knowledge as a positive thing, or even an improvement in her “rationality”. Instead, this new information angered and terrified her (Brison 2002).
traumatic psychology, however, doesn’t fit as well with the model of PTSD we get from psychology. In the paradigm cases of PTSD (e.g., from wartime trauma) it is important to note that while many of the behaviors and beliefs that a soldier adopts are adaptive in the traumatic context, they are no longer adaptive outside of that context. In other words, the individual with PTSD is no longer under threat—and this is why it makes sense to say that their post-traumatic beliefs and behaviors are irrational (e.g., casing the perimeter of one’s suburban home). But if the threat is still real, then it seems improper to call (at least some of) the post-traumatic beliefs “irrational”. So, while in some cases traumatic experiences seem to lead to more rational beliefs, other traumatic experiences lead to less rational beliefs. Sadly, this suggests that the rationality or irrationality of post-traumatic beliefs is not characteristic of trauma broadly construed—and so will not be a good unifying or defining feature of trauma.

Further, taking this sort of epistemically motivated account at face value would suggest that the rationality of post-traumatic beliefs depends primarily on the statistical frequency of those events. In the case of sexual assault, for example, this would suggest that the relevant post-traumatic beliefs would be irrational in a world where fewer women were sexually assaulted. This feature of the account seems somewhat odd. The belief that the world is an unsafe place for women turns out to be rational because the evidence that comes from being assaulted is a reliable indicator of the prevalence of sexual abuse (which is high). Perhaps this seems plausible in this case, but it seems strange once we generalize. In particular, this account suggests that the rationality of post-traumatic beliefs depends on whether the event’s occurrence was a reliable indicator of the prevalence of that event (or the continued presence of that type of event). So, trauma victims will either be (1) epistemically lucky, and so rational (in the case that their traumatic event was statistically common) or (2) epistemically unlucky, and so irrational (in the case that their traumatic event was statistically unusual).

I am skeptical of the idea that post-traumatic beliefs and their rationality are solely determined by the statistical frequency of the trauma-event-type. Surely, for example, the intensity of the event or the particular behaviors they give rise to can also play a role in the rationality of our post-traumatic beliefs. This suggests
that whether or not traumatic experiences lead to more or less rational sets of beliefs will depend on the traumatic experience, the resulting beliefs, the state of the world, and the nature of the trauma response.

My project will interact with these existing arguments in interesting and surprising ways. For example, we might wonder about the implication of the expanding notion of trauma for the claims about post-traumatic beliefs. Is it only responses to genuine trauma that make the subsequent beliefs and behaviors rational? This seems unlikely, given that some of the paradigm traumatic experiences (e.g., wartime trauma) notoriously give rise to irrational beliefs (e.g., “I must check my home for intruders, or I will likely be attacked”). However, answering this question—and others like it—will depend on the scope of “genuine” trauma. And this question, about whether there is some single “genuine” notion of trauma, is exactly what I am hoping to answer in this project.

So, while I take these epistemic questions to be quite substantive and important ones, they will not be the main focus of my project here. Instead, I will primarily organize and taxonomize the popular conceptions of trauma in an attempt to better understand their relative “authority”—rather than focusing on the implications of traumatic experience for our knowledge and rationality. As such, my project will be an attempt to determine whether one of the currently used conceptions of trauma is best understood as the “genuine” (or most “legitimate”) conception of trauma. While each of the conceptions of trauma I describe are useful and relevant to the practices of their context (and discipline), I will argue that none of them will be fruitfully applied across all contexts. This suggests that there is no single “genuine” concept of trauma that can subsume all others. However, this does not mean that these different contexts are referring to completely different concepts, or that individuals in different disciplines are “talking past one another”. Instead, I will argue that there is something unifying these diverse conceptions of trauma—a schematic definition with a dispositional structure—and this unifying definition can serve to tie together these apparently disparate conceptions of trauma.

In summary, I will argue that different domains employ differing conceptions of trauma, as per their needs and goals. This suggests some degree of pluralism about the concept of “trauma”. Nonetheless, I will
argue that there is a unifying feature across these contexts in that all presuppose that trauma is best understood as a dispositional pairing between events and individuals. More specifically, trauma occurs when there is an individual with a disposition to have a traumatic experience and/or be traumatized—and when that individual is paired with an event that is disposed to create those traumatic experiences and after-effects. So, I will conclude that the concept of trauma is not fully disjointed, or fully polysemous from one context to another. Emphasizing this unifying schematic structure helps us to see what these different conceptions can agree on—while also highlighting one important source of disagreement between these different contexts. In particular, while the different conceptions can agree that trauma is a dispositional pairing between events and individuals, they often disagree about *which event types* have this disposition. For example, according to the Clinical Conception (and The DSM), the only events that truly have this disposition are events that involve actual, threatened death or violence. According to the Freudian Psychodynamic Conception, on the other hand, *any event* can have this disposition, as long as some individuals have the relevant disposition to be traumatized by that event. Finally, according to the Legal Conception, it is particularly important that the event be perpetrated by a person, as opposed to, say, a natural disaster (which cannot be legally held responsible for one’s trauma).

I also hope that this project will have broader practical and philosophical significance. First, I hope that this project might be of practical interest to trauma sufferers and researchers alike, who may have found themselves puzzled by the variety of different ways that “trauma” is used. Second, I hope that this project will matter to broader philosophical debates. For instance, if successful, my account of trauma can serve as another domain in which Wilson’s concept pluralism performs well, thus offering yet more support for the value of that underappreciated approach. In particular, Wilson doesn’t tend to deal with social categories—he does not deal with their ethical and moral entanglements, or their political features. So, my effort to apply Wilson’s concept pluralism to this domain will highlight its applicability in a novel kind of context—namely one in which there are significant moral and political features of the concept which should be highlighted (see Chapters 4 and 5) Further, in my final two chapters, I will outline a social ameliorative conception of trauma, in an attempt to highlight the normative dimension to what otherwise seems like a clinical, scientific, or
psychological concept—much like Casey O’Callaghan proposal in the context of the perception/cognition distinction (O’Callaghan 2020). Finally, I hope that the taxonomy of trauma conceptions can lay the groundwork for others to theorize about trauma across disciplinary lines.

4. Chapter Summaries:

- Chapter 2: Trauma and PTSD in the DSM
  - In this chapter, I present the history of PTSD in the Diagnostic and Statistical Manual (DSM). The main goal of the chapter will be to highlight the wide variety of social, empirical, and political influences on the text throughout its history. However, along the way, it will be difficult to avoid discussing several debates from the philosophy of psychiatry, including concerns about the medical model’s application to psychiatry (e.g., Andreasen 2001, 172–76; Guze 1992; McHugh and Slavney 1998; Murphy 2009; Wakefield 1992), diagnosis and natural kinds (e.g., Beebee and Sabbarton-Leary 2010; Boyd 1991; Kendler et al. 2010; Parnas et al. 2010; Samuels 2009, Zachar 2014, Pereira 2020), as well as conceptual “lumping” and “splitting” (e.g., Gerrans 2014; Murphy 2006; Poland, Von Eckardt and Spaulding 1994). Ultimately, I will argue that the conception of trauma that arises from the DSM is not likely to be applicable in other contexts. For example, it is not clear that the DSM criteria are the best criteria for empirically studying trauma in a reliable way, given that these criteria are often meant to serve practical and clinical goals (e.g., related to insurance coverage). Further, the kind of objectivity sought after in the DSM—pursued through interrater reliability—is relevant primarily to the goals and aims of the DSM (and the clinicians that use the DSM). Although these practical and clinical goals are incredibly important, some of the considerations relevant here—such as consideration about who should receive financial support for their clinical care—do not seem relevant to the empirical or epidemiological study of trauma (although they could be relevant to the activist). This suggests that the DSM—and its “clinical” conception of trauma is not universally applicable
across contexts. So, the clinical realm does give us our “genuine” or “most legitimate” conception of trauma—at least not in terms of universalizability or objectivity.  

- Chapter 3: The Laboratory Science of Trauma
  
  Given the arguments in Chapter 1, it may be tempting to suggest that the “real” conception of trauma will come, not from the “clinical” realm, but from the empirical scientists who study trauma (see e.g., Lemoine 2013). Despite its promise, I will ultimately resist this temptation. I will begin by exploring the literature on the validity of the animal models used to study psychiatric disorders, such as PTSD (For psychiatric disorders in general see Belzung and Lemoine 2011; for PTSD in particular, see e.g., Yehuda and Antelman 1993). These criteria are meant to help researchers determine when an animal model is a good representation of the relevant human disorder. I will suggest that there are two ways of interpreting the background motivations for these validity criteria. We can interpret these attempts to ensure validity either (1) as attempts to recreate/replicate the disorder in the animal such that it is indistinguishable from the human disorder or (2) as attempts to minimize the inevitable differences between the animal and human versions of the disorder at hand. I will interpret these researchers as doing the latter. For the remainder of this chapter, I will outline the conception of trauma that we get from neuroscientists and other researchers studying animal models of trauma. This will be grounded in detailed case studies of experimental methods used to study trauma in the laboratory. I will ultimately argue that although this conception is incredibly important for researching trauma, it is not likely to capture many of our intuitions about the human-specific nature of trauma and its impacts on our brains and behavior. Further, the kind of objectivity sought after in this context—

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20 Here I want to distinguish between the clinical realm (which I define in terms of the DSM) and clinicians themselves. While the DSM criteria may provide a universally applicable definition of trauma, it may be that the considered practical judgments of clinicians regularly stray from the DSM definition of trauma. Given their proximity to the phenomena, they may be in a very good position to recognize trauma instances or sufferers, even if their officially sanctioned manual misses the mark in some ways.
pursued through model validity—is relevant primarily to the goals and aims of the neuroscientists. While these scientific efforts at understanding trauma are clearly very important and fruitful, the conception of trauma that arises here will not be successful in other, non-experimental contexts, in large part because of the way that scientific operationalization functions (Chang 2004; Feest 2005; 2010). Here again, we find that research scientists also do not provide us with a universalizable or objective notion of trauma.

- Chapter 4: How Does The Body Keep the Score?
- In this “psychology meets psychiatry chapter” I will outline the popular conception of trauma arising from Van der Kolk’s theory of trauma. In the broadest terms, Van der Kolk argues that traumatic experiences often overwhelm our memory systems in a way that interferes with their proper functioning, opening up the possibility that trauma survivors may not remember their traumatic event, while still being deeply impacted by that trauma through somatic effects. First, I will suggest that the DSM does not provide much “theory” underlying the symptomatology of trauma and PTSD, but instead only provides a method of diagnosis. This leads clinicians to make use of a “Shadow Theory” operating behind their clinical practices. In this chapter, I set aside these questions concerning the empirical plausibility of repressed traumatic memories or traumatic amnesia, and instead try to understand the continued popularity of this particular theory about trauma and memory: Why are clinicians and patients so wedded to the idea that traumatized individuals can (at least sometimes) repress and lose the memories of their traumatic event(s)? This continued popularity, I argue, can be explained by the role of shadow theories in clinical care. Ultimately, van der Kolk’s theory, although clinically unifying, will not serve our broader unifying goals. In this case, the problem arises in large part due to scientific plausibility of the view—despite its cultural and clinical significance, the view is scientifically inaccurate, and so clearly could not be exported into scientific contexts.
Chapter 5: The Social Ameliorative Conception of Trauma

In this chapter, I argue that there is need for yet another conception of trauma: A social ameliorative conception. In Chapter 2, we saw evidence of the growing unease among psychologists, researchers, and clinicians about the expanding scope of trauma definitions. Here I suggest that while these concerns may be apt in the clinical, legal, or neuroscientific domains, they are inappropriate as general reasons for policing the use of the trauma concept outside of those realms. Further, there are (at least) two good reasons for thinking that we should leave space for a wider, less stringent definition: First, we should expect rapid social change and the introduction of new technologies to give rise to novel types/kinds of trauma. Second, historical examples of the expanding definition of trauma—so as to include things such as spousal rape and child sexual abuse—should motivate humility about our current list of “traumatic events”. This humility should prompt us to acknowledge that our existing definition likely falls short of encompassing all potential types of traumatic experience. Consequently, this realization provides a compelling rationale for allowing, in the wider social context, a more adaptable and expansive definition of trauma. This also helps us see that the social context has different goals from the clinical and experimental contexts, and so requires a different definition of trauma. In particular, this Social Ameliorative conception should further the goals of: (1) Recognizing novel cases/kinds of trauma and (2) Recognizing the suffering of others, especially when that suffering comes in the form of long-term (event-caused) psychological damage.

Chapter 6: Conclusion: A Universal Notion of Trauma?

In this chapter, I summarize my arguments in favor of a loosely unified pluralism about trauma conceptions. Further, I will argue that these different conceptualizations of trauma should be allowed to cohabitate, so that they can effectively address the needs and practices of their individual contexts: clinical contexts, for example, may require a distinct conception from experimental contexts, given the differing practices and needs of these realms. This
variety of trauma conceptions (and strategies for approximating objectivity) is exactly what we would expect from the different goals and aims we see in these various contexts. Because of this, I suggest that we should not attempt to force these different contexts to use one particular conception of trauma. In other words, different contexts—including the legal, clinical, and experimental contexts—require different interpretations of the concept of trauma in order to fit the needs of that particular context. Different contexts have different practices, and different practices require slightly different conceptions. Importantly, however, I will argue that the schematic structure of trauma serves to unify the concept of trauma across contexts and differentiate the concept of trauma from other similar psychological phenomena (e.g., phobias, anxiety, etc.).
Chapter 2: Trauma and PTSD in the DSM

1. Introduction:

In this chapter, I outline some of the major changes to the diagnostic category of Post-traumatic Stress Disorder (PTSD) in the Diagnostic and Statistical Manual of Mental Disorders (DSM), while highlighting some of the social and empirical factors that may have played a role in motivating these changes. This historical story will motivate the thesis that the conception of trauma we see in the DSM is importantly tied to clinical aims, and so, inapplicable in other contexts where clinical aims either are not present, or are not the focus. Further, the focus on interrater reliability as the main strategy for increasing objectivity is unhelpful in alternative contexts where intersubjective consistency among clinicians is not a primary goal. In developing this history, I will focus primarily on two kinds of changes that were made over the years: (1) changes to the definition of “Trauma” (Criterion A1) and (2) changes to the exposure criteria, which outline the different ways that an individual might experience a traumatic event (e.g., directly or indirectly). I will begin by outlining the original definition of trauma and the diagnostic criteria for PTSD as outlined for the first time in the DSM-III. In section 2, I describe the controversy surrounding the “subjective element” in the definition of trauma. In section 3, I shift to a discussion of the widening of the exposure Criteria for PTSD and the

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21 My aims here are limited in two important respects. First, this paper focuses on only two of the kinds of changes that have been made to the DSM entry for PTSD over the years (i.e., changes to the definition and exposure criteria). There are numerous changes that have been made over the different iterations of the DSM that I do not discuss here. This is, of course, a limitation of this project. However, researchers have noted that “PTSD has experienced unprecedented fluctuations in its definition over the 35 years of its history in the American Psychiatric Association’s DSM” and outlining each and every one of these changes and the possible motivations would likely be a book-length analysis (North et al. 2016, 198). Instead, I restrict my analysis to a particular set of changes that are relevant to my purposes, while also being concise and digestible. Please see North et al. (2016) for a more extended and thorough outline of all of the changes to the DSM entry for PTSD since its initial addition in the DSM-III. Second, I should note that there are a variety of interesting influences on the DSM that I have chosen not to focus on in this discussion including (but not limited to) important considerations about the ways in which the DSM might be influenced by the definitions and criteria offered in the only competitor in the game: The International Classification of Diseases (ICD).
many criticisms that resulted, as well as the motivations that may have led to this expansion. Finally, before closing out, I summarize the conception of trauma that we get from the DSM and the main strategy used for approximating objectivity in this context. Both this definition and these strategies, I argue, are fundamentally tied to the goals and aims of the clinical context (e.g., diagnosis and treatment), and so will be inapplicable in alternative contexts.

2. The Definition of Trauma:

The origins of PTSD are somewhat contested. Some argue that trauma—and its disordered aftereffects—are a part of the human condition, affecting ancient Greeks and modern victims alike (Shay 1995, Trite 2000). Others express skepticism, arguing that PTSD arises only in light of a very particular set of psychological and environmental conditions, which are markedly modern. Historian Jason Crowley, for example, argues that unlike the ancient soldier, the modern soldier “...was often exhausted and sleep-deprived when he met his enemy. He fought socially and physically isolated from his comrades. He faced threats he could not counter and, perhaps most crucially, when he killed he transgressed the peaceful norms he’d been raised to cherish” (Crowley 2014; 2014a). These psychological and environmental features, he argues, simply did not apply to ancient soldiers.

Whether or not the ancients suffered from PTSD or not, by the time World War I came around, physicians were becoming increasingly aware of the psychological harms of wartime experiences: surprisingly large numbers of soldiers found themselves “shell shocked” and unable to continue fighting due to psychological distress, despite not being physically injured in battle (Crocq and Crocq 2000). By the 1950s doctors began to notice a reliable cluster of symptoms—especially among WWII veterans—which was codified in the DSM-I “gross stress reaction”. This early DSM listed the disorder as a “transient situational personality disorder” and defined the disorder “as a severe stress reaction occurring in a normal personality as a mechanism for dealing with overwhelming fear, caused by one of two types of stress: combat or civilian

22 The historical story I present here is somewhat abridged. For a more detailed outline (especially of early characterizations of PTSD), see Crocq and Crocq (2000).
catastrophe” (Andreasen 1995, 964). Interestingly, this disorder was removed from the DSM-II—perhaps in part because “gross stress reaction” had been particularly tied to warfare, and the DSM-II was developed and published in a time of relative peace (Andreasen 2011, 242). However, when the DSM-III was being developed, The United States was in the context of another wartime struggle, this time the Vietnam War. Drafted soldiers from the Vietnam War fought for “the introduction of a diagnosis that would recognize the potential consequences of experiencing the stress of combat, and that might perhaps provide disability and treatment benefits for the psychiatric disorder that combat stress induced” (Andreasen 2011, 242).

Further, some have argued that the DSM-III was developed in large part by Neo-Kraepelians who wanted to reinvigorate what has been called the “medical model”—as opposed to a psychodynamic (or psychoanalytic) or behavioral model—where “concepts, strategies, and jargon of general medicine are applied to psychiatric disorders: diagnosis, differential diagnosis, etiology, pathogenesis, treatment, natural history, epidemiology, complications, and so on” (Guze 1992, 4; see also Compton and Guze 1995, 199-201). According to this medical model, psychiatric disorders are best defined in terms of a set of descriptive criteria, which will include a variety of details including “psychic symptoms, the general psychic clinical picture, bodily symptoms, clinical forms, the course, outcome, neuroanatomy, possible causes, and differential diagnosis” as well as the delimitation of the conditions’ boundaries (Compton and Guze 1995, 197). This methodological focus likely played a role in the specification and fleshing out of the “gross stress reaction” disorder that had been presented in the DSM-I, which included very little detail.23

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23 In the DSM-I Gross Stress Reaction (Code 000-x81) is defined as follows: “Under conditions of great or unusual stress, a normal personality may utilize established patterns of reaction to deal with overwhelming fear. The patterns of such reactions differ from those of neurosis or psychosis chiefly with respect to clinical history, reversibility of reaction, and its transient character. When promptly and adequately treated, the condition may clear rapidly. It is also possible that the condition may progress to one of the neurotic reactions. If the reaction persists, this term is to be regarded as a temporary diagnosis to be used only until a more definitive diagnosis is established. This diagnosis is justified only in situations in which the individual has been exposed to severe physical demands or extreme emotional stress, such as in combat or in civilian catastrophe (fire, earthquake, explosion, etc.). In many instances this diagnosis applies to previously more or less "normal" persons who have experienced intolerable stress. The particular stress involved will be specified as (1) combat or (2) civilian catastrophe” (American Psychiatric Association 1952).
In the DSM-III, trauma is defined as a “Recognizable stressor that would evoke significant symptoms of distress in almost everyone” (DSM-III 1980, 238). This definition was disappointing to many. First, some pointed out that this definition included a “subjective element” by referring to events that “would evoke distress in almost anyone,” and argued that this subjective element “contaminated” our objective scientific and diagnostic goals (North 2016, 204; Seidler and Wagner 2006, 263). According to these researchers, because what counts as distressing for most people was left undefined, this definition relies on a problematically subjective judgment on the part of the clinician. However, recent considerations have pushed back against this universal exclusion of subjective criteria and have argued in favor of patient-centered subjective criteria in some cases (e.g., borderline personality disorder and schizophrenia) (Flanagan, Davidson, and Strauss 2010).

Others were more concerned with the failure of this definition to adequately delineate the class of events that researchers and clinicians consider “traumatic”. Spitzer et. al, for example, argued that this way of defining trauma “inadequately specifies the intended class of stressors given that many stressors besides traumatic ones might cause distress in almost everyone (e.g., divorce, unwanted sexual overtures)” (Spitzer et al 2007, 233). The worry here is that this definition of trauma includes too much: lots of things are distressing to everyone, including marital difficulties and unwanted sexual advances. For some, like Spitzer, these events are not sufficiently “traumatic” and so should be excluded by our chosen definition. First, it is important to note that this argument is based on an intuition about which experiences are sufficiently “traumatic”. As we will see, these sorts of institutions are apparently very common among clinicians and researchers, although little empirical evidence has been provided to support this intuitive distinction between “truly traumatic” and “subtraumatic” events. Second, there is a sense in which this critique is uncharitable to the writers of the DSM-III. In particular, it is important to note that the DSM-III explicitly excludes some events as insufficiently traumatic such as simple bereavement, chronic illness, business losses, or marital conflict (DSM-III 1980, 236). Such explicit exclusion of a few events that would be “markedly distressing to almost anyone” seems to betray some awareness of the concern raised by Spitzer et al. In other words, when we define trauma in terms of what is distressing to everyone, we are immediately confronted with intuitive
counterexamples of events which are commonly described as distressing, but which may not necessarily constitute a “trauma” (such as business losses). In light of such concerns, the writers of the DSM-III offered a list of intuitive counterexamples. However, while this list demonstrates an awareness of the kinds of definitional concerns outlined by Spitzer, I suggest that they did not respond to these concerns in the best way. In particular, instead of searching for a more accurate way of defining trauma that would exclude these intuitive counterexamples, the DSM listed a set of random-seeming exclusions, which act as a kind of ad-hoc addition to the original definition.

Why should we care about ad hoc definitions of this sort? When we define categories for research and diagnosis, we often want to delineate categories that will be useful for our goals of prediction and explanation. In particular, we want the class of individuals or events to share a set of features which will be *projectable* to new cases (Boyd 1991; Griffiths 1997, 174). So, for example, consider an element from the periodic table, such as gold. Once we successfully identify the properties that are associated with gold—and the explanations which underwrite those properties—we can reliably expect any new bit of gold we find to have the same properties that we identified in the periodic table. This is the kind of projectability we often hope to achieve with our scientific categories, and which makes those categories useful for prediction and explanation. When I learn that a particular bit of substance is gold, for example, I learn all sorts of things about that substance in terms of its harness, color, reactivity, etc. In the case of psychological categories, we might hope for something similar. In particular, we want the diagnoses that people receive to be reliable and informative indicators of the set of features underlying their diagnosis. When a researcher or clinician learns that an individual has been diagnosed with PTSD, for example, this should provide them with a reliable set of features that are associated with the category of PTSD. Of course, the ideal of projectability that we get in chemistry will not be the same as the ideal we strive for in psychology, for a number of reasons, including a more limited scientific understanding of psychological phenomena, the potential for multiple realizability, and the lack of exceptionless generalizations in the special sciences (Millikan 1999). For example, we should not expect every case of PTSD to be identical in the same way that every piece of gold is identical. However, this does not mean we should give up on projectability (and the search for shared properties) altogether, especially
given that this projectability can be so useful in both research and clinical settings. This way of thinking about scientific categories suggests that when we seek definitions for categories in scientific and medical contexts, we hope to outline a class of individuals or events which are sufficiently unified. When we have good evidence that this unity does not exist, we may have good reason to think that we have lumped together multiple different categories of individuals or events into one category, when they should instead be split into separate categories.

In clinical psychology, researchers often use *interrater reliability*—a measure of the consistency between different clinicians—as a way of testing the reliability and projectability of diagnostic categories (Tinsley and Weiss 1975). In clinical practice, subjective judgements are unavoidable: clinicians cannot avoid interpreting the patient in front of them in order to offer a diagnosis based on their education and prior experience. This reliance on the subjective judgements of individual clinicians impedes any attempt at traditional notions of objectivity (e.g., faithfulness to the facts) that discourage the use of any such subjective measures/judgements. Outlining categories with high interrater reliability offers a way to minimize the importance of each individual clinician’s judgments by delineating diagnostic categories and criteria that are easily applied and interpreted by clinicians. Where there is high interrater reliability, this may provide some evidence that the relevant category—PTSD for instance—can be reliably identified based on the criteria, and is likely to be projectable from case to case. This allows us to minimize the impact of individual clinicians and their clinical judgements, and more successfully approximate objective categorization in a context where individual clinicians’ judgments are unavoidable.

The changes made to the DSM-III in the DSM-III-R reflect a limited consideration of these categorical concerns. For example, the DSM-III-R defines trauma as an “Event that is outside the range of usual human experience and that would be markedly distressing to almost anyone, e.g. serious threat to one's life or physical integrity; serious threat or harm to one's children, spouse, or other close relatives and friends; sudden destruction of one's home or community; or seeing another person who has recently been, or is being, seriously injured or killed as the result of an accident or physical violence” (DSM-III-R 1987, 250). This modification clearly restricts the definition in a way that addresses the kinds of counterexamples
described above (e.g., business losses and unwanted sexual overtures). However, the additional requirement that traumatic experiences be “outside the range of human experience” comes with its own problems. First, the subjective judgment about “what would be distressing to almost anyone” from the DSM-III was replaced with a different subjective clinical judgment about what counts as “outside the range of human experience”. Second, some pointed out that many plausible traumatic stressors such as being the victim of a crime or being involved in a violent automobile accident are not necessarily outside the range of “normal human experiences” as the definition requires (Spitzer et al 2007, 235). While the initial definition was too broad, this new one is too narrow—it excludes events based on their “normality” that might intuitively count as “traumatic” (For similar criticism, see also First, Frances, & Pincus, 2002, 253).

Again, the next iteration of the definition of trauma in the DSM-IV seems to have been responsive to these concerns. In fact, the potentially problematic “subjective element” requiring that the traumatic experiences be “outside the range of human experience” or “markedly distressing to almost anyone” was completely removed such that traumatic events are defined in terms of “actual or threatened death or serious injury or a threat to physical integrity” (DSM-IV 1994, 427; Andreasen 1995, 964). Some suggested that by removing this subjective element the DSM-IV “delivered for the first time an objective definition of trauma without contamination by a subjective response to it” (North 204). Others, however, pointed out that there was still an element of subjectivity in that the DSM-IV required that a patient have a particular emotional response during the traumatic event. In particular, in order to qualify for a PTSD diagnosis in the DSM-IV, the client would have had to (1) experience a traumatic event, and (2) respond to that event with “intense fear, helplessness, or horror” (DSM-IV 1994, 427-428). However, this change shifts the “subjective element” from a subjective assessment of what the clinician believes to be “markedly distressing to almost anyone” and towards a subjective assessment of the client’s own experience during the traumatic event (often called Criterion A2). Some have argued that the inclusion of such patient-subjective data would benefit the DSM in that “This information could be valuable, as people’s subjective experiences of disorders may indicate major underlying processes and be different from how characteristics of disorders appear objectively to outside observers” (Flanagan, Davidson, and Strauss 2010, 297). This might suggest that despite the continued
presence of some element of subjectivity in the DSM criteria for PTSD, the change from clinician-centered subjectivity to client-centered subjectivity may still mark an improvement upon previous definitions of trauma. However, despite these considerations, this final subjective element (Criterion A2) was removed in the DSM-V so that a PTSD diagnosis no longer requires a subjective personal response of “intense fear, horror, or helplessness” during the traumatic event (Pai, Suris, and North 2017, 3). According to Pai et al., the decision to remove this requirement from the DSM-5 was primarily based on a few research findings (Pai, Suris, and North 2017). First, studies showed that the inclusion of this criteria did not increase our ability to predict who would develop PTSD symptomatology, suggesting that the removal of this criterion would simplify diagnoses without significantly impacting the overall number of cases or the interrater reliability of the category (Breslau and Kessler 2001; Karam et al. 2010; Pereda and Forero 2012). Further, some populations seem less likely to experience these particular emotions during their traumatic experience—or are less likely to report having experienced such emotions—but who still develop PTSD symptomology. This concern may be particularly important for combat veterans who often receive specialized training so that they do not experience this intense fear, horror, or helplessness during traumatic events (Adler et al. 2008).

With these successive changes to the DSM the above concerns about the “subjective element” of the definition of PTSD have been sufficiently addressed. However, some have cautioned that solving these problems has been overshadowed by changes that specify the “mode” of exposure (i.e., experienced, witnessed, or confronted). The following section will explore these changes and their possible motivations in more detail.

3. Exposure Criteria:

One of the most controversial changes in the DSM criteria for PTSD involved a widening of the exposure criteria so that a more diverse range of experiences could result in a diagnosis of PTSD (McNally 2009, 597). In particular, the DSM-III-R and the DSM-IV outline three different ways that somebody could experience a traumatic event: (1) Directly (e.g., combat veterans or rape victims) (2) Indirectly through witnessing the traumatic event of another (e.g., bystanders of a shooting) and (3) Indirectly through a close friend or loved
one (e.g., learning that a loved one has experienced a traumatic event) (DSM-III-R 1987, 247-248; DSM-IV 1994, 424; McNally 2009, 597; North 2016, Table 1). This third category of “vicarious” trauma experiences included a previously excluded group of individuals who appear to develop PTSD-like symptoms after exposure to “subtraumatic” events (Mol et al. 2005; McNally 2009, 597). Some have suggested that “concerns about denying these sufferers the diagnosis, and hence reimbursable treatment, motivated the expansion of the concept of trauma in subsequent editions of the DSM” (McNally 2009, 597). Given that these individuals are experiencing many of the same debilitating symptoms as those who have experienced more “intense” traumatic experiences, we might think that it would be improper, or even cruel, to deny these individuals the diagnosis, treatment, and other various benefits that may result from a PTSD diagnosis.

However, this change was very highly controversial, and many called for its reversal when the DSM-5 was announced (I return to the content of the DSM-5 below). A variety of different arguments against this widening of the definition—or what some have called “conceptual bracket creep” or “criterion creep”—have been offered (e.g., McNally 2003, 2009; Rosen 2004; Haslam, Tse, and De Deyne 2021; I will return to this concern in more detail in Chapter 5). First, some argued that the widening of the definition would lead to a kind of “dilution” of the significance of the diagnosis of PTSD. Shepherd, for example, a historian who wrote about the psychological effects of 20th-century warfare, argued that “Any unit of classification that simultaneously encompasses the experience of surviving Auschwitz and that of being told rude jokes at work must, by any reasonable lay standard, be a nonsense, a patent absurdity” (Shephard 2008, 57). Similarly, Sparr

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24 The DSM-III-R also included a category for “property destruction” or the “sudden destruction of one’s home or community” as one of these exposure criteria—but this was subsequently removed in the DSM-IV (DSM-III-R 1987; North 2016, Table 1). This removal makes a lot of sense: The first three exposure criteria are clearly modes of traumatic events or ways of experiencing a traumatic event. For example, for a single potentially traumatic event, such as a mugging, you could experience it directly if you yourself are mugged, you could witness somebody else getting mugged, or you could learn about close friend or relative being mugged—and all of these are different ways that the event “mugging” could be experiences and lead to PTSD like symptoms. The addition of “property destruction” to this category is clearly not another way of experiencing a traumatic event, but instead another kind of event that could lead to PTSD symptomatology.

25 As we will see below, these benefits are manyfold and include not only the fairly obvious concerns about treatment (and insurance coverage of that treatment) but also benefits in terms of narrative self-understanding, as well as legal compensation and claims of personal injury.

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argued that “PTSD should be diagnosed if the facts fit, but only if they fit. To do otherwise dilutes and trivializes the diagnosis” (Sparr 1990, 259).

Others have argued out that a PTSD diagnosis may be preferable both for the patient and for the clinician—and it could be that these social factors may play a role in the desire to expand diagnostic criteria in the DSM (e.g., Andreasen 1995; Bush and Iverson 2011). For both the clinician and the patient, a diagnosis of PTSD is highly parsimonious: the patient's problems have been largely caused by one single event, which can then be the focus of attention in treatment (Bush and Iverson 2011, 168). Additionally, it has been argued that “by putting the responsibility for problems on an external event, PTSD confers ‘victim status’ and relieves the individual of any inherent weakness for failing to cope” (Bush and Iverson 2011, 168). Nancy Andreasen, who worked on both the DSM III and DSM IV Task Forces, has suggested that “It is rare to find a psychiatric diagnosis that anyone likes to have, but PTSD seems to be one of them” (Andreasen 1995, 964). These benefits to the individual (and clinician) could motivate a desire for wider applicability of the DSM criteria, given that the diagnosis is preferable and may improve treatment outcomes.

PTSD diagnoses can also be preferable for legal compensation and claims of personal injury. For example, Slovenko suggested that “In tort litigation, PTSD is a favored diagnosis in cases of emotional distress because it is incident specific. It tends to rule out other factors important to the determination of causation. Thus, plaintiffs can argue that all of their psychological problems have resulted from the alleged traumatic event and not from myriad other sources encountered in life. A diagnosis of depression, in contrast, opens the issue of causation to many factors other than the stated cause of action” (Slovenko 1994, 441). As a result of these benefits, some have raised concerns about overdiagnosis of PTSD for legal purposes. Lees-Haley, for example, critically quipped that “If mental illnesses were rated on the New York Stock Exchange, Post-Traumatic Stress Disorder would be a growth stock to watch” (Lees-Haley 1986, 17). He suggested that individuals might come to believe that they have PTSD as a result of learning about PTSD from attorneys, relatives, friends, etc. Then, he argued, “This knowledge influences the patient's view of symptoms and interpretations of other, irrelevant experiences (Lees-Haley 1986, 18). In response to these concerns, Lees-Haley cautioned psychologists and psychiatrists against such overdiagnosis, in light of what he considered as a
more plausible explanation for PTSD symptomology: medications, coincidental stressors, pre-existing conditions, malingering, and/or personality disorders.

It has even been suggested that some of the changes in the DSM criteria may have resulted in part due to lobbying from drug companies, who hold an obvious stake in increasing numbers of patients taking their medications. Anne Harrington, for example, has argued that PTSD was initially meant to pick out a category of individuals who were disordered, not because of some internal medical problem, but because the world broke them—suggesting that “for this reason, psychotherapists and psychologists—not psychopharmacologists—were originally conceived as the front-line caregivers for victims of PTSD” (Harrington 2019; see also Bradley et al. 2005). Despite this, Pfizer fought to get their foot in the door by creating an advocacy group called the “PTSD Alliance”. Their materials describe how PTSD could affect “anyone who has experienced extreme trauma, been victimized or has witnessed a violent act, or has been repeatedly exposed to life-threatening situations” and argues that the disorder was incredibly common (with an incidence of 1 in 13) and could be treated with psychotherapy, pharmaceuticals, or both (Harrington 2019; See also Koerner 2002 and PTSD Alliance 2023)

In fact, there has been an interesting ongoing controversy about the role of conflicts of interests in the revisions of the DSM. After the publication of the DSM-IV, Cosgrove and colleagues published a study reporting that “Of the 170 DSM panel members 95 (56%) had one or more financial associations with companies in the pharmaceutical industry. One hundred percent of the members of the panels on 'Mood Disorders' and 'Schizophrenia and Other Psychotic Disorders' had financial ties to drug companies” (Cosgrove et al. 2006, 154). Cosgrove et al. called for policies that would require full disclosure of any financial relationship with for-profit industries that manufacture drugs that are used in the treatment of mental illnesses (Cosgrove et al. 2006, 159). This report sparked a wave of media coverage and commentary that raised concerns about the number of experts involved in defining mental health conditions and treatments who had financial ties to the companies who would directly benefit most from an increase in prescriptions (e.g., Moisse 2012; Kruszewski 2011). As a result of these concerns, the American Psychological Association adopted a new policy requiring all conflicts of interests to be reported. Interestingly, despite this
new policy, “nearly 70% of current DSM-5 task force members have financial relationships with pharmaceutical companies, up from 57% for the manual's previous version” (The PLoS Medicine Editors 2012). Thus, although some attempts have been made by the APA to address these concerns, they have not actually resulted in a minimization of the number of conflicts of interests that may impact changes to the DSM (See also, Cosgrove and Krimsky 2012).

Finally, while the concerns I have outlined so far have been primarily social and pragmatic, there were also a variety of empirical concerns, which were focused on our ability to effectively research and explain the neurological mechanisms underlying PTSD. McNally, for example, argued that “expanding the concept of trauma makes it difficult to ascertain the psychobiological mechanisms generating the symptoms of PTSD” (McNally 2009, 598). This concern is very similar to the concern about unified categories described above in Section 2. In this case, however, the concern is described in terms of a desire for unified categories as a way of discovering unified mechanisms. On this way of thinking, once our class of individuals with PTSD becomes too diverse, it becomes incredibly difficult to pinpoint the underlying neurological mechanisms that these individuals share. Further, such differences are likely to result in replication problems, given that each group of trauma survivors (on the wider definition) will not necessarily share underlying neurological mechanisms, given the widely varying experiences that gave rise to those symptoms. McNally concludes that while “people exposed to noncanonical stressors may complain of sleep difficulties, intrusive thoughts, irritability, and other symptoms of apparent PTSD, one must wonder whether they are suffering in the same way as victims of rape or combat trauma (McNally 2009, 598). It is important to note that this concern is based on an empirical intuition—namely, about the likelihood that individuals with differing trauma experiences will share underlying brain mechanisms. However, this intuition has not been adequately tested. In other words, it is not clear whether the mechanisms underlying the narrower definition of trauma are the same or different from the mechanisms underlying the broader definition of trauma. Despite this lack of empirical evidence, there seems to be widespread agreement that the same symptoms could be underwritten by different mechanisms, when those symptoms are caused by events of different intensities.
Before these data are available, however, we might consider examples of other disease and disorder concepts, as a way of testing the intuition about the relevance of etiological causes. In particular we want to consider disease and disorder concepts to see when etiological causes are cited and what role those causes play in defining the disease or disorder in question. First, it is clear that in psychology, sometimes we don’t consider etiological causes at all. For example, depression is defined solely in terms of a set of symptoms—it is not important why you have the symptoms—it is only important that you have a certain number of the relevant symptoms. However, outside of psychology, it is much more common to cite causes as a way of defining diseases and disorders. In most viral infections, for example, we define the infection or the disease in terms of the virus that causes the illness. In these cases, even when the symptoms are very similar, we often distinguish diseases in terms of the different causes that give rise to the symptoms. For example, different kinds of meningitis—an inflammation of the coverings (meninges) of the brain and the spinal cord—are distinguished based on whether the infection is caused by bacteria, fungi, or parasites, despite the fact that the symptoms are highly similar. We also regularly cite etiological causes when defining some genetic diseases like Huntington's. These examples might suggest that it would be reasonable to expect that different potentially traumatic experiences could result in similar symptomatology, but that these symptoms could be underwritten by different brain mechanisms. However, I want to suggest that our interest in causes is largely instrumental—we care about causes only insofar as they point us to differences in mechanisms, that help determine the relevant treatments that should be prescribed. For example, we consider viral meningitis distinct from fungal meningitis, not because they have different symptoms, but because they require different treatments (i.e., antiviral vs antifungal medications). In other cases, we choose not to distinguish based on etiological causes when those differences in causes do not result in differences in treatments. For example, we do not distinguish Hepatitis A food poisoning from shellfish from Hepatitis A food poisoning from dairy products. This is as we should expect if causes are primarily a way of pointing to treatments—we do not distinguish food poisoning from shellfish vs. dairy because these etiological differences do not result in differences in treatments.
However, with other disease concepts, we seem to distinguish based on etiological causes in some contexts but not in others. Consider allergies. In some contexts, we choose to distinguish allergies based on their very particularized causes, given that these differences result in differences in the patient’s allergen-related behavior. For example, it is incredibly important for an individual to distinguish their allergy from other possible allergies—it is important to know that I have a peanut allergy as opposed to a strawberry allergy, and not very helpful to learn more generally that I have just, an allergy. Here, there is a sense in which the differences in causes result in differences in treatments: a peanut allergy should be treated by avoiding peanuts and a strawberry allergy should be treated by avoiding strawberries. Thus, when we are considering how different individuals with different allergies should behave toward their relative allergens, we define allergies based on their particular causes. However, there are other contexts in which it is useful to understand “allergies” as a single unified category, underwritten by a particular kind of immune reaction. Here again, the relevance of the etiological causes is determined in light of treatment-related considerations. In other words, we choose to “lump” all of the allergic reactions to the different allergies together because they share the same treatments—given that all allergies result in a particular kind of immune reaction, we can treat etiologically different allergic reactions with the same treatment (e.g., with antihistamines or an EpiPen).

Thus, in the case of allergies, it seems that in some contexts we define allergies in terms of very particular causes (e.g., peanuts vs. strawberries), while in other contexts, we choose not to differentiate different allergies in terms of these particularized causes. In both cases, we make these decisions primarily in light of whether or not these causes result in differences in treatments: when etiological causes point to differences in treatments, we choose to differentiate based on those causes, but when etiological causes do not point to differences in treatments, we choose not to distinguish based on those causes. I tentatively suggest that this is true for most of the disease and disorder concepts that point to causes as a way of individuating a disease: differentiating causes is only helpful insofar as it helps us identify differences in mechanisms and thus, differences in interventions or treatments.

Although we cannot know without more empirical research, it may turn out that PTSD is somewhat analogous to allergies. In particular, it might be that in some contexts, the treatments that we prescribe for
PTSD will differentiate based on the different kinds of trauma that an individual experiences (e.g., sexual, combat-related, etc.), or the “intensity” of that trauma (e.g., “subtraumatic” or “traumatic”). For example, it might be improper to place individuals who have experienced widely different traumatic experiences in the same group therapy sessions. On the other hand, in many cases, individuals who experience different kinds or intensities of trauma are often given the same treatment. For example, PTSD is regularly treated with SSRIs (e.g., sertraline and paroxetine) and some form of psychotherapy (Cukor et al. 2010). Interestingly, these treatments are not even specific to PTSD and are used in treating a wide variety of psychological disorders. Given that these treatments are successful in such a wide variety of different disorders, it is likely that they would also be helpful for individuals with different etiological causes for their PTSD symptomology. This suggests that it may be improper to define the PTSD of the intensity of the traumatic experience, given that this differentiation would not result in a differentiation in treatment. However, this will depend on the nature of the empirical data, and in particular on whether individuals with different traumatic experiences require different kinds of treatments.

So far I have been outlining the many criticisms of and possible motivations for the ever-widening PTSD criteria in the DSM. Finally, before closing this section, we should consider where things currently stand with the DSM-V criteria for PTSD, and whether or not any of the criticisms were taken into consideration in this most recent iteration. First, it could be argued that attempts were made to address concerns about the widening criteria for PTSD in the DSM-5. For example, the DSM-5 restricted direct exposure involving medical illness to sudden catastrophic experiences, such as waking up during surgery (DSM-V 2013; North 2016, 199). Additionally, the DSM-5 “allowed witnessed deaths only from unnatural causes and limited indirect exposures among close relatives/friends to violence or accidents and deaths from unnatural causes. Indirect exposure through one’s child’s illness qualified only if it was catastrophic, e.g., life-threatening hemorrhage” (North 2016, 199). Such restrictions of the kinds of events that could count as

26 It could, of course, also be the case that we haven’t developed specific enough treatments for PTSD and that we will one day be able to prescribe more particularized treatments for PTSD. If this were to happen, this would suggest that PTSD might plausibly be split into two different types corresponding to two different treatments: one that results from traumatic events and another that results from subtraumatic events.
traumatic may reflect concerns about overly broad diagnostic criteria. However, in addition to these restrictions on the kinds of trauma that are necessary for a PTSD diagnosis, an additional exposure criteria was added, allowing that individual to come into contact with traumatic materials in a new way. While the DSM-IV allowed three “modes” of experience including direct exposure, witnessed exposure, and indirect exposure through a close friend or loved one, the DSM-V added a 4th mode: “Repeated or extreme exposure to aversive details of trauma (exposure through electronic media, television, movies, or pictures, applies only if work-related)” (DSM-V 2013). This modification reflects an additional widening of the exposure criteria, which could result in an increase in the number of PTSD diagnoses. So far, though, this has not been the case. In fact, a comparative study showed that “the estimated U.S.-based population prevalence of DSM-5 PTSD was statistically significantly lower than the estimated DSM-IV PTSD population prevalence” and “PTSD prevalence according to the DSM-5 criteria was lower than the PTSD prevalence according to the DSM-IV criteria under the other four definitions although not significantly so” (Kilpatrick et al. 2013, 9). This suggests that the DSM-V criteria may have led to a slight decrease in the prevalence of PTSD diagnoses as a result of the new restrictions (and in spite of the additional mode of exposure).

4. Conclusion:

The definition of trauma that is active in the DSM-5TR can be defined as follows:

Trauma occurs when a human individual experiences an event of actual or threatened death, serious injury, or sexual violence through direct experience, by witnessing in person the event as it occurred to others, by learning that the event occurred to a family member or a close friend, or by indirect exposure in the course of occupational duties, through being exposed to grotesque details of an event and when that individual human is also disposed to respond to that event with the following symptoms (for over 1 month): (A) 1 or more Intrusive symptoms (e.g., recurrent, involuntary, and intrusive distressing memories, nightmares, flashbacks,
psychological distress in response to event-related cues, physiological
distress in response to event-related cues), (B) persistent avoidance of
stimuli associated with the traumatic event, (C) Negative alterations in
cognitions and mood associated with the traumatic event (e.g., exaggerated
negative beliefs, persistent negative emotional state ), (C) marked alterations
in arousal and reactivity associated with the traumatic event (e.g., irritable
behavior, reckless or self-destructive behavior, exaggerated startle
response).

Throughout this paper, I have outlined the changes that this definition has been through, specifically
highlighting two main types of changes: (1) The “subjective element” in criterion A1 and (2) The more recent
addition of and expansion of the exposure criteria. The modifications that were made over time led to a
variety of concerns, mostly revolving around a potentially worrisome increase of the number of individuals
that would qualify for a diagnosis of PTSD.

Zooming out, this chapter has been an attempt to show that the conception of trauma we get from
the DSM is importantly tied to its clinical aims. The definitional concerns we see in the DSM are clinically
focused—they revolve around reliable (and objective) diagnoses and successful treatment. Even where
researchers are focused on more mechanistic concerns about natural kinds and projectability, these concerns
are understood clinically, and assessed in terms of the consistency of diagnoses (interrater reliability) and the
likelihood that some proposed treatment will successfully target the class of individuals within the relevant
category. Finally, even where there have been controversial aims, such as concerns about insurance
companies or lobbying from drug companies, these influences are distinctly clinical, in that these influences
are targeted attempts to impact clinical judgements and treatments (although potentially for financial as
opposed to beneficent reasons). This suggests that the conception of trauma we see in the DSM has been
developed over the years with these clinical goals and aims in mind—e.g., reliable and objective diagnoses and
successful treatment. Further, this clinical notion of objectivity is primarily sought in terms of interrater
reliability among clinicians, where degree of agreement among independent observers can be seen as a way of
limiting the influence of ratings of individual clinicians, and so a way to approximate objectivity (understood as minimizing any biasing impact due to individual human judgements) (Kirk and Miller 1986, 19; Ijiri and Jaedicke 1966, 476). This again, is clearly tied to clinical aims. Given that this definition has arisen in light of a very particular set of goals and aims, we should not expect that this definition would fit in other contexts (e.g. the legal or the experimental). Just as with the clinical conception of trauma, these distinct contexts will have their own goals and aims which will give rise to somewhat different conceptions of trauma—a neuroscientific conception, for example, or a legal conception.

In the following chapter I will consider the conception of trauma that we see in neuroscience—and in particular, in animal models of trauma. In chapter 4, I will consider another conception still—arising from a psychodynamic or Freudian orientation. My argument in these chapters will follow the same form: I will argue that the conception we see in these distinct contexts has been developed over time in light of a variety of goals and aims that are specific to that particular context. This means that the conception we see in those individual contexts will not be straightforwardly exportable into other contexts, where the goals and aims are different. Further, objectivity in these realms will turn out to be similarly context-specific, such that different strategies for approximating objectivity will be tied to the goals and aims of the particular context. In the clinical realm, we have seen that the goals and aims of reliable treatment and successful diagnoses pushes researchers to adopt methods of securing inter-rater reliability. In the neuroscientific context and elsewhere, we will see that different goals and aims suggest different methods of approximating objectivity.
Chapter 3: The Laboratory Science of Trauma

1. Introduction:

In chapter 2, I argued that the conception of trauma we see in the DSM is importantly tied to clinical aims. For this reason, I suggested that it would be inappropriate to export this definition of trauma into other contexts where clinical aims either are not present, or are not the focus. Some readers will be thoroughly nonplussed—many have already pointed out that the DSM has had non-medical influences (e.g. Cosgrove et al. 2006; Harrington 2019) and that this single document has been forced to play numerous disparate roles (e.g. diagnosis, insurance billing, operationalization, etc.)(Kutchins and Kirk 1988). Given these arguments, it may be tempting to suggest that the “real” or “objective” conception of trauma will come, not from the DSM, but from the empirical scientists who study trauma (see e.g., Lemoine 2013). Despite its promise, I will resist this temptation. I will begin by exploring the literature on the validity of the animal models used to study psychiatric disorders, such as PTSD (For more on the validity of psychiatric disorders in general see Belzung and Lemoine 2011; for PTSD in particular, see e.g., Yehuda and Antelman 1993). Although the notion of “objectivity” rarely arises explicitly in this literature, there are clear attempts to track the validity of our animal models, which function to minimize the judgements and biases—especially anthropomorphic biases—of individual researchers in a way that approximates objectivity. In other words, the criteria set forth by Yehuda and Antelman (1993) are meant to help researchers determine when an animal model is a good representation of the relevant human disorder, which is required in order for an animal model to even purport to provide knowledge about the human condition. I will suggest that there are two ways of interpreting the background motivations for these validity criteria. We can interpret these attempts to ensure validity either (1) as attempts to recreate/replicate the disorder in the animal such that it is indistinguishable from the human disorder or (2) as attempts to minimize the inevitable differences between the animal and human versions of the disorder at hand. I will interpret these researchers as doing the latter.
For the remainder of the chapter, I will highlight the three main features of the Animal Models Conception (AMC) of trauma which make it inapplicable in other contexts. As before, I will argue that these features of the AMC of trauma will be importantly tied to the goals and aims of the experimental scientist, and so will not be easily transportable into contexts outside the lab. In particular, I will point to (1) The operationalizational limits (i.e., from working with animals), (2) the piecemeal collection of “trauma” models, and (3) the lack of clinical relevance (or requirement of clinical relevance). While these features are important to the success of the AMC, they will not be applicable elsewhere, where the goals and aims are different. Further, attempts at approximating objectivity (where they exist) are focused on the validity of our animal models in particular, and so such strategies will be similarly inapplicable in other contexts where animal models are not being used. Here again, we find that research scientists also do not provide us with a universalizable or objective conception of trauma.

2. Guiding Norms in Translational Research on Trauma and PTSD

a. Traumatic Experiences in Animals

Research on Trauma and PTSD requires a method for traumatizing rats (and other model animals). Methods for traumatizing animals are various and plentiful: forced swim, lights on overnight, lights off (when they were expected to be on), cold stress, social isolation, food and water deprivation, cage movement (e.g., shaking), and immobilization.

In general, methods for traumatizing experimental subjects are distinguished primarily in terms of the etiological stressor. For example, it is common to distinguish the type of model in terms of the type of trauma: Physical stressors, psychological stressors, and social stressors (e.g., Borghans and Homberg 2015; Verbitsky, Dopfel, and Zhang 2020). Among the physical stressors, shock, restraint/immobilization, and underwater stimuli are most common. The psychological stressors usually rely in some way on natural predators. For example, animals might be immobilized in front of a natural predator, or introduced to the scents of their predators (e.g., exposing mice to used cat litter). Finally, social stressors include social instability (e.g., constantly changing cage mates), early life stress (e.g., maternal isolation), or social defeat (e.g.,
suppression by an aggressive animal). There is endless variation along these lines—researchers have not only attempted to vary the stress type, but also the intensity, duration, and frequency (Verbitsky, Dopfel, and Zhang 2020).

b. Measuring Trauma in Animals

What do researchers measure? In research on trauma, researchers are often primarily interested in measuring changes in the brain and behavior in the animal population after a “traumatic event”. For example, researchers might be interested in the way that neurons change—in shape, size, etc.—after a traumatic experience (e.g. Vyas and his colleagues). On the behavioral side, researchers have developed a variety of ways to determine changes in the animals which might reflect some of the changes we see in humans after trauma. For example, researchers sometimes measure activity in the open field maze, where decreased activity is thought to reflect heightened anxiety of dangerous spaces (Conrad et al., 1999). Similarly, researchers sometimes use the elevated plus maze (EPM), which is also used to test anxiety-related behaviors. The maze itself contains two oppositely positioned open arms, two oppositely positioned closed arms, and a center area—where more animal activity in the open (and more dangerous) arms reflects less anxiety and decreased activity in these areas reflects heightened anxiety to fearful stimuli (Rodgers and Dalvi 1997; Vyas et al. 2002). Further, researchers sometimes use changes in fear conditioning as another way of detecting changes in anxiety. In this associative learning test, animals are taught to associate a conditional stimulus (e.g. a tone) with an aversive unconditioned stimulus (e.g., foot shock). Over time, non-traumatized animals develop a conditioned response (e.g., freezing) to both the stimulus (i.e., the tone) and the context (i.e., the room in which learning occurred). In the context of trauma research, traumatized animals often display more freezing during fear conditioning, again reflecting heightened anxiety to fearful stimuli.

Other effects of trauma are sometimes measured as well, although somewhat less frequently. For example, some researchers study memory by presenting animals with an object recognition task, where more

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27 Here I outline a few measures to give the reader a sense of the type of research being done. For a more extensive review of the kinds of measures used in this research, see Verbitsky, Dopfel, and Zhang 2020, esp. Table 2 (“Rodent behavioral tests outlined by DSM-5 criteria for PTSD”).
recognition of a familiar object signals better memory. In this task, mice are presented with an object and allowed to explore—at a later time, they are presented with the same object and a new object. Since mice prefer to explore novel objects, a mouse that ignores the familiar object is taken to remember that object. (Lueptow 2017; Philbert, Belzung, and Griebel 2015). Traumatized mice, however, appear to be indifferent between the familiar and novel objects, possibly indicating impairment in episodic memory (Philbert, Belzung, and Griebel 2015).

c. Operationalization Norms in Trauma Research

Explicit discussion of objectivity in animal research is rare—and outliers to this trend primarily revolve around the difficulty in attributing subjective mental states (e.g., suffering) to animals in a way that is objectively measurable (Wemelsfelder 1997). The primary strategy for approximating objectivity involves complex behavioral analysis and a focus on model validity. We have already seen some of the ways that behaviors—such as avoiding open, dangerous areas—can be analyzed in order to measure subjective states like “fear” in model animals. Outside of developing these objective behavioral measures of subjective states, researchers also attempt to alleviate the impact of bias and improve projectability through model validation. The overall goal of model validation is to maximize the similarity between animal models of PTSD and the human disorder they’re meant to imitate—in turn, allowing us to more successfully generalize the findings from these animal models to human trauma. For example, in a seminal paper for this field, Yehuda and Antelman (1993) outlined five criteria which are often used to grade how comparable an animal model is to human PTSD.

Their first criterion emphasizes the capability of brief exposures to induce PTSD-like symptoms in animals, mirroring the onset of symptoms in humans following traumatic stressors like natural disasters or violent assaults. The resulting PTSD-like symptoms should be accessible through both biological symptoms, such as disturbances in the neuroendocrine or neurotransmitter systems involved in mediating stress responsivity, as well as behavioral symptoms, such as freezing or hiding.
Second, traumatic stressors should be capable of producing symptoms in a dose-dependent or intensity-dependent manner. This second criteria was meant to capture the way in which traumatic events were thought to be “produced by a threshold ‘dose’ of stress that is ‘outside the range of normal experience’ or at least traumatic enough to produce the requisite symptoms of PTSD” (Yehuda and Antelman 1993, 481). Oddly enough, Yehuda and Antelman seem to be relying on an older, psychodynamic understanding of trauma, whereby the traumatic experiences were thought to overwhelm the brain’s memory system and interfere with its normal functioning. This idea was, for a while, enshrined in the DSM definition of trauma, which required that traumatic events be “outside the range of normal human experience”—hoping to capture the ways in which more “extreme” life events seem to be more likely to give rise to PTSD. But researchers and clinicians quickly pointed out that many plausible traumatic stressors such as being the victim of a crime or being involved in a violent automobile accident are not necessarily outside the range of “normal human experiences” as the definition requires (Spitzer et al 2007, 235). This definition of traumatic events was later abandoned in favor of a list of qualifying experiences (i.e., exposure to actual or threatened death, serious injury, or sexual violence). Given this change, Yehuda and Antelman criteria should also be modified in turn—if PTSD diagnoses are not thought to require statistically rare events, then animal models should not either. –

Yehuda and Antelman’s third criteria specifies that the traumatic stressor should produce biological alterations that persist over time, or become more pronounced over time—again, as they do in humans with PTSD (See also, Richter-Levin, Stork, and Schmidt 2019, 1141). This excludes, for example, any stressors which give rise to short-term changes in behavior that do not reoccur as time passes—and any studies that only study short-term reactions to stressors. These shorter-term post-traumatic reactions could still potentially act as predictors for longer-term reactions, but short-term reactions alone do not constitute a PTSD-like response. Complicating matters further, PTSD symptoms in humans can sometimes be delayed, or resolve completely, and then relapse again—all of which should be possible in our animal models as well.

Fourth, Yehuda and Antelman argue that biological and behavioral alterations should be bidirectional—as they are in humans. Individuals with PTSD often display “bidirectional manifestations of
both enhanced (intrusive reexperiencing) and reduced (avoidance and/or numbing) responsiveness to environmental stimuli that recall the initial trauma” (Yehuda and Antelman 1993, 481-482). As such, we want our models to display these same bidirectional alterations.

Finally, we should expect to see interindividual variability in response to the stressful event (as a function of experience and/or genetics). Although an incredibly high number of people experience PTSD-qualifying traumatic experiences in their lives, only a few of those individuals actually go on to develop PTSD. In other words, some humans are more “resilient” in the face of traumatic experiences than others. Given that we are attempting to model and learn about PTSD in humans, we hope to capture this same effect in our rodent models—some rodents should be resilient in the face of trauma, while others more likely to develop PTSD (See also, Richter-Levin, Stork, and Schmidt 2019, 1144). A model that does not distinguish between these subpopulations, for example, would score low on this particular criterion (see, e.g., Zoladz, Fleshner, and Diamond 2013).

Despite the increasing age of Yehuda and Antelman’s criteria, they continue to serve as the primary benchmark for assessing model validity in PTSD animal research (e.g., Verbitsky, Dopfel, and Zhang 2020). However, recent research in humans has led to the incorporation of an additional significant criterion: the exploration of potential risk factors that may explain why some individuals are resilient in the face of trauma and others develop PTSD (Kessler et al., 2005). Richter-Levin, Stork, and Schmidt (2019), for example, suggest that animal models reflecting transgenerational epigenetic effects and genetic background could help us to better understand the relationship between potential risk factors and resilience in the face of traumatic experiences.

On a first pass, we might be tempted to suggest that these researchers are attempting to ensure validity and generalizability by recreating or replicating the disorder in the animal, such that it is indistinguishable from the human disorder. If the goal, for example, is to study human trauma then we want our models of animal trauma to match the human condition of interest. However, when we look at the way this process of operationalization in animal models is discussed, it is not generally described in terms of a
perfect match. In fact, researchers seem duly aware of the ways in which research on animals is limited in light of the limits of operationalization in animals. Verbitsky and colleagues, for example, explicitly note that “In rodents, as in humans, different traumas can cause different PTSD-like symptoms. Each with their advantages and disadvantages, there is no single model that serves all purposes.” (Verbitsky, Dopfel, and Zhang 2020, 13). Instead, various aspects of the disorder are modeled, and the use of any particular model is justified in terms of its ability to capture just some of the symptoms or other important characteristics of PTSD in humans. Yehuda and Antelman themselves describe their target as a "PTSD-like syndrome" (1993, 481). This suggests that it would be more charitable to read these researchers as attempting to minimize the inevitable differences between the animal and human versions of the disorder at hand. This interpretation places the limitations of animal research at the forefront of our theorizing, and encourages reasonable humility about the translational findings from animal research. Further, the focus on model validation as a way of minimizing bias (especially anthropomorphism) is clearly specific to contexts in which animal models are being used—and likely inapplicable in contexts where model matching and anthropomorphism are not the main concerns. This brings us to the first theoretical upshot of the AMC.

3. Theoretical Upshots

Now, I want to highlight 3 features of the AMC of trauma that make it inapplicable in other contexts: (1) The operationalizational limits (i.e., of working with animals) (2) the related piecemeal collection of “trauma” models, and (3) The lack of clinical relevance (or requirement of clinical relevance).

(1) The operationalizational limits (i.e., from working with animals) and (2) the piecemeal collection of “trauma” models

As we have already seen, there is no single model of trauma in animals, and instead, we have a collection of models which attempt to approximate different features of human trauma. Further, I have suggested it would be uncharitable to interpret these researchers as attempting to recreate human-type trauma in animals. In animal studies on trauma in particular, the task is to create a class of individuals who have had the right sorts of traumatic experiences and to see how their brains or behavior has changed as a result of
these experiences. However, the goal is not to capture human trauma 100% accurately in a mouse or rat—that would be impossible—but to capture as many of the important features of trauma as closely as possible in animals, so that we can engage in research practices that would be impractical or unethical on humans (Yehuda and Antelman 1993). Importantly, though, this suggests that the AMC of trauma may not adequately capture the nature of traumatic experiences in humans—at least, not in a way that would allow us to export this definition into other contexts. We could not, for example, use these models to determine whether an individual deserved financial compensation for their experiences (i.e., in the legal context), nor could we use these models for clinical diagnosis (i.e., in the clinical context). This definition is not necessarily more objective than others. In fact, it is based on our existing definition of human trauma. In other words, these models are designed to emulate our understanding of human trauma, which means they depend on our preconceived definitions of human trauma in order to get started. In particular, the concern is specifically about the role of operationalization in this experimental context.

The first thing to note is that this point—about the limitations of animal models—is not meant to be a criticism, but simply a feature of translational research. In many cases, we choose to do research on animals because it would be unethical or impractical to do that same research in humans (e.g. traumatizing people in the lab, testing new pharmaceuticals, etc.)—but researchers are aware that this creates new and different kinds of limitations. Journals publishing translational research are filled with reminders of these trade-offs: “...we must remember that the aim of animal models in, say, heart failure, is to simplify an extremely complex syndrome, often complicated by multi-factorial aetiologies, into manageable research questions. This generally results in a trade-off between convenience and physiological applicability” (Lal, Li, and dos Remedios 2016, 165). In the context of trauma in particular, Verbitsky et al remind us that “...these models are simplified representations of a complex condition” (Verbitsky, Dopfèl, and Zhang 2020, 2). Similarly, Cohen et al. suggest that “In the case of PTSD, a handful of behavioral responses to stress stimuli can be objectively assessed, but unfortunately, a number of core symptoms cannot. Vigilance and hyper-arousal and to some degree avoidance of reminders of the event and decreased interest in activities can be modeled, as can the hyper-responsiveness to trauma cues or reminders. Intrusive memories and dreams, dissociative aspects, and
the affective numbing cannot” (Cohen, Matar, and Zohar 2014, 234). In fact, similar warnings are common in textbooks on translational research more broadly. For example, in a recent textbook on Clinical and Translational Science, Seely and Grinspoon point out that “The results of human experimentation are almost always relevant, whereas data from basic research in in vitro and animal models, though often obtained in models with less confounding, may or may not be relevant to the human condition and thus require further testing in humans” (Seely and Grinspoon 2017, 10).

So, to be clear, I am not attempting to criticize animal research because it can fail to adequately capture information relevant to humans—I take this to be an assumption of translational animal research. Instead, I want to suggest that the task of operationalization shapes the concepts at play—in this case trauma—as well as the strategies for approximating objectivity in a way that makes the resulting concepts inapplicable in other (especially human-centric) contexts.

Not only is this trade-off between human and animal research often explicitly cited in discussions of methodology, but researchers often implicitly indicate that their models are not 1:1 matches of the relevant human phenomena. In the context of trauma, researchers often describe the animal models in terms of “chronic stress”. For example, a highly cited review on animal models of PTSD distinguishes the three most common types of PTSD models in terms of their etiological stressor—in particular, there are the “physical, psychological and social stressors” (Borghans and Homberg 2015; emphasis added). This may be because these animal models do not seem to adequately capture the nature of “traumatic experience” as it is described by humans (Borghans and Homberg 2015). It is unintuitive to talk about “traumatized” rats and mice when our more colloquial notion of trauma involves particularly human capacities: flashbacks, nightmares, self-blame, shame, etc. In other words, researchers are leery of using the word “trauma” to describe the experience of these rats, while finding it uncontroversial that rats could undergo “stressful” experiences that could induce PTSD-like symptoms.28

28 This also further distinguishes the AMC from the conception of trauma that arises in the DSM. Historically, for example, psychologists have been quick to distinguish between “stress” and “trauma”—arguing that certain kinds of
This tendency to both implicitly and explicitly differentiate the human and animal versions of “trauma” fits well with philosophical theorizing about operationalization, a process by which abstract concepts—trauma, for example, or happiness, or temperature—are given quantitative values in concrete situations (Chang 2004, 208). The abstract concept hunger, for example, might be operationalized as "elapsed-time-since-feeding". This operationalization, though, may fail to capture every feature of the concept of “hunger” we might care about (e.g., energy expenditure of the animal). But, this is to be expected for operationalizations. Uljana Feest, for example, argues that historically, when operationalizing a given psychological term, “psychologists did not intend to say, generally, what constitutes the meaning of a scientific term.” (Feest 2005, 133). Instead, “scientists were partially and temporarily specifying their usage of certain concepts by saying which kinds of empirical indicators they took to be indicative of the referents of the concepts (Feest 2005, 133). In the context of PTSD research, experimentalists take certain aversive stimuli (e.g., immobilization) in combination with certain behavioral changes (e.g. decreased exploration of dangerous spaces) as indicators of psychological trauma (and relevantly similar to human-trauma).

Consider again the example from Chapter 1: The operationalizations of human happiness. We could choose to operationalize happiness as “self-reported occurrent well-being” or “self-reported feelings of pleasure”. However, many of us would argue that these operationalizations seem to miss much of what is relevant to happiness including perhaps, overall well-being, long-term mood, life success, etc. And arguably, choosing any one of these models will result in the same problem—namely, it will only pick out one or a few of the important elements of what we intuitively consider “human happiness”. Something similar will surely be true of our operationalizations of the concept of trauma. Consider, for example, the methods of operationalization discussed above. In most cases, we subject an animal to some extreme stressor, such as electric shock or immobilization stress, as seen in the study above. Although we can be fairly certain that these experiences are unpleasant, it is not obvious that these creatures are capable of experiencing “trauma” in the same way that it is experienced by humans. As just one example, many people who have had traumatic experiences could be stressful, but not traumatic (Krupnik 2019). But, in the neuroscience of trauma, this distinction seems to fall aside.
experiences describe a dramatic shift in their worldview—where before they were able to believe that the world was safe (or, at least, fairly safe for them), after their traumatic event, they could no longer continue to hold such a belief (Brison 2002; Freedman 2006). Such shifts in worldview presumably do not occur in rats and mice, and yet, may be an important aspect of human trauma. In particular, the behavioral measures used to verify these kinds of PTSD models—such as performance on an elevated plus maze—do not obviously reflect the kind of shifts in worldview we see in adult humans.

These difficulties are, in part, particular to the operationalization of human centric concepts. In physics, where non-human centric concepts dominate, operationalization fits a two-step process (see fig. 1). We start with a theoretical concept, such as TEMPERATURE. At this stage, our target definition is often purely mathematical, containing only symbols/variables and universal constants without any numerical values for any concrete physical properties—absolute temperature, for example, is defined as \( T_1/\Omega_1 = T_2/\Omega_2 \) (see fig. 2).

Then we begin the imaging process, whereby we outline a concrete image or model of the concept at hand—in other words, we outline a way in which this abstract theoretical concept could be actualized. In the case of temperature, the expansion of an ideal gas fits these mathematical constraints. This image or model, though, is made with concealible physical objections, relations, and operations, not actual, real-world versions—the model is not itself real. Real world phenomena come in during the next stage: matching. During this matching stage, we look for an actual physical system of entities and operations that matches up with the
model or image we have proposed. Such a physical system may or may not exist in the real world—Aristotle, for example, proposed a potential model or image of the mind as a system of hydraulics, but that system is not actualized in the real world, so no matching can occur between the model and the real world system (see fig 3). One of the main appeals for this particular model for TEMPERATURE, in fact, was the potential for matching to real world phenomena: a gas thermometer wherein gas is heated in a cylinder with a piston pressing down on it allows us to use the ideal gas law to calculate temperature. This allowed for TEMPERATURE, an abstract equation, to be operationalized and measured with thermometers.

The difficulty, I suggest, is that animal models of human centric concepts—HAPPINESS, TRAUMA, and perhaps MIND as well—do not fit this model as perfectly as other concepts, such as temperature. In the case of temperature, we begin with a concept, look for a model which would actualize that concept and allow us to measure it, and then see if that model actually exists in the world. Then, if we find that no such matching can be done, we reject the model or image and look for a new one. In human-centric concepts, the order of operations is different: the abstract concept or system at hand just is the real-world phenomena we are attempting to match. We do not start with an abstract concept of TRAUMA, then create a model of that concept and then look for systems in which that model is active (e.g., humans, animals, cities, families, etc.). Instead, the abstract concept we hope to operationalize in animal models of trauma is more specifically HUMAN TRAUMA, which we define in light of research and theorizing about human’s

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**Fig 3. The two-step process of operationalization applied to Aristotle hydraulic system of mind.**

**Fig 4. The two-step process of operationalization applied to trauma.**
who have experienced trauma (see fig. 4). Then, we create a facsimile of that human concept in an animal model, in order to engage in research practices that would not be possible in humans. What we care about here is not trauma broadly construed, but human trauma in particular—otherwise we might be more tempted to study trauma in invertebrates, or artificial minds—or without the kinds of criteria that Yehuda and Antelman outline.

This creates circularity in the process of operationalization: When we operationalize human-centric psychological concepts such as trauma, love, or happiness, for example, we are attempting to create a measure of a human phenomena within a non-human model—and then checking the conclusions we draw against the human phenomena we are attempting to study. The starting point is our theory of human trauma, but this is also what we hope to learn about through our research. This means that when we receive unintuitive results—or results that do not confirm our hypotheses about human trauma—there are a variety of potential explanations for those results: (1) it could be that our theory of human trauma is wrong or misinformed, giving rise to an image that does not actually suit our purposes. Or, (2) it could be that our model is not well matched—our theory of human trauma, in this case, is correct, but our animal model fails to capture the relevant features in a way that would allow for discovery or progress. Or, (3) in the best case scenario, we could have learned something new, but intuitive—or disconfirmed our hypotheses—about human trauma. The problem is telling these different situations apart: How do we know when we have learned something new as opposed to when we have errors in imaging or matching? Importantly, this problem arises due to the circularity inherent in the process of operationalization—and in particular, the operationalization of human centric concepts in which the psychological concept is both our “base” and our “target”.

Despite the inherent difficulties associated with operationalizing human-centered concepts in animal models, animal research into these concepts can be—and has been—incredibly fruitful. PTSD is a complex disorder, complicated more by the influence of the traumatic event (e.g., event type/intensity), of individual differences (e.g., resilience, adverse life events, etc.), and of environmental factors (e.g., social support). Human research on trauma is especially difficult to do, for both practical and ethical reasons. Practically, field work is difficult, given that many traumatic events—bombings, natural disasters, etc—are difficult to predict
or study in real time. For obvious ethical reasons, much is off the table: we cannot induce PTSD by exposing individuals to traumatic events in the lab, nor can we test potential drug treatments in human populations. Animal research helps on all of these fronts: It allows for the possibility of investigating PTSD in a controlled environment, with a simple system, as the disorder develops—with the added possibility of research on drug interventions and treatments.

Operationalization is a big part of what makes this kind of animal research possible. In other words, in the experimental context—even with animals—we need to know what will count as trauma in order to study the relevant class of individuals. So, I am not here suggesting that we should give up on operationalization all together—that would be, in my mind, to give up on the possibility of the AMC of trauma. But the seemingly necessary failure of any one operationalization of trauma does suggest that we should be cautious in overapplying this empirical conception of trauma—or of those who might claim that this experimental conception of trauma is the most legitimate or objective conception of trauma. In other words, we should recognize the order of operations here: Researchers first have an idea or concept in mind—of trauma, or happiness, or whatever it may be—and then they attempt to model that concept as best as they can in animals (while recognizing limitations). This means that the models that they make use of should not be taken to be the only or best definition of trauma—they are better thought of as helpful tools which may approximate (in some respects) the concept we care about understanding in humans.

(3) The lack of clinical relevance (or requirement of clinical relevance)

The limitations of animal research give rise to the possibility that research on animals will fail to be applicable in the human case. In the case of PTSD, this means that some animal research will sometimes fail to have clinical relevance. Recall the warning from a textbook on Clinical and Translational Science: “The results of human experimentation are almost always relevant, whereas data from basic research in in vitro and animal models, though often obtained in models with less confounding, may or may not be relevant to the human

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29 This may, for example, be an implication of certain kinds of reductive accounts, which posit that the “true” or “prioritized” level of explanation will come from “lower-level” sciences, such as cellular and molecular neuroscience (e.g., Bickle 2003).
condition and thus require further testing in humans” (Seely and Grinspoon 2017, 10). In other words, because of the distance between animal models of trauma and human trauma, it is likely that animal research on trauma will sometimes fail to give insights into the human condition. This could be because the model we have created is not similar enough—or similar in the right ways—to human trauma (e.g., a failure of modeling in the 1st step of operationalization; see figure 4). Or, it could be that research findings are inaccurate when applied to humans (e.g., a failure of matching in the 2nd step of operationalization; see figure 4), or that the conclusions are clinically inapplicable for more pragmatic reasons. For example, when researchers consider the connection between traumatic experiences and changes in the dendritic spine length of particular populations of neurons, it is not obvious that this research is clinically relevant—there is no way, for example, to measure the dendritic spine length in human patients, or to see how their neurons have changed over time in response to stressful events. Further, we might think that even if we did have such objective neuronal measures, it would be strange to implement them within the clinical setting. Consider, for example, a patient who shows all of the characteristic symptomology of PTSD, and a qualifying traumatic experience—say, a paradigmatic wartime traumatic experience—but who did not show the relevant changes to their dendritic spines. We might think that such a person should still receive clinical care, despite “failing” the relevant objective measures.

To be clear, I do not mean to deny the existence of clinically-relevant research on trauma using animal models (e.g., see Daskalakis, Yehuda, and Diamond 2013, esp. pgs. 6-8 for more info on the successful use of translational research in discovering potential treatments for PTSD). Nor do I deny that many researchers hope that their findings will one day become clinically relevant. Instead, I suggest that researchers in these fields are not required to show clinical relevance in order to successfully engage in or publish research—mechanistic research on trauma in animals can develop and progress successfully without necessarily advancing clinical assessment or treatment of PTSD. As above, with the piecemeal nature of animal models, this lack of clinical relevance is embedded in how translational research is characterized. For example, when justifying translational research, researchers often refer to potential future findings that could be informed by the current (perhaps more basic) research. For example, while it is not clear how changes in
dendritic spine length could themselves be clinically relevant for diagnosis, this mechanistic information about neurons may inform future research on possible treatments which may target or reverse these neuronal changes. For example, Yehuda et al write that “Animal models of psychiatric disorders have been useful in elucidating connections between behavioral symptoms and biological abnormalities and in suggesting possible treatment strategies for psychiatric disease” (Yehuda and Antelman 1993). I take it, however, that this is a longstanding goal of translational research, not a requirement for any individual research study. In other words, our goal in researching PTSD in animals is to better understand the biology of the disorder, so that we will be able to translate this mechanistic information into better treatments in the future.

Some might suggest that the lack of clinical relevance is not a feature of the AMC, but a bug (e.g., Cohen, Matar, and Zohar 2014). For example, we might think that without this requirement, research is likely to be inapplicable to human cases of trauma. First, some researchers may be interested in animal trauma in its own right, and for non-translational reasons. Researchers focused on animal well-being, for example, may want to understand the nature and course of animal trauma in particular (e.g., van der Staay, Arndt, and Nordquist 2009). Further, it seems plausible that we are not well equipped to know ahead of time, which mechanistic findings are likely to contribute to clinical practice and which are not. This means that any attempts to steer research in the clinical relevance direction is likely to fail. Instead, it may be more fruitful to study mechanistic details in animals without the requirement of clinical relevance, in the hopes that some of these mechanistic details will lead to clinical upshots in the future. To require this relevance now, before we know what these new therapies are or how they will work, will likely lead us to overlook important mechanistic details—which may be the key to treatment.

4. Conclusion

The definition of trauma that arises from the AMC can be defined as follows:

Trauma occurs when model organism (that approximates humans in an evolutionarily important way) experiences a negatively valenced physical, psychological, or social stressor (e.g., shock, restraint/immobilization,
exposure to predators, social instability, early life stress, social defeat, etc.) and when that model organism is also disposed to respond to that event with the biological and behavioral sequelae of PTSD in a dose-dependent manner that persists or becomes more pronounced over time, where those symptoms have the potential for bidirectional expression, and reproduces the population-level variability of human post-traumatic responses.

Just as we saw with the clinical conception, the conception of trauma that arises from the laboratory sciences is developed in light of the goals and aims—and limitations—of the experimental context. In particular, I have identified 3 features of the experimental conception of trauma that arises from animal research which make it inapplicable in other contexts: (1) The piecemeal collection of “trauma” models (2) The operationalizational limits (i.e., from working with animals), and (3) The lack of clinical relevance (or requirement of clinical relevance). Further, the focus on model validation as the main strategy for approximating objectivity and increasing generalizability are clearly tied to the animal research context—such strategies will be inapplicable in other contexts where other concerns reign (e.g., the problem of inconsistent clinical judgements in the clinical realm). This suggests that the conception of trauma we see in animal research as well as the main strategy for approximating objectivity has been developed over the years with these experimental goals and aims in mind—e.g., accurate modeling, mechanistic discovery, use of animals.

While I do not want to belittle the importance of this research, I do not think this conception will be successful in other, non-experimental contexts, in large part because of the way that scientific operationalization functions (Chang 2004; Feest 2005; 2010). Given that this definition has arisen in light of a very particular set of goals and aims (and limitations), we should not expect that this definition would fit in other contexts (e.g. the legal or the clinical). Just as with the clinical and experimental conceptions of trauma, other distinct contexts will have their own goals and aims which will give rise to somewhat different conceptions of trauma and strategies for achieving objectivity—a legal conception, or a Freudian psychodynamic conception.
In the following chapter I will consider a popular psychodynamic conception of trauma—arising primarily from Bessel van der Kolk and Freud. My argument in this chapter will follow the same form: I will argue that the conception we see in this context has been developed over time in light of a variety of goals and aims that are specific to that particular context. This means that the conception we see arising from this Freudian picture will not be straightforwardly exportable into other contexts, where the goals and aims are different. In this case, the problem arises in large part due to scientific plausibility of the view—despite its cultural and clinical significance, the view is scientifically inaccurate, and so clearly could not be exported into scientific contexts. Further, objectivity will turn out not to play a very central role in this conception, suggesting that this conception will not be more “legitimate” in terms of objectivity.
Chapter 4: How Does the Body Keep the Score? Shadow Theories in Clinical Psychology

1. Introduction

One popular conception of trauma presents traumatic experiences as overwhelming our memory systems in a way that encourages memory distortions of various kinds. Consider a few examples:

“[Children] survive by denying, ignoring, and splitting off large chunks of reality: They forget the abuse; they suppress their rage or despair; they numb their physical sensations…Many adults who survive terrible experiences are caught in the same trap.” (Van der Kolk, 300).

“After suffering psychological trauma, people can repeatedly experience sensory-perceptual impressions of the event, which intrude involuntarily into consciousness (Ehlers & Steil, 1995; Michael, Ehlers, & Halligan, 2005). These “intrusive memories” typically take the form of visual images (e.g., pictures in the mind's eye), but can also include sounds, smells, tastes and bodily sensations (Ehlers, Hackmann, & Michael, 2004), and come with a range of negative emotions associated with the “hotspots” in the trauma memory (Grey & Holmes, 2008). For example, after having a head-on collision in their car, a person may describe intrusive images of seeing “dust and smoke, debris everywhere” and hearing the “bang” of the airbags (Iyadurai et al., 2017)” (Iyadurai et al. 2019, 68).
“People suffering from various psychiatric disorders, including PTSD, often complain that their memory is not as good as it used to be” (McNally 2005, 820).

“The nature of traumatic dissociative amnesia is such that it is not subject to the same rules of ordinary forgetting; it is more, rather than less, common after repeated episodes; involves strong affect; and is resistant to retrieval through salient cues” (David Spiegel 9, 6).

These quotes highlight a variety of different ways in which memory may be altered after traumatic experiences including: (1) Denial/Avoidance/Suppression, (2) Intrusive ideation (while awake or in nightmares), (3) Hyperfocus on certain details of the event (e.g., smells, sounds, etc.), (3) Increased everyday forgetting (forgetting day to day details/facts more frequently than expected) (4) Traumatic amnesia (forgetting the content of the traumatic event itself).

Readers familiar with the “memory wars” will recognize that some of these types of memory distortions are much more controversial than others: Can trauma survivors truly forget their experiences? Are they repressed in a way that makes them inaccessible to the subject, and re-accessible through hypnosis? According to one very popular conception—made popular by Bessel van der Kolk in The Body Keeps the Score—the answer is yes. In the broadest terms, Van der Kolk argues that traumatic experiences often overwhelm our memory systems in a way that interferes with their proper functioning, opening up the possibility that trauma survivors may come to forget their traumatic event(s), while still being deeply impacted by those experiences through somatic and behavioral effects. In these cases, the traumatic memories come to be “entirely organized on an implicit or perceptual level, without an accompanying narrative about what happened” (Van der Kolk and Fisler 1995, 512). There is considerable controversy over whether people can

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30 For more on the history of the “memory wars” in psychology, see e.g., Crews (1995).
31 For skepticism about these possibilities, see e.g., McNally 2005; Otgaar, Howe, and Patihis 2022. According to his arguments, repression to the point of forgetting is unlikely, and if possible (e.g. in the case of children) seems likely to be very rare.
actually repress and lose access to traumatic memories as van der Kolk suggests (De Brigard 2023). A core finding in memory science is that vivid, personally significant, one-of-a-kind events tend to be easier, not harder, to remember (Brown and Kulik 1977; White 1989; Linton 1982). The idea that the explicit memory system can be overwhelmed by emotional events and driven to reverse that generalization, allowing for the loss of trauma memories, has proved difficult to establish experimentally and has been roundly criticized (e.g., McNally 2005). Despite the years of controversy surrounding this particular kind of repression and traumatic amnesia, these ideas have continued to be popular in the clinical realm as well as in more public-facing discussions of trauma (e.g. in the media) (Otgaar et al. 2019; Otgaar, Howe, and Patihis 2022). A recent study, for example, found that “...the topic of repressed memories remains active in clinical, legal, and academic settings. We show that the belief in repressed memories occurs on a nontrivial scale (58%) and appears to have increased among clinical psychologists since the 1990s” (Otgaar et al. 2019). This suggests that while some clinical researchers may feel like the question has been settled, other important players in the field have not been sufficiently convinced (e.g., Brewin 2018; Brewin et al. 2019). In such a stalemate, careful consideration as to why this outdated and controversial perspective continues to persist could potentially help to move the debate forward in a more productive way.

For this reason, in this chapter, I set aside these questions concerning the empirical plausibility of repressed traumatic memories or traumatic amnesia. Instead, I attempt to understand the continued popularity of this particular theory about trauma and memory: Why are clinicians and patients so wedded to the idea that traumatized individuals repress and forget their traumatic events?32 In sketching a possible answer to this question, I begin by outlining an interesting feature of clinical psychology that may explain this continued support: The need for what I call “shadow theories”. More specifically, the DSM does not provide much “theory” underlying the symptomatology of trauma and PTSD, but instead only provides a method of diagnosis. This leads clinicians to make use of a “Shadow Theory” operating behind their clinical practices. I will briefly outline one influential “Shadow Theory” for PTSD that has been explicitly enshrined by Van der

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32 For evidence for the continued popularity of these ideas, see Otgaar et al. 2019, 2021.
Kolk (with its roots in Freud and other psychotherapists), and suggest that something similar is likely to occur in many DSM categories where theory is absent. In the case of PTSD, the relevant Shadow Theory is highly contested (especially those aspects referring to memory repression and traumatic amnesia) and yet continues to be incredibly pervasive among clinicians and popular audiences. This way of understanding the continued success of the psychodynamic account of trauma—including the possibility of repression and traumatic amnesia—suggests that this popular Shadow Theory may persist until alternatives are offered as replacements.

In the clinical realm, where treatment is the primary focus, it is not surprising that this intuitive Freudian model continues to be popular—and frequently effective in helping people work through their traumatic experiences (Lilienfeld 2011). Insofar as the goal of objectivity arises in this context, it involves unifying clinicians' reports of their patients and their paths to recovery. However, the empirical concerns regarding the underlying view of these successful treatments render the conception unsuitable for alternative contexts where treatment isn't the primary objective, and other goals are emphasized instead. Van der Kolk’s theory, although clinically unifying, will not serve our broader unifying goals. In this case, the problem arises in large part due to the scientific implausibility of the view. Despite its cultural and clinical significance, the view is scientifically very controversial—and possibly thoroughly inaccurate—and so clearly could not be exported into scientific contexts, where treatment-related goals are pushed to the back burner, and concerns about objectivity are at the forefront

2. The Shadow Theory

The American Psychiatric Association describes the DSM as

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While Freud himself was interested in both the veracity of his theories and the effectiveness of his treatments, he did not seem to consider the possibility that these could come apart. He argued that the efficacy of treatments was evidence in favor of the theory: Freud was convinced that veracity and efficacy were inextricably connected, that only interpretations that ‘tally with what is real’ are effective and mutative ones” (Eagle 1980, 406).
“...the handbook used by health care professionals in the United States and much of the world as the authoritative guide to the diagnosis of mental disorders. *DSM* contains descriptions, symptoms and other criteria for diagnosing mental disorders. It provides a common language for clinicians to communicate about their patients and establishes consistent and reliable diagnoses that can be used in research on mental disorders” (“American Psychiatric Association - Frequently Asked Questions”).

Note that the DSM contains “descriptions, symptoms and other criteria for diagnosing mental disorders,” but does not contain theories or mechanistic information about these mental disorders. It doesn't tell us, for example, *why* someone develops PTSD (as opposed to being “resilient” in the face of trauma) nor does it tell us *how* the disorder works (e.g. neurologically, biochemically, etc.). Instead, it largely describes the *symptoms* of the disorder. Consider the DSM entry for PTSD (in individuals over 6 years of age):

**A. Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways:**

  a. Directly experiencing the traumatic event(s).

  b. Witnessing, in person, the event(s) as it occurred to others.

  c. Learning that the traumatic event(s) occurred to a close family member or close friend. In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental.

  d. Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse).

**B. Presence of one (or more) of the following intrusion symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred:**
a. Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s).

b. Recurrent distressing dreams in which the content and/or affect of the dream are related to the traumatic event(s).
   
i. Note: In children, there may be frightening dreams without recognizable content.

c. Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring. (Such reactions may occur on a continuum, with the most extreme expression being a complete loss of awareness of present surroundings.)

d. Intense or prolonged psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

e. Marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

C. Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred, as evidenced by one or both of the following:

   a. Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

   b. Avoidance of or efforts to avoid external reminders (people, places, conversations, activities, objects, situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

D. Negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

   a. Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia and not to other factors such as head injury, alcohol, or drugs).

   b. Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g., “I am bad,” “No one can be trusted,” “The world is completely dangerous,” “My whole nervous system is permanently ruined”).
c. Persistent, distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.

d. Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame).

e. Markedly diminished interest or participation in significant activities.

f. Feelings of detachment or estrangement from others.

g. Persistent inability to experience positive emotions (e.g., inability to experience happiness, satisfaction, or loving feelings).

E. Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

a. Irritable behavior and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects.

b. Reckless or self-destructive behavior.

c. Hypervigilance.

d. Exaggerated startle response.

e. Problems with concentration.

f. Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep).

F. Duration of the disturbance (Criteria B, C, D, and E) is more than 1 month.

G. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

H. The disturbance is not attributable to the physiological effects of a substance (e.g., medication, alcohol) or another medical condition.

These criteria hold very little explanatory or mechanistic information that could be construed as a theory of psychological trauma. In fact, to this point, the text begins with “The essential feature of posttraumatic stress disorder (PTSD) is the development of characteristic symptoms following exposure to one or more traumatic
events” (DSM-5-TR). This outlines a “syndromic” understanding of trauma, where the disorder is primarily defined in terms of atheoretical observational criteria.34

Criteria A1 may hold some theoretical information by pointing to the etiological features of PTSD, requiring that an individual must have experienced a “qualifying” traumatic experience. This could suggest that the DSM is wedded to the claim that PTSD only (or, most commonly) occurs in cases where an individual is exposed to actual or threatened death, serious injury, or sexual violence. First, note that this is non-standard for the DSM. Other DSM categories, including depression, schizophrenia, generalized anxiety, and many others, do not contain this kind of etiological information in their criteria.35 But even in this case—where there is etiological information required for the PTSD diagnosis—there is no attempt to explain why PTSD only occurs in people with experiences of this sort, nor does it specify any mechanisms by which some individuals develop PTSD after experiences of this sort, while others do not. A clinician using only the information in the DSM would be stumped, for instance, by the following question: Why did I develop PTSD, while my brother did not, even though we experienced the same childhood abuse? So, although the DSM criteria for PTSD is “theory-laden” in an important sense (e.g. of relevance to philosophers of science)36, it does not purport to explain why these events (and not others) would give rise to these symptoms—just that they do. Even where theoretical information is implied by the DSM criteria, it is not

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34 When this is discussed in the literature, it is usually outlined as a flaw. For example Tabb (2015) highlights a common narrative in critiques of the DSM according to which the writers of the DSM made a mistake when adopting this an operationalist stance that focused on syndromes defined by atheoretical observational criteria. This error, critics suggest, made applying diagnoses simple, but learning about their mechanisms more difficult. For examples of this style of criticism, see Andreasen (2007) and Kendell and Jablensky (2003).

35 In some cases, different disorders are distinguished from one another with something like etiological or causal-theoretical information. For example, in the criteria for generalized anxiety disorder it is required that “The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition (e.g., hyperthyroidism)” (DSM-5). This is, however, a very thin bit of theory—implying that anxiety disorder is not caused by drug abuse (for that would be a different disorder, addiction). But again, as with PTSD, this is a very thin bit of theory—it doesn't tell us why this non-addicted individual might have developed anxiety, nor does it say anything about how that anxiety works in the brain.

36 Questions of theory-ladenness in philosophy of science revolve around the “...possibility that scientific theory influences scientific observation” (Brewer and Lambert 2001, S176). DSM entries may be theory-laden in this sense, without providing the kind of theoretical information that would be useful in the clinical context (e.g., a theory of trauma would explain why some individuals develop PTSD and others do not, despite experiencing the same event).
explained in terms of some overarching theory of trauma or PTSD, nor in terms of mechanistic information about how the disorder works on a psychological, neurological level, or biochemical level.

This focus on symptomatology is not necessarily accidental and may reflect an important aim in the psychological and clinical sciences. In particular, psychopathology researchers have traditionally been interested in maximizing interrater reliability - where the goal is to ensure that clinicians looking at the same patient (or patient information) will be likely to make the same diagnostic and treatment decisions (Kraemer et al. 2012). So, while this approach helps make diagnoses consistent from clinician to clinician, the particular focus on interrater reliability leaves clinicians in an odd position. If they were to limit themselves only to the DSM criteria in informing their treatment, they would lack a lot of explanatory information that might be useful (or even required) in the clinical setting. How would the clinician use the DSM to help a patient who wonders “Why did I become traumatized by my childhood experiences, but not my sister?”

Further, defining psychological disorders in light of causal mechanistic information has been surprisingly difficult - and different theorists explain this difficulty in different ways. Some think that mental illnesses are multiply realizable, such that no one single mechanism (even at a fairly abstract level of description) could define what it is to have PTSD, for example (Boorse 1977; Papineau 1994, Schramme 2013). Perhaps, for example, what we have been calling “PTSD” or “Schizophrenia” is not a single disorder with a single mechanism, but a collection of disorders that give rise to similar collections of symptoms. Others worry that we have cobbled together disorders in a confused and confusing way, making it difficult to ascertain the mechanisms that underlie the categories in question (McNally 2009, 598). Recent work using network modeling suggests that perhaps the search for “underlying mechanisms” is somewhat misguided in psychology, and that the relevant causal interactions are not at the biochemical, or neuronal level, but at the level of psychological symptoms (Borsboom 2017). Ultimately, we are still trying to understand why we have struggled to find unified mechanisms for mental disorders. As with many higher-level sciences interested in complex systems (e.g. biology, psychology, sociology, economics), our failures may be largely the result of the complexity of the system. This complexity makes it hard to pick out reliable, stable categories for study (much
less natural kinds) and even more difficult to understand the complex causal networks operating within these systems (Hedström and Ylikoski 2010).

For better or worse, this lack of theory in the DSM gives rise to what I am calling a “Shadow Theory”—a collection of theoretical beliefs about the nature, causes, mechanisms, and treatments for PTSD. Without any clear theory on offer through the DSM, clinicians fill in these gaps with the theories offered by other researchers and clinicians in the field, as well as their own experiential expertise through clinical practice. This expertise “involves accommodating previous understanding to the uniqueness of a particular clinical situation” (Hoshmand and Polkinghorne 1992). This is why clinical practice is sometimes considered an art (Louttit 1939; Saunders 2001).

One important and influential Shadow Theory for PTSD has been explicitly articulated in Van der Kolk’s *The Body Keeps the Score* (and by other clinicians in the same tradition). He argues that traumatic experiences often overwhelm our memory systems in a way that interferes with their proper functioning, allowing that trauma survivors often forget their traumatic experiences, while still being deeply impacted by those experiences through somatic and behavioral effects. In the next section, I will outline this theory as a case study of the kind of Shadow Theory I have in mind.

3. Van der Kolk

At the heart of van der Kolk’s theory is a mechanism whereby the emotions involved in the traumatic experience overwhelm the normal operation of the memory system. After the event has passed, individuals often remember the event obsessively and vividly as if they were re-experiencing the event, including sensations, images, and the corresponding negative emotions. In this hypermnemonic stage, the memory often focuses on specific features of the event, such as the weapon, the image of rising water, or the

37 The idea that clinical psychology is an intuitive practice or an art—that relies on specifically human skills and expertise—has been declining in popularity as statistical testing has become more integral to the practice of psychology (Dawes, Faust, and Meehl 1989; Dawes 1996). In terms of performance, clinicians do not appear to surpass novices and do not surpass statistical or actuarial prediction of outcomes (i.e., multiple regression models). (e.g., Sarbin 1941; Meehl 1954; Goldberg 1965).
smell of fire, the crack in the nearby wall. It also involves a memory of an emotion (in the sense of Margalit 2002, 126-131) that intrudes, without bidding, often in full vivacity.

This reinforced memory of this event, as van der Kolk describes it, leads the individual to feel chronically unsafe: “The past is alive in the form of gnawing interior discomfort. Their bodies are constantly bombarded by visceral warning signs…” (Van der Kolk 2015, 98). It is at this point that the psychodynamic, self-protective mechanism takes over: The traumatized individual avoids, suppresses, ignores, or represses the memory of the event from conscious awareness, in an attempt to avoid the negative sensations and emotions associated with that experience. In other words, the traumatic experience triggers defense mechanisms that keep the individual from thinking about the traumatic event and, in some cases, even blots memory of the event from consciousness:

[Children] survive by denying, ignoring, and splitting off large chunks of reality: They forget the abuse; they suppress their rage or despair; they numb their physical sensations…Many adults who survive terrible experiences are caught in the same trap. Pushing away intense feelings can be highly adaptive in the short run. It may help you preserve your dignity and independence; it may help you maintain focus on critical tasks like saving a comrade, taking care of your kids, or rebuilding your house. (Van der kolk 2015, 281)

The conscious memory, for van der Kolk, is avoided, dulled, hidden, marginalized, suppressed, or repressed. Successful avoidance, however, can become a full-time job: Not only does the individual need to avoid the memory itself, they also need to avoid anything that might cue those memories. Individuals must become hyper-sensitive to and avoidant of threats in their environment, especially those that could potentially trigger memories of the traumatic event. This furthers the individual’s sense of a lack of safety: Some adopt strategies of withdrawal, inaction, and passivity; others become reactive, aggressive, angry, and violent.
The focus of the theory is on a particular mechanism: The avoidance and repression of memories of the event, and the subsequent minimization of those memories in conscious memory. According to van der Kolk, traumatized individuals often display the symptoms they display in part because of this avoidance and suppression—in other words, traumatized patients become traumatized precisely because “they had not integrated their experience into the ongoing stream of their life” (Van der kolk 2015, 47).

Ultimately, according to this psychodynamic picture, the traumatic memories can sometimes become “entirely organized on an implicit or perceptual level, without an accompanying narrative about what happened” (Van der Kolk and Fisler 1995, 512). As a consequence of this mechanism, the traumatic memories are, “split off, disavowed, unknown, unwanted, cast out, and exiled to the various subterranean worlds of consciousness” (Stephen Cope, quoted in van der Kolk, 125).

Freud, too, experienced frustration when his patients avoided his attempts to encourage them to recall their traumatic experiences. Freud observed that patients invariably "resisted" the free-association process somewhere along the line, and in many ways. Frustratingly often, they interrupted their associations suddenly and at crucial points, just as important and emotion-laden memories seemed about to be recalled. Occasionally in such instances, patients would show obvious signs of anxiety or embarrassment and directly admit that what had come to mind was too ridiculous or obnoxious to be expressed. More often, however, their resistance was indirect and unconscious. Their minds suddenly and mysteriously went blank, for example, or they subtly changed the subject or decided to question Freud's medical credentials and the justification for his unorthodox treatment methods” (Fancher 2012, 11). A very similar story is adopted by modern clinicians under the description of “traumatic or dissociative amnesia”. Such theorists argue that there is “overwhelming scientific support for the existence of repressed or dissociated memory” (Brown, Hammond, and Scheflin 1998, 538-539).

This idea—of repressed traumatic memories and dissociative amnesia—has continued to be popular since their introduction by Freud. In fact, this popularity has continued in light of a host of studies suggesting “that the laboratory evidence fails to prove the existence of repression, that people rarely forget trauma, and
that scientific studies claiming amnesia for trauma and abuse are fraught with a variety of methodological weaknesses” (Brown, Schefflin, and Whitfield 1999). Despite this, researchers continue to find support for this Shadow Theory of trauma (Otgaar et al. 2019; Otgaar, Howe, and Patihis 2022). Here I have argued that the lack of theory in the DSM has, at least in part, given rise to this continued support.

4. Conclusion:

The definition of trauma that arises from van der Kolk and the psychodynamic theorists can be defined as follows:

Trauma occurs when an individual experiences an overwhelmingly unpleasant and/or threatening event and when that individual is also disposed to respond to that event with a variety of memory distortions (both hypermnesic and amnesic in character) and eruptions of well-being reducing behavior and cognition (e.g., drug use; negative beliefs about the self/world). These behavioral and cognitive changes work to change the subject’s sense of identity and to hide the traumatic cause from the subject, making it difficult to integrate the experience into a personal narrative or recover to the extent possible from the negative consequences the event has for the individual’s well-being.

The focus of this chapter has been on the repression mechanism and the possibility that individuals might forget their traumatic experience in a way that makes it difficult for them to integrate that experience and recover from its impacts. Despite years of empirical criticism, this idea has continued to have surprising popularity, among academics, clinicians, and researchers. In this paper, I have suggested that one possible reason for the continued clinical and popular support for the idea of repressed traumatic memories (and traumatic amnesia) is the theoretically cleansed nature of DSM criteria. In the clinical context, more is needed: Clinicians need to be able to help patients understand why they have these experiences and how they might improve their lives going forward. This requires far more than diagnostic criteria, leaving clinicians to fill in
the details based on their clinical experiences and patient reports. Although clinical experience and patient reports are undeniably important for clinical practice, they are not always the most reliable source of evidence, and can easily be misinterpreted—in many cases, clinicians simply cannot compete with the powerful statistical strategies that we can employ in contemporary psychology research (Dawes, Faust, and Meehl 1989; Dawes 1996, Chapter 2-3). As a result, theories that have intuitive plausibility will be long-lasting and hard to change, until alternatives are presented. In fact, one might test this claim by investigating a variety of different DSM-defined disorders, and looking to clinicians in order to see whether they have Shadow Theories for these other disorders as well. My hypothesis is that they will: Given the lack of theory in the DSM, clinicians are likely to employ Shadow Theories everywhere they are needed.

This gives rise to a set of obligations on both the clinical side and the research side of psychology. Clinicians need theories, and they need their theories tested rigorously by research psychologists. This means that researchers have obligations to look for more theoretical information than the DSM can provide, and to present those theories in ways that can be intuitive and useful to the clinician and patient. This does not require less rigorous work, but may require researchers to think about the ways that their theories of psychopathology would be relevant in the clinical context. On the other hand, clinicians have obligations to keep up to date with the relevant research, especially in the areas in which they specialize. If not, they will find themselves using outdated “Shadow Theories,” which may be intuitive, but false and misleading (e.g., suggesting improper treatment). Ultimately research and clinical psychologists share many of the same goals, and we can work together to achieve those goals more successfully.

Just as we saw with the DSM and animal models conceptions, the conception of trauma that arises from van der Kolk has been developed in light of a very particular historical tradition in combination with van der Kolk’s treatment-based goals and aims. In particular, as a practicing clinician, van der Kolk hopes to provide healing narratives for the patients he treats. Given that psychodynamic treatments often work, and no better alternatives have been provided, there is little motivation for change (Schottenbauer et al. 2008). So, while the DSM’s concept of trauma aims to balance classification and diagnosis, with treatment as a
secondary consideration, Van der Kolk’s approach prioritizes treatment, relegating classification and diagnosis to a secondary role. In this context, discussions regarding objectivity seldom emerge—a trend that may not be surprising, given that primary criticisms of this perspective have primarily revolved around empirical challenges. These critiques question the scientific validity and highlight the absence of evidence supporting traumatic amnesia or repression to the extent of forgetting. Instead, the emphasis often lies on clinical expertise and therapeutic artistry (Louttit 1939; Hoshmand and Polkinghorne 1992; Saunders 2001). This means that the conception we see arising from this Freudian picture will not be straightforwardly exportable into other contexts, where the goals and aims are not solely treatment-based. In this case, the problem arises in large part due to scientific plausibility of the view—despite its cultural and clinical significance, the view is empirically controversial (and potentially scientifically inaccurate), and so clearly could not be exported into scientific contexts. Further, given that objectivity will turn out not to play a very central role in this conception, suggesting that this conception will not be more “legitimate” in terms of objectivity. Instead, any attempts at scientific (or other) legitimization are described in terms of unifying clinical report: van der Kolk has been successfully treating traumatized individuals for over 40 years now, and takes his theory to be an overarching/unifying theory of these clinical experiences—perhaps in large part because of the success of his treatments. These treatments, however, could very well be successful without his background theory of trauma being accurate (Eagle 1980). Instead, this theory is popular in large part because it has been established as an important cultural and clinical Shadow Theory, and no competently intuitive and explanatory theory has been offered to take its place.

In the following chapter, I will argue that yet another trauma conception is required: The Social Ameliorative conception. My argument in this chapter will follow the same form: I will argue that this Social Ameliorative conception has arisen in the social context over time in light of a variety of goals and aims that are specific to that particular context.
Chapter 5: The Social Ameliorative Conception of Trauma

1. Introduction:

In Chapter 2, we saw evidence of the growing unease among psychologists, researchers, and clinicians about the expanding scope of trauma definitions. Here I suggest that while these concerns may be apt in the clinical, legal, or neuroscientific domains, they are inappropriate as general reasons for policing the use of the trauma concept outside in other contexts. Further, there are (at least) two good reasons for thinking that we should leave space for a wider, less stringent definition: First, we should expect rapid social change and the introduction of new technologies to give rise to novel types/kinds of trauma. Second, historical examples of the expanding definition of trauma—to include things such as spousal rape and child sexual abuse—should motivate humility about our current list of “traumatic events”. In turn, this humility should prompt us to acknowledge that our existing definition likely falls short of encompassing all potential types of traumatic experience. Consequently, this realization provides a compelling rationale for allowing, in the wider social context, a more adaptable and expansive definition of trauma. This also helps us see that the social context has different goals from the clinical and experimental contexts, and so requires a different definition of trauma. In particular, this Social Ameliorative conception should further the goals of: (1) Recognizing novel cases/kinds of trauma and (2) Recognizing the suffering of others, especially when that suffering comes in the form of long-term (event-caused) psychological damage.

In section 2 I quickly rehash the reasons offered against widening the definition of trauma and argue that these reasons are not applicable generally as reasons to police the widening scope of “trauma” in the social domain. In section 3, I argue that although a wider, more expansive definition of trauma may be worrisome in the clinical, legal, or neuroscientific domains, there is reason to believe that such a definition is needed elsewhere. This requires two arguments: (1) that we should expect novel kinds of trauma that result from rapid social change and the introduction of new technology and (2) that we should practice humility in
light of the historical record, which suggests we are likely to have inadvertently failed to recognize certain ways of being traumatized.

Before moving on to Section 2, I want to briefly discuss the nature of ameliorative projects. Ameliorative projects, particularly in the context of philosophy and social theory, refer to a certain kind of conceptual engineering aimed at improving or refining concepts, categories, or language to better align with our normative goals or values. Among the most famous ameliorative projects is Sally Hasslanger’s attempts to reinvent terms such as ‘man’, ‘woman,’ and ‘race’ in ways that better reflect our social and moral goals. Throughout her work, Hasslanger outlines the main goals and aims of ameliorative projects:

“...to identify what legitimate purposes we might have (if any) in categorizing people on the basis of race or gender, and to develop concepts that would help us achieve these ends. I believe that we should adopt a constructionist account not because it provides an analysis of our ordinary discourse, but because it offers numerous political and theoretical advantages” (Haslanger 2012, 366).

This definition can then be generalized such that “ameliorative inquiry into a concept F is the project of arriving at the concept of F-ness that a particular group should aim to get people to use, given a particular set of goals that the group holds” (Jenkins 2016). This is, of course, not a novel methodology among philosophers. Sally Haslanger, for example, notes the connection between “ameliorative” definitions and Quine and Carnap’s “explicative” definitions also have a revisionary bent to them. According to Quine, one of the tasks of the philosopher (and sometimes the scientist as well) is “...not merely to paraphrase the definiendum into an outright synonym, but actually to improve upon the definiendum by refining or supplementing its meaning” (Quine 1963, 24–25; see also Resisting Reality, Haslanger 2012, footnote 1, p. 367).

So, in ameliorative projects, the goal is not simply to describe the ways that terms are already used (as I have in previous chapters), but to proscribe a new way that a term (or terms) should be used in light of our normative goals and aims (Haslanger 2000, 2006). For example, Kate Manne’s recent project Down Girl,
attempts to broaden the definition of “misogyny” in a way that would highlight the badness of a somewhat common cluster of behaviors (e.g., our tendency to be overly forgiving of men, and overly punishing of similar behaviors in women) (Manne 2017). In the case of trauma, a classic ameliorative project on trauma may consist of explicating an account or definition of trauma that highlights the goals and aims of a distinctly social and moral project: How should we as a society seek to define trauma in a way that will further moral progress—to support our social goals of recognizing and minimizing the negative impacts of trauma?

2. Concerns about the Widening Definition of Trauma

In Chapter 2, I outlined 3 reasons why researchers and clinicians have been concerned about the widening application of the term “trauma” in the clinical setting. In particular, there have been (1) desirability reasons (2) empirical reasons and, (3) dilution/trivialization reasons (for more detailed outlines of these reasons, see Chapter 2). In Chapter 2, I outlined each of these reasons and argued that these concerns are specific to their respective contexts—and that this specificity gives us reason to suspect that these concerns may not be applicable in other contexts where different goals and aims dominate. Here, I want to take this argument a step further to argue that the first two of these concerns, concerning desirability and empirical success—are not applicable in the social context, and should not be used in that domain to police the usage of the term.

First, some have pointed out that a PTSD diagnosis is more likely to succeed in court, making the diagnosis uncharacteristically desirable for non-medical reasons (Bush and Iverson 2011, 168; Andreasen 1995, 964; Slovenko 1994, 441; Lees-Haley 1986, 17). This means that wider, more flexible definitions of trauma may lead to a proliferation of seemingly frivolous lawsuits: a neighbor's complaints become trauma claims or a teenager's frustrations now become legally remunerable. This concern is clearly context-specific: in the legal realm, things will quickly become intractable if trauma is widely (or subjectively) defined. As we have seen though, there is little reason to think a single definition of trauma is likely to succeed across all domains and contexts, given the different goals and aims in those contexts. This means, importantly, that the legal domain is free to define trauma in ways that are (at least) somewhat distinct from the definitions we find in the legal, clinical, or neuroscientific contexts. Conversely, in the social domain, where frivolous lawsuits are
not a concern, we are free to use trauma in a (somewhat) distinct way, in light of the goals and aims of the social context.

Second, some have articulated empirical concerns about the overapplication of trauma, focused on our ability to effectively research and explain the neurological mechanisms underlying PTSD. Richard McNally, for example, argued that “expanding the concept of trauma makes it difficult to ascertain the psychobiological mechanisms generating the symptoms of PTSD” (McNally 2009, 598). Once our class of individuals with PTSD becomes too diverse, it could become difficult to pinpoint the underlying neurological mechanisms that these individuals share. Further, such differences may result in replication problems, given that each group of trauma survivors (on the wider definition) will not necessarily share underlying neurological mechanisms, given the widely varying experiences that gave rise to those symptoms. McNally concludes that while “people exposed to noncanonical stressors may complain of sleep difficulties, intrusive thoughts, irritability, and other symptoms of apparent PTSD, one must wonder whether they are suffering in the same way as victims of rape or combat trauma (McNally 2009, 598). These concerns reflect particularly empirical goals, namely of replication and mechanistic discovery. While these goals are important when empirically studying conceptions of trauma that arise in the neuroscientific or other empirical realms, these goals are not the focus on the wider social realm. In fact, this is a common practice when we “operationalize” concepts for the sake of empirical research: we focus on particular elements or definitions that are empirically tractable, despite recognitions that these definitions may be wanting in a variety of respects (for more a more detailed description of these ideas, see Chapter 3, Section 3 on Operationalization in Science).

Perhaps more germane to the social context is a concern about overuse, dilution, and trivialization. This is, as I see it, a more domain general worry, one that may not be tied to specifically legal, clinical, or neuroscientific domains: when we overuse terms, there is a worry that the term (or its application) loses its force. If every book I read is a literary masterpiece, then none of them are. Similarly, if every bad experience is traumatic, then “trauma” starts to lose its force. Sparr, for example, argued that “PTSD should be
diagnosed if the facts fit, but only if they fit. To do otherwise dilutes and trivializes the diagnosis” (Sparr 1990, 259).

Relatedly, some have offered concerns about the overuse of “trauma” in terms of conceptual bracket creep. For example, Nick Haslam has argued that many of our key concepts related to harm—such as abuse, bullying, prejudice, and trauma—have experienced semantic inflation. This process has led them to encompass an increasingly broad array of phenomena (Haslam 2016; Haslam, Tse, and De Deyne 2021). Haslam outlines two different ways that this inflation can occur: horizontally when concepts come to refer to new phenomena, and vertically when concepts come to refer to less extreme phenomena (Haslam 2016). As we have seen, various trauma conceptions have undergone both types of expansion. For example, adding different modes of exposure in the DSM criteria for PTSD led to a horizontal expansion in that new kinds of experiences could lead to a PTSD diagnosis (e.g., vicarious trauma). Vertical expansion has also occurred, for example, when traditionally “stressful” events were recognized as potentially traumatic (e.g., experiences of discrimination; Love 2019). Further, those who are concerned with the overuse of trauma in the media are particularly concerned about vertical changes in our trauma concept—where seemingly harmless (or minimally harmful) events are described as traumatic (Palus 2021). Although Haslam himself argues that this conceptual bracket creep has both pros and cons, others have used his view as a springboard for concerns about this kind of conceptual expansion. Jones and McNally (2021), for example, found that people experimentally induced to hold a more expansive concept of trauma were more likely to experience lasting psychological effects after being exposed to a disturbing video. This suggests that broadening our psychiatric concepts could create a more vulnerable general public—in a world with more PTSD than is necessary. The conclusion I draw from these studies is that the concern regarding conceptual bracket creep (and the resulting increase in vulnerability) is indeed valid.

For some, this reason alone may be reason enough to forgo widening the definition of trauma, even outside the clinical domain. However, it seems plausible that this concern may be outweighed by other reasons. In the following section, I suggest exactly this. In other words, despite the potential drawbacks of
broadening our understanding of trauma, I argue that these drawbacks are outweighed by the benefits. Before considering why this might be true for trauma in particular, I want to highlight two analogous cases which help motivate the idea that concerns about conceptual bracket creep may not be as decisive as they initially seem.

First, a collection of findings in social psychology suggests that education about discrimination could potentially decrease the well-being of individuals who experience discrimination. Many have argued that failure to perceive or recognize injustice towards oneself or one’s group is in large part what allows such injustices to continue (For a review of such findings, see Jost 1995). This suggests a converse: When we set out to teach people about discrimination, this may increase the chances that they will recognize and potentially expect this discrimination to occur. These expectations can then color how people experience the world around them. For example, research suggests that expecting to engage with a discriminatory individual leads participants to be more vigilant for cues that are threatening to social identity (Kaiser, Vick, and Major 2006). This suggests that more knowledge about discrimination will lead individuals to identify more discrimination around them, and become more vigilant and expectant of this kind of treatment in the future. A woman who has just recently learned the concept of “mansplaining” for example, may find herself suddenly surrounded by overly pedantic, discriminatory men—not because of a change in the behavior of the men around her, but because of a change in her capacity to recognize instances of mansplaining. Ultimately, though, this kind of perceived discrimination has been shown to heighten stress responses, and have a significant negative effect on both mental and physical health (Pascoe and Richman 2009). Together, these findings suggest that teaching individuals about their own discrimination could potentially cause negative side effects: it could lead them to notice (and therefore experience) more discrimination than they otherwise would. But, I think it is clear that this should not lead us to conclude that we should not teach discriminated groups about their own discrimination—even if this teaching would potentially make their lives go worse. Learning about how one is likely to be discriminated against is incredibly important, for both individual and social reasons. Individually, it can be very important to make sure that one is not being treated badly by those around you and to push back against abuse. In the social context, many have suggested that hierarchical social
systems persist in part because the members of the low-status group do not recognize the illegitimacy of their disadvantaged position (Jost 1995). This suggests that dismantling discriminatory (or otherwise problematic) hierarchies will require education about discrimination. Here is a case in which providing individuals with information is likely to make their lives go worse for them—and yet, where the benefits of this increased knowledge outweigh the risks. Something similar, I suggest, is true of trauma: teaching people about the risk of post-traumatic reactions could potentially lead individuals to be more likely to experience those symptoms, and yet, this does not mean that we should not inform people of these possibilities—and recognize individuals' PTSD from a wider variety of types of events.

Nocebos potentially offer a structurally similar kind of case, where learning something important could potentially lead to negative side effects. It has been well established that informing patients of the potential negative side effects of drugs or treatments increases the likelihood that they will be more likely to experience those negative side effects (Colloca and Miller 2011; Planès, Villier, and Mallaret 2016). This has been dubbed the nocebo effect—the opposite of the more famous placebo effect. In ethical discussions about nocebos, this possibility—of negative side effects—is described in terms of a cost/benefit analysis, where the doctor must determine which side effects to disclose, based on factors such as severity and type of side effect, the possibility of alternative treatments, the severity of the pathology, and patient preferences (for a helpful review, see Planès, Villier, and Mallaret 2016). Importantly absent, though, is the suggestion that we not inform people about these negative side effects because of the potential for nocebo effects.

My response (Section 3) to this concern will mirror the response offered by researchers attempting to square nocebo findings with ethical concerns about informed consent: While the possibility of self-fulfilling-side-effects is indeed a concern, it is a concern that can be outweighed by countervailing reasons. In particular, reasons in favor of a wider definition in the social realm. In other words, if it turns out that there are significant reasons for making space for a wider definition of trauma, this may outweigh our present concern about dilution. In the following section, I attempt to outline exactly these kinds of reasons.
3. Reasons in Favor of a Wider Trauma Definition (At least in some contexts):

In this section, I argue that although a wider, more expansive definition of trauma may be worrisome in the legal, clinical, or neuroscientific domains, there is reason to believe that such a definition is needed elsewhere. This requires two arguments: (1) that we should expect novel kinds of trauma that result from rapid social change and the introduction of new technology and (2) that we should practice humility in light of the historical record, which suggests we are likely to have inadvertently failed to recognize certain ways of being traumatized (or certain bad experiences as potentially traumatic).

2.1 Technology and rapid social change:

Intuitively, we should expect that new technologies will provide new ways of being traumatized. First and foremost, this is because the consequences of newly developed technologies are not consistently foreseeable before their creation. Bostrom (2019), for example, has argued that the outcomes of new technology are not always predictable, and that they may be quite catastrophic. He writes, “Some areas, such as synthetic biology, could produce a discovery that suddenly democratizes mass destruction, e.g. by empowering individuals to kill hundreds of millions of people using readily available materials” (Bostrom 2019 455). As new technology is created, we need to be open to the possibility that some of the unforeseeable outcomes of this new technology could give rise to new types of trauma—even setting aside the clearly traumatic potential of the kinds of mass destruction Bostrom is interested in avoiding. Importantly, these new technologies can give rise to new types of experiences, which could give rise to new avenues to trauma and PTSD. Strict, “objective list-style” definitions from the DSM, from neuroscience, or from the legal system may be reticent (and slow) to accept these new types of trauma, given the goals and aims of those domains (e.g., mechanistic discovery, interrater reliability, etc.). However, while these concerns may be apt in the legal, clinical, or neuroscientific domains, they are less apt in the social domain.

Consider virtual reality (VR) technology, which allows individuals to immerse themselves in digital environments and engage and interact with that environment (Visch et al., 2010; Ding et al., 2018; Jones,
2019; Pallavicini et al., 2019; Riva et al., 2007). This technology is significantly different from other currently available media technologies, such as television and gaming, where individual immersion is significantly limited. The introduction of deeper forms of immersion in VR gives rise to different kinds of experiences, which can then be experienced and interpreted in ways that may be surprisingly different from traditional screen-based media. These novel types of experiences could very well give rise to trauma-like experiences.

A similar story goes for rapid social change: as society’s norms change, individuals’ beliefs and behavior can change as well—and in ways that we may not expect. Importantly for my purposes, some of these changes may result in differences in trauma. We might, for example, notice differences in who is regularly experiencing trauma or differences in population distribution (e.g., soldiers vs. civilians). For example, a recent CDC report shows a significant increase in sadness and hopelessness in teenage girls in particular, with many experts citing social media use as a potential cause for the shift (Centers for Disease Control and Prevention 2021; Sy and Norris 2023).

Social media has also brought about another new potentially traumatic experience: moderating. Moderators are paid by social media sites like Facebook and TikTok to review content that has been flagged by users as spam, nudity, violence, terrorism, hate speech, false information, harassment, or some other kind of “inappropriate” content (where what counts as inappropriate content is determined primarily by the social media company in question). These moderators engage with content that has been flagged as inappropriate in one of these ways and then determine whether the content in question does in fact break the policies of the social media company they are working for. This experience is reportedly nightmarish: “By his own estimate, Trevis Brownie has seen more than 1,000 people being beheaded. In his job, he had to watch a new Facebook video roughly every 55 seconds, he says, removing and categorising the most harmful and graphic content. On his first day, he recalls vomiting in revulsion after watching a video of a man killing himself in front of his three-year-old child. After that things got worse. ‘You get child pornography, you get bestiality, necrophilia, harm against humans, harm against animals, rapings,’ he says, his voice shaking. ‘You don’t see that on Facebook as a user. It is my job as a moderator to make sure you don’t see it.” (Pilling and Murgia
While these moderators play an important role in protecting social media users from traumatic content, they themselves are exposed to incredibly large amounts of exactly that same kind of content: violent, traumatic content. Although this job is somewhat new, the potential for traumatization is obvious (e.g., Wexler 2023).

In a totally different context, people have expressed concern about the impact of increased drug use as a result of legalization, in combination with the downstream changes in social attitudes about recently legalized drugs, especially marijuana and psychedelics. In the case of marijuana, legalization and increased social acceptance have significantly increased reported use of marijuana (Zellers et al. 2023). Could increased drug use change the prevalence or distribution of PTSD? Evidence about the relationship between marijuana use and PTSD is currently mixed: while some studies provide correlational evidence that marijuana can help alleviate the symptoms of PTSD, other similar studies have found the opposite effects, with marijuana use correlating with worsening symptoms over time (Yarnell 2015; Wilkinson, Stefanovics, and Rosenheck 2015). Further studies have suggested that some particular individuals have extremely adverse reactions to high doses of marijuana that could worsen their symptoms over time (Rehman et al. 2021; Yarnell 2015). Not to mention the well-established evidence that marijuana use can lead to both acute episodes of psychosis in some individuals and may be associated with the development of schizophrenia (Arseneault et al. 2004). This body of literature suggests that the future impacts of the legalization (and increased use/dosages) of marijuana are hazy and unknowable. Similar haziness exists in the literature on psychedelics: although somewhat rare, adverse reactions to psychedelic drug use can happen (Rubin-Kahana, Hassan, and Le Foll 2021).

Ultimately the empirical research suggests that it is more common for drug use to be a symptom of PTSD as opposed to a cause, but these examples are meant to show how changes in social norms and behavior can give rise to changes in the way trauma is experienced: different norms lead to different behaviors, and different behaviors can lead to new and different forms or distributions of trauma. Significant changes in who is using drugs (only a few, vs most people) and how those drugs are used (dosage, regularity)
could potentially lead to changes in the way that PTSD presents in American society, and the nature and extent of these changes is not going to be obvious from the armchair. In light of these rapid social changes, and our inability to perfectly predict how these changes will impact traumatic experiences, we should be open to the possibility that our understanding of trauma—including its definition, as well as the kinds of experiences that can potentially be “traumatic”—may change over time in light of our changing social norms.

2.2 Inductive historical argument:

The second argument for the need for an ameliorative definition is similarly inductive, but with a more historical bent. The idea is this: The (successful) expansion of the conception of trauma over the years provides us reason to be humble and to recognize that there may be traumatic experiences that we have yet to identify (or to properly recognize as potentially traumatic).

Consider the example of child abuse from Chapter 1. Ian Hacking describes the way that the concept of “child abuse” has been continually expanding over the years. Initially, the concept was only applied to infants and small babies with broken bones, but over time the concept came to refer to a variety of parenting behaviors that could be harmful to the child (e.g., exposure to parental sexual behavior) (Hacking 1991c, 1995). Without recognition as abuse, this kind of behavior was unlikely to be labeled as “traumatic”.

Importantly, this expansion provides an example of true progress: we are right to think that exposure to parental sexual behavior is abusive, and so potentially traumatic. Recognizing the badness of these experiences, and their potential to traumatize highlights the ways we have overlooked (and might continue to overlook) certain experiences as potentially traumatic.

Or, consider that marital rape was not considered “real rape” until the 1970s, and not legally considered a crime until the 1990s. Before this, long-standing legal exceptions were the norm. In England for example, Sir Matthew Hale, Chief Justice in the 17th century wrote, “But the husband cannot be guilty of a rape committed by himself upon his lawful wife, for by their mutual matrimonial consent and contract the wife hath given up herself in this kind unto the husband which she cannot retract” (quoted in Russell, 1990,
Although rape has long been considered a “traumatic event” spousal rape, having not been considered “real rape” was excluded from psychological interest in PTSD. Perhaps unsurprisingly, research suggests that spousal rape is often highly traumatizing, and often results in longer-lasting symptoms compared with those perpetrated by strangers (Finkelhor and Yllo 1985; Bergen 1996).

Given that we have failed several times before, I suggest that we should practice humility in the face of novel or surprising trauma claims. The historical record gives us reason to think that we may (as a society) be skeptical of novel claims on trauma, but that this skepticism may be unwarranted. Today we see the ways that these experiences can traumatize, and the progress that can be made when we are open to the trauma claims of those in our communities.

3. Conclusion:

Exactly which cases we count as “traumatic” in the social sense will surely be a matter of extreme controversy. If we allow for maximally expansive criteria, for example, this could mean that anything could potentially be traumatic—which may give rise to somewhat counterintuitive results: Somebody might claim to be traumatized by an incredibly mundane experience (e.g., Freud’s case of Anna O who is traumatized when she sees someone drink from a glass that has been licked by a dog) or by their own morally bad behavior (e.g., claiming to be traumatized by the experience of brutally murdering or raping someone). On the other hand, if we are too stringent, we risk failing (or refusing) to recognize the suffering of others, when that suffering is real, damaging, and (perhaps) avoidable.

Further, different ethical theories and frameworks will likely give different suggestions as to how to best address the question: How much fear of the world should a person be expected to have? One option might be to define trauma in terms of relations of care. Such a view might suggest that when we have care and concern for others, we should be inclined to take their trauma claims seriously — and to think of those trauma claims as providing defeasible reasons to recognize their suffering. This sort of view has the advantage of making sense of the prima facie idea that we should recognize the trauma claims of those around us. On the
other hand, such a view might not help us make sense of the idea that we might well recognize (and perhaps even have obligations to recognize) the trauma of people we do not know and will never meet, as when we contemplate a concentration camp victim, for example. When considering the reasons we have for taking these trauma claims seriously, we might look to different normative frameworks: Perhaps such obligations are grounded in claims about justice, for example. Even here, we will have options: Nozick’s theory might suggest, for example, fairly minimal obligations to the traumatized (unless we are somehow responsible for their trauma) (Nozick, 2013). Rawls’ on the other hand, might suggest that we take the elimination of trauma very seriously—especially when traumas seem to differentially impact communities that are already disadvantaged in other respects (Rawls, 1999).

Finally, people have different attitudes about how many negativity valenced experiences one should be expected to have in a lifetime, about how much responsibility people should take for their own lot in life, about how tough people should be in the face of adversity, and about what one thinks we can reasonably expect out of this world. Engaging in these controversies is exactly the kind of social negotiation that I want to promote by highlighting this Social Ameliorative conception of trauma.

One of the time-honored conclusions drawn about traumatic experiences is that talking about it makes it real. Talking about our traumatic experiences makes us recognize their reality, and this process is often both (initially) stressful and difficult and (ultimately) therapeutic. Talking about our traumas, though, requires others who are listening, others who might recognize our pain and suffering. Historically this kind of social recognition of individuals’ pain and suffering has been the first step in accepting the reality of novel kinds of traumatic experiences and finding ways of helping and supporting those who have been traumatized. As Ball has suggested, “One important lesson I have taken from Herman’s analysis is her point that the reassimilation of traumatized veterans into a peacetime society precipitated shifts in medical, psychiatric, and popular perceptions of trauma and its aftereffects. In brief, the representation of Vietnam veterans’ experiences in a variety of venues contributed to the medicalization of trauma in psychiatric terms while allotting it a social cogency that it hitherto lacked” (Ball 2000, 4-5). When we allow people's negatively valenced experiences to
achieve recognition in the social realm, this allows researchers to take seriously new and different kinds of trauma. This recognition does not necessitate a change in the clinical, legal, or neuroscientific definitions of trauma, and may not necessarily result in the addition of a new kind of traumatic event. However, this social recognition does provide a pathway for those who might be interested in empirically investigating purportedly novel kinds of trauma, and this is an important step in progressing our understanding of trauma throughout these various contexts.

In this chapter, I have argued that although there may be contexts that require more stringent and inflexible definitions of trauma, there are other contexts in which less stringent and more flexible definitions may be useful and beneficial. Further, although the overapplication of trauma claims may be a legitimate concern, even in the social domain, these concerns may very well be outweighed by the importance of being open to recognizing the trauma claims of those around us, and investigating those claims with an open mind.

In section 1, I rearticulated concerns about the overapplication of the trauma concept, emphasizing the context-specific nature of these worries (e.g., about dilution and empirical tractability). The argument posits that the legal domain, for instance, can define trauma differently based on its distinct goals and aims, while allowing that other contexts—such as the social context—may call for a more flexible definition of trauma. In particular, I argued in favor of a Social Ameliorative conception of trauma:

> Trauma occurs when a subject (individual or group) experiences a wounding event and when that subject (individual or group) is also disposed to respond (1) with long-term, negative psychological effects and (2) by calling for recognition of their experience (and the long-term wound caused by that experience).

This definition reflects the two main goals in the social context: (1) To be open to the possibility of novel cases/kinds of trauma and (2) To recognize the suffering of others, especially when that suffering comes in the form of long-term (event-caused) psychological damage.
In section 2 I built a case for a broader definition of trauma in the social context by presenting two key arguments. First, rapid social change and the introduction of new technologies should be expected to give rise to novel forms of trauma. Examples such as virtual reality, as well as the challenges faced by content moderators on social media platforms, underscore the necessity of accommodating emerging traumatic experiences. Secondly, an inductive historical argument suggests that our understanding of trauma has consistently expanded over time, in the direction of progress. The historical record reveals instances where certain experiences, initially dismissed or overlooked, were later recognized as legitimately traumatic. This historical perspective encourages humility and an openness to reevaluate and broaden our understanding of trauma.

In light of these arguments, this chapter proposes a flexible definition of trauma, where the kind of event required for real trauma is left more open-ended. This *Social Ameliorative* conception of trauma emphasizes the need to recognize novel forms of trauma and the suffering of individuals in diverse social contexts. By embracing a more flexible and inclusive definition, we can better address the ever-changing landscape of social norms and technology, and the potential changes in traumatic experiences that may result. Erikson, for example, recognizes that the clinical definition doesn’t successfully apply to groups—given that groups cannot be diagnosed and treated in the way clinical psychology does—but feels like it is still best described as “traumatic”. In other words, we might interpret him as saying: Sure, this doesn’t count as traumatic in my clinical context, but surely it’s still trauma. This reflects, I think, an important goal in the social realm: The goal of recognizing new kinds of wounds to the lived experience—and drawing our attention and empathy to neglected forms of unsafety that some but not all members of a community tend to experience.
Chapter 6: Conclusion: A Schematic Account of Trauma

By way of conclusion, I want to summarize the loosely unified view of trauma conceptions that I have offered here. In different contexts, where distinct goals and aims take focus, the concept of trauma is stretched in various directions, and different conceptions of trauma emerge. These conceptions gain their legitimacy—often by approximating objectivity—in a variety of different ways: in the clinical context (via the DSM), interrater reliability serves as the main test for objectivity and projectability; according to the animal models conception, model matching is the strategy of choice; in the psychodynamic context, the unification of patient reports provides legitimacy. In other words, different contexts have different goals and practices, and different goals and practices require slightly different conceptions (and strategies for approximating objectivity). Despite the differences between these trauma conceptions, they are not completely unrelated uses of the same word. Instead, there is a loosely unifying Trauma Schema, and this schema serves to unify the concept of trauma across contexts and differentiate the concept of trauma from other similar psychological phenomena (e.g., phobias, anxiety, etc.). I define the Trauma Schema as follows:

Trauma occurs when a subject experiences an event of a certain type (e.g., negatively valenced + perpetrated by a human + feature 3…etc.) and when that subject is also disposed to respond to that experience in specific ways (e.g. the symptoms of PTSD).

Within this general schema, there are three variables:

1. A subject
2. An event with a disposition to traumatize (Often defined by event type, e.g. in the DSM “Events which involve actual, threatened death or violence).
3. An individual with a disposition to be traumatized (Could include in-the-moment responses or longer-term post-experience responses).
Importantly, the traumatic event (2) and the traumatic reaction (3) form a dispositional pair (Prior, Pargetter, and Jackson 1982; Armstrong et al. 1996). On one side of this dispositional pair is the event: A particular event is traumatizing because of its disposition to cause in-the-moment traumatic experiences and post-traumatic after-effects. On the other side of this dispositional pair is the individual: An individual has the relevant disposition insofar as they are disposed to have in-the-moment traumatic experiences and post-traumatic after-effects. In essence, trauma is a dispositional pairing between traumatize-able individuals and traumatizing events. This conceptual framework helps elucidate one of the fundamental empirical observations of trauma—namely, that while most people experience some sort of traumatic event in their lives, only a few of them go on to experience significant post-traumatic aftereffects. The notion of dispositions is apt in this context as it underscores this probabilistic feature of trauma. Unlike "surefire" dispositions, probabilistic dispositions entail that the antecedent circumstances, including the traumatic event and the psychological makeup of the subject, are sufficient for producing the chance of post-traumatic after-effects. In other words, describing the relationship in terms of dispositions allows us to distinguish between two important possibilities: (1) That two people might experience the same (or very similar) event(s) and differ in whether they experience that event as traumatic in-the-moment, and (2) that two people might experience the same (or very similar) event(s) and experience that event as traumatic in-the-moment, but differ in whether that experience causes any post-traumatic after-effects.

Along the way, I have also outlined 4 different trauma conceptions that fit this mold. In Chapter 2, I discussed the definition of trauma that is active in the DSM-5TR:

Trauma occurs when a human individual experiences an event of actual or threatened death, serious injury, or sexual violence through direct experience, by witnessing in person the event as it occurred to others, by learning that the event occurred to a family member or a close friend, or by indirect exposure in the course of occupational duties, through being exposed to grotesque details of an event and when that individual human is
also disposed to respond to that event with the following symptoms (for over 1 month): (A) 1 or more Intrusive symptoms (e.g., recurrent, involuntary, and intrusive distressing memories, nightmares, flashbacks, psychological distress in response to event-related cues, physiological distress in response to event-related cues), (B) persistent avoidance of stimuli associated with the traumatic event, (C) Negative alterations in cognitions and mood associated with the traumatic event (e.g., exaggerated negative beliefs, persistent negative emotional state), (C) marked alterations in arousal and reactivity associated with the traumatic event (e.g., irritable behavior, reckless or self-destructive behavior, exaggerated startle response).

In Chapter 3, I argued that the definition of trauma that arises from the Animal Models Conception (AMC) can be defined as follows:

Trauma occurs when model organism (that approximates humans in an evolutionarily important way) experiences a negatively valenced physical, psychological, or social stressor (e.g., shock, restraint/immobilization, exposure to predators, social instability, early life stress, social defeat, etc.) and when that model organism is also disposed to respond to that event with the biological and behavioral sequelae of PTSD in a dose-dependent manner that persists or becomes more pronounced over time, where those symptoms have the potential for bidirectional expression, and reproduces the population-level variability of human post-traumatic responses.

In Chapter 4, I highlighted van der Kolk’s definition of trauma:

Trauma occurs when an individual experiences an overwhelmingly unpleasant and/or threatening event and when that individual is also
disposed to respond to that event with a variety of memory distortions (both hypermnesic and amnesic in character) and eruptions of well-being reducing behavior and cognition (e.g., drug use; negative beliefs about the self/world). These behavioral and cognitive changes work to change the subject’s sense of identity and to hide the traumatic cause from the subject, making it difficult to integrate the experience into a personal narrative or recover to the extent possible from the negative consequences the event has for the individual’s well-being.

Finally, in Chapter 5 I argued in favor of another trauma conception, which I call The Social Ameliorative conception:

Trauma occurs when a subject (individual or group) experiences a wounding event and when that subject (individual or group) is also disposed to respond (1) with long-term, negative psychological effects and (2) by calling for recognition of their experience (and the long-term wound caused by that experience).

As you can see, each of these definitions differs from the other in how they fill in each of the three variables—ultimately leading to definitions with various levels of stringency (See Fig. 1). But each is similar in its schematic, dispositional structure. Importantly, this serves to unify the concept of trauma across contexts and differentiate the concept of trauma from other similar psychological phenomena (e.g., phobias, anxiety, etc.). Phobias, for example, could present very similarly to PTSD symptomology (e.g., intense fear, avoidance, etc.), but phobias do not tend to be caused by phobic-events in the same way that trauma tends to be caused by
traumatic-events. Ultimately, this way of defining trauma helps us to see the loose, abstract way in which the various uses of “trauma” can be unified, while also making space for distinct contexts to fill in the definition as their goals and aims require. But, this also highlights a tension in my overall view between unification and pluralism (See Fig. 2).

On the one hand, I am arguing that there is a plurality of trauma conceptions that arise in different contexts in light of the different goals and aims in those contexts—and that each of these conceptions gains legitimacy in similarly context-specific ways. At the same time, there is a structurally similar dispositional relationship inherent in all (or, at least, most) conceptions of trauma. In some ways, my view has been influenced by Friedman and Kitcher’s insights about the role of unification in scientific theorizing, in that I attempt to unify various trauma conceptions with an overarching trauma concept (Friedman 1974; Kitcher 1981).38 Readers familiar with the surrounding literature on scientific explanation may wonder whether familiar objections will arise here. Most pressing, perhaps, is the concern that overly abstract attempts at unifying large sets of disparate phenomena will inevitably result in overly vague and uninteresting theories—and that this schematic model of trauma is too abstract (or too thin) to be of any interest (Craver 2007, 40-49).

I accept that some attempts at unification will result in overly abstract and uninteresting theories (e.g. a theory that accurately unifies human psychology and the movement of the stars would potentially be too abstract to be of interest). In some ways, this worry is right on track—but the unification I point to with

38 Although these insights are important to my argument here, I do not mean to wed myself to Kitcher’s theory of explanation (Kitcher 1981). For arguments against the centrality of unification in the scientific goal of explanation, see Craver (2007). Ultimately, while I agree that unification is an important goal in science, I am not confident that it is important for the practice of scientific explanation in particular (Craver 2007, 40-49).
trauma is \textit{meant} to be thin. Otherwise, it wouldn't be able to accommodate the high degree of variation among the various uses of the term. One could, of course, argue that my schematic definition is too thin even for my own (admittedly loose) attempts at unification—\textit{sure}, says the objector, \textit{we can come up with some sentence that includes all the examples from all of the contexts, but why is that helpful?}

First, I simply don't think it is accurate to say that there are no unifying features among these disparate notions. This is why this schema is capable of differentiating the concept of trauma from other similar psychological phenomena (e.g., phobias, anxiety, etc.). However, if some readers are truly opposed to calling this a “unificationist” account—perhaps because the unification is too abstract—I will concede this title and accept that I am a pluralist of sorts (although this too is somewhat inaccurate).

Second, I don't think there is anything useful about stipulatively defining trauma and mandating that everyone use it in a single, unified way. Not only does this seem unlikely to succeed, but there is little reason to think that one definition is better \textit{overall} than the others. It is not that the clinical definition of trauma, for example, is wrong or false, but simply that it is serving a particular set of goals and aims, and that contexts with different goals and aims will find this definition awkward and unhelpful. Something similar goes for the Social Ameliorative conception of trauma, an account of trauma that sets out to determine which definition of trauma would be best for society, given our goals and aims. In arguing for this conception, I do not mean to suggest that the other contexts (with their differing goals and aims) would be \textit{better} suited with the Social Ameliorative definition. Instead, I only argue that this social conception be recognized alongside the other trauma conceptions. This suggests, I think, that a somewhat thin, schematic definition of trauma is needed to unify these disparate contexts while allowing that those different contexts will often disagree about which events and which subjects have the relevant dispositions (i.e., to traumatize and be traumatized).

Finally, it is important to the success of these different disciplines and contexts that these different conceptualizations of trauma are allowed to cohabitate, so that they can effectively address the needs and
practices of their individual contexts. As we have seen, clinical contexts, for example, may require a distinct conception from experimental contexts, given the differing practices and needs of these realms. This variety of trauma conceptions (and strategies for approximating objectivity) is exactly what we would expect from the different goals and aims we see in these various contexts. Because of this, I suggest that we should not attempt to force these different contexts to use one particular conception of trauma—not only is this unlikely to succeed, but even if it were successful, it would be to the detriment of the individual contexts.

This will not, I think, lead to confusion. First, there is some preliminary evidence that we are already capable of switching between broader and more stringent definitions of trauma—although we may not necessarily be aware that we are doing so. Summarizing the empirical findings on the context-sensitive nature of our trauma conceptions, Jones and McNally (2022) write, “...it appears that personal trauma concepts are malleable and depend on context” (Jones and McNally 2022, S132). In fact, we do this all the time, especially with scientific concepts. Consider the ease with which we switch casually back and forth between the scientific and folk conceptions of “water”. Very rarely is there confusion about which context we find ourselves in. When I casually remark that “There is water in the lake over there,” or “My tea is made of water,” it is immediately clear that I do not mean “water” in the strict chemical sense in which “water” is defined as (pure) H₂O. This is in large part because of the importance of operationalization, prediction, and control in the scientific contexts (See e.g., Griffiths 1997). Scientific conceptions need to play a very specific role—which is defined by particularly scientific goals (e.g., prediction, control). However, not all of our conceptions are scientific conceptions, and our non-scientific conceptions may not need to meet these same stringent criteria (or might be stringent in a different, perhaps orthogonal way). In the social context, for example, we often use normative conceptions (e.g., abuse, harm) as a way of signaling which kinds of behaviors we deem appropriate or inappropriate—something counts as “traumatic” in social contexts, not because it meets some specific DSM criteria, but because we want to call attention to the badness of the experience and its long-term impact on the subject (e.g., “that breakup was the most traumatic one yet”).
On the other hand, this account does come with its own bullets to bite. First, as we have already seen (Chapter 5, Section 2), there are potential costs to widening the definition of trauma. Most damning of these costs is the possibility that broader definitions of harm-related concepts will lead to increased vulnerability in the population. The idea is that many individuals who experience something negative would not go on to develop PTSD if they did not have such a wide and inclusive definition of traumatic events (and of trauma more broadly). Despite the legitimacy of this concern, I argued that this concern is outweighed by the moral pressure to recognize novel cases of trauma (in light of technology and rapid social change) and admit our trend towards exclusion (e.g. marital rape).

Second, the context-sensitive nature of trauma conceptions means that the truth value of contested cases will also have to be determined contextually. In other words, when we ask: Does this count as trauma? Or, could this event lead someone to become traumatized? The answer to these questions will have two parts: (1) A specification of the context, and (2) A truth value from within that context. Consider our case from Chapter 1. Recall that during Derek Chauvin’s trial, Hennepin County Judge Peter Cahill argued that evidence did not support the claim that the children present during the murder of George Floyd were traumatized by their experience. Judge Cahill argued that the negative impact of witnessing Floyd’s death was not “so substantial and compelling” as to warrant lengthening Chauvin’s prison time, given that the children were not victims “in the sense of being physically injured or threatened with injury” and given that they "were free to leave the scene whenever they wished" (Griffith 2021a; 2021b). In describing his reasoning for refusing to increase sentencing in light of the harm inflicted on these girls, Judge Cahill points out that the girls were smiling and laughing during some parts of the video footage, suggesting that their behavior makes it unlikely that the girls were traumatized by the event. In cases such as this one, where there is significant disagreement about whether someone could (or should) count as traumatized, we will first need to ask “Traumatized in what sense?”. In some cases, for example, an individual will count as socially traumatized, but not clinically traumatized. For example, the community-impacting traumas outlined by Kai Erikson (e.g., floods, natural disasters, etc.), while traumatic in the social sense, may not be traumatic in the clinical sense. But there will also be some cases in which an individual is clinically traumatized, but not socially traumatized. For instance,
an individual traumatized by their own morally reprehensible actions, such as committing rape or murder, may qualify as clinically traumatized. However, we might hesitate to categorize them as traumatized in the Social Ameliorative sense—the primary harm to the wrongdoer, in this case, may not be the type of harm that warrants our social recognition and support. Further, the social realm may sideline some highly individualistic cases: Consider somebody who gets badly wounded when hit by a falling tree limb and then becomes scared to go outside for fear that things will fall on him. While this person could clearly count as having PTSD, it's not clear whether we will want to apply the social ameliorative conception here, or to cover lasting effects of bad experiences broadly construed. But exactly which cases we will choose to exclude will depend on our social goals: given that we want to minimize future suffering, and given that cases like this are not particularly common or avoidable, this seems like an inappropriate place to focus our social attention. Discrimination, on the other hand, gives rise to a kind of long-term suffering that could be recognized and addressed in a way that can minimize future suffering and make people feel safer in the world (Love 2019). This gives us something of a rulebook when we are considering a contested case of trauma. We don’t necessarily need to look to science to tell us whether the girls who witnessed George Floyd’s murder are traumatized, for example. Instead, we should ask: Do we want to create a world in which girls are exposed to acts of police violence in their own communities? Ultimately, I have suggested here that such questions are not primarily medical or scientific questions—although these are important as well. Instead, what we face is an ethical question about what kind of world we want to build. By recognizing the normative significance of the notion of trauma (especially in the social realm) we are forced to seriously consider the type of world we want to create—and this, I argue—will require a nuanced understanding of trauma that embraces its multifaceted nature and respects the diverse perspectives that inform its conceptualization.
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