

Christ's Body Keeps the Score: Trauma-Informed Theology and the Neuroscience of PTSD

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Abstract: Recent findings in neuroscience and psychology indicate that “the body keeps the score” of PTSD. Concurrently, trauma-informed theology to date has deployed pneumatology to interpret divine relation to trauma in the Christian narrative of salvation. Yet, in Christian theology the divine person of the Holy Spirit has no assumed human body. This raises an important question as to whether a body is needed for God to keep the score of posttraumatic stress in a manner consistent with neuroscience and how this might shape one’s account of trauma in Christian soteriology. In this article, I take an analytic science-engaged approach to assess the viability of dominant proposals in trauma-informed theology which deploy trauma theory to interpret God’s relation to traumatic violence with exclusive reference to pneumatology. After reviewing clinical and scientific research on the neuroscience of PTSD which has been neglected in these approaches, I argue that Christology is a more obviously fitting locus for interpreting God’s relation to trauma within Christian soteriology than the person of the Holy Spirit. I conclude that since the body keeps the score of trauma from a scientific perspective, Christ’s body keeps the score of trauma from a science-engaged theology perspective.

Keywords: Trauma, Neuroscience, PTSD, Soteriology, Holy Saturday

Introduction

Science-engaged theology (SET) is a burgeoning field that is currently attracting diverse scholars of religion, philosophy, psychology, and other empirical sciences. Many are drawn to SET because it promises a generative approach for answering old questions in new and fresh ways. While past generations of the “science and

religion” dialogue witnessed meta-model-building and grand conceptual schemes for relating empirical sciences and the religious/philosophical disciplines, SET operates differently. The difference is refreshing.

SET is motivated by the conviction that the old “science vs. religion” debate has created an impasse for dialogue between these disciplines that was caused by mistakenly generalizing them in the first place. In truth, there is no one “science” and there is no one “religion”: there are multiple kinds of these disciplines, each with its own internal coherence that cannot be ignored without mischaracterization. That is, there are “sciences” and “religions.” If this distinction is not recognized, we will fail to appreciate the fact that “there is more than one kind of verification. Each science has its own concept of verification, which may differ from that used in another science” (Brightman 1937, 149).

Rather than approaching interdisciplinary work from the top down, first gauging methodology and then moving to concrete application, SET proposes to move from the bottom up, beginning straight away with concrete subdisciplines in theology and science to address a particular conceptual puzzle. It is proposed that this shift can help preserve the integrity of each subdiscipline from the outset to study reality according to its particular disciplinary norms. Moreover, this approach can promote more free cross-pollination between the subdisciplines because *they are focused not on their relationship to one another but on a particular shared puzzle*. This interdisciplinary approach is likened to a kind of “Swiss Army Knowledge,” where each subdiscipline is one tool in a multifaceted kit designed to address the complex totality of a given problem. “There is only one reality, but many tools,” and each tool (each subdiscipline) must be given the disciplinary space needed to assess the puzzle at hand according to its particular (and non-transferable) principles of verification (Perry and Ritchie 2018).

While analytic theology (AT) is a discipline compatible with SET in many ways, there are a few overlaps noteworthy for the purposes of this special edition and the present article. First, both AT and SET are products of the “theological turn” in philosophy of religion and empirical science, and as such they are open to conceptual puzzles that deal explicitly with theological content. Second, both are “not a club” (Coakley 2013) in the sense that they openly invite generative input from multiple disciplinary perspectives to answer unique and specific questions. Third, the style of both tends to focus on very specific, concrete questions in minute detail for a focused approach. Analytic science-engaged theology (ASET) therefore seems appropriate, promising, and exciting.

In this article, I wish to contribute to ASET by focusing on one such concrete topic that has received recent attention in AT though has yet to reach SET. The topic is

psychological trauma. Trauma is an important public health topic that appears a strong candidate for a science-informed approach given neuroscientific breakthroughs in the study of posttraumatic stress disorder (PTSD). Trauma has also been a lively topic of discussion in recent research from AT (Stump 2018; Panchuk 2018; Rea 2019; Hill and Sartor 2022). While these approaches from AT have shed light on challenges that trauma presents to Christian theology, and have even offered alternatives to the dominant approaches in trauma-informed theology influenced heavily by literary theory (Hill forthcoming), this is only half the picture. Since trauma is a psychological phenomenon, it needs a science-engaged approach, in addition to an analytic approach.

The specific aim of this article will be to examine the scientific viability of dominant approaches to trauma-informed theology today. In particular, some influential trauma-informed theologians to date have emphasized pneumatology as a near exclusive reference for interpreting God's relation to trauma within a Christian narrative of salvation (Rambo 2010). Alongside this proposal, recent findings in neuroscience and psychology show that "the body keeps the score" of PTSD, meaning that the brain-body network of a physical organism's nervous system is needed to explain the effects of posttraumatic stress on human persons (van der Kolk 2014). Yet, in Christian theology the divine person of the Holy Spirit has no assumed human body. This raises an important question about what it might mean to conceive God's relation to trauma within a Christian theology of salvation, and in particular what kind of body might be needed for God to keep the score of posttraumatic stress in a manner consistent with neuroscience and how this might shape one's account of trauma in Christian soteriology.

This article will address the puzzle whether the neuroscience of PTSD implies a specific doctrine of soteriology in terms of God's relation to trauma in the Christian triduum narrative. The puzzle focuses on the subdisciplines of soteriology (as this has been articulated by trauma-informed theologians) and the neuroscience of PTSD as this is evinced in the influential somatic theory of psychiatrist Bessel van der Kolk.¹ While theologians engaging trauma have identified Holy Saturday as a promising frame of reference for assessing trauma theologically, Shelly Rambo's emphasis on pneumatology for this assessment confronts some conceptual challenges in light of the neuroscience of PTSD. In particular, Rambo's proposal for a theology of trauma through the person of the Holy Spirit does not obviously square with the somatic nature of posttraumatic stress. Given the neuroscientific

¹ Soteriology is used here in a very broad sense for referring to the theme in Christian theology of God's saving interaction on behalf of God's creation. Rambo's proposal is difficult to categorize with traditional loci, though it seems to fall within a general soteriological framework.

studies of van der Kolk which suggest that “the body keeps the score” of trauma, does pneumatology provide a sufficient locus to account for God’s experience of posttraumatic stress in the triduum narrative as Rambo suggests? Simply put, does God need a body to keep the score of trauma, and if so, what kind of body might this be?

It is here I shall suggest that some groundbreaking studies on the neuroscience of posttraumatic stress—in particular, the fMRI’s discussed frequently by van der Kolk—can constructively inform the approach of theologians like Rambo who employ “trauma theory” as a conceptual framework for analyzing the soteriological events of Holy Saturday (Rambo 2010; van der Kolk 2014).² If it is true that posttraumatic stress requires a physical organism to explain its effects on an individual, and if we have no reason to suspect this would be different for a divine person than a human person, then it is reasonable to interpret God’s relation to trauma in a manner that is more similar than not to the way this is normally experienced by humans in the real world. This has significant consequences for how we articulate God’s relation to human trauma in embodied terms.

The article proceeds in three parts. First, I recount the theological proposal of Shelly Rambo, who employs trauma theory as a conceptual tool for (re)assessing Christian soteriological themes (Rambo 2010). I note that Rambo identifies the events of Good Friday and Holy Saturday as traumatic events of the triduum narrative but proposes an exclusive focus on the Holy Spirit instead of Christ to account for God’s relation to human trauma. I then contextualize Rambo’s theological proposal within a broader frame of clinical studies on trauma by surveying the rise of trauma studies in the twentieth century and some recent advances opened up by neuroscience, focusing in particular on the influential studies of trauma psychiatrist Bessel van der Kolk, who suggests that in trauma “the body keeps the score” (van der Kolk 2014). In my discussion, I conclude that the somatic nature of PTSD demonstrated from neuroscientific studies suggests that Christology is actually a more obviously fitting locus in Christian theology for assessing trauma than Rambo’s pneumatology, because Christ is the divine person who has an assumed human body that can keep the score of traumatic stress in a manner most similar to real survivors of trauma. It is hoped that attending to the neuroscience of PTSD for trauma theology today will open up the possibility for

² Although many neuroscientific studies could be used, this puzzle will focus on those discussed by van der Kolk’s research on trauma.

further exploration of how Christian theology speaks meaningfully to trauma survivors in the real world.³

1. Soteriological Narratives in Trauma-Informed Theology

It will be useful first to trace the development of the trauma-informed theology under investigation. In the last 30 years, the study of trauma has moved off the psychoanalytic couch, making its way into literary theory and Christian theology. "Trauma theory" began in the mid-1990s as a multidisciplinary attempt from literary theorists and clinicians to probe how trauma affects human self-understanding (Caruth 1995; Caruth 2014). Literary scholar Cathy Caruth was particularly influential in summarizing a traumatic event as a "missed" or "unclaimed" experience. Caruth describes trauma as a wound that results from an event of such terrifying magnitude that the event was too much to process in the moment of its initial happening. The terror was too great to be assimilated. As a result of surviving what was unbearable, the memories of past terrors haunt the human psyche seeking to be processed or "claimed." Reflecting on this elusive aspect of traumatic memory, Caruth concludes that "trauma seems to be much more than a pathology, or the simple illness of a wounded psyche: it is always the story of a wound that cries out, that addresses us in the attempt to tell us of a reality or truth that is not otherwise available" (Caruth 1996, 4).

Caruth summarizes that when traumatic memories are unclaimed this creates the experience of a "double-wound": the initial traumatic event, and the posttraumatic stress. When one endures an unbearable terror, the result of dissociatively avoiding the full impact of the event is an eventual return of the terror later in life, a phenomenon which psychiatrists have called "the compulsion to repeat" or "reenactment" (van der Kolk 1989). On one hand, this "double-wound" simply occurs for survivors at a physiological level when they are "triggered," which simply means that some aspect associated with the past trauma (a particular smell, object, sound, etc.) is experienced in the present and throws the survivor back into the original fight-or-flight response. On the other hand, survivors sometimes subconsciously "reenact" the trauma in an effort to process it. In both cases, even

³ This article is an adaptation of my theological puzzle submitted to New Visions in Theological Anthropology, a Science-Engaged Theology project organized at the University of St Andrews and funded by the John Templeton Foundation. I am incredibly indebted and grateful to John Perry, Joanna Leidenhag, Mikael Leidenhag, Sterling Yates, and Dorothy Campbell for their administration of the grant and the many ways I have benefited from participation in the fellowship, as well as their permission to adapt my puzzle in longer journal article form here.

though the traumatic events are over, the terror continues to wound the mind in the present, creating a “double-wound.”

From these conceptualizations of trauma, literary theorists have developed a hermeneutical framework that is now called “trauma theory.” The basic premise of trauma theory is that hermeneutical possibilities are opened up by recognizing that there is an important difference between suffering (which has ended, it is in the past) and trauma (which persists, it is suffering that remains, it is in the present). As Freud put it, the threat of trauma is continually felt by survivors “as contemporary experience, instead of . . . remembering it as something belonging to the past” (Freud 1961, 12).

The work of Shelly Rambo has taken up trauma theory as a conceptual framework for assessing the coherence and rhetorical potency of theological assertions. In particular, Rambo draws from Caruth’s double-wound concept in order to distinguish trauma from ordinary suffering: “Studies in trauma suggest that trauma has a double structure . . . an inability to fully process an event means that it returns. This return distinguishes trauma from suffering . . . it is the difference between a closed and an open wound. Trauma is an open wound . . . death has not ended; instead, it persists” (Rambo 2010, 7). Rambo further distinguishes between two ways a traumatic event alters one’s perception of reality. These relate to one’s experience of time and one’s relation to one’s body. Temporally, “trauma is not a one-time event . . . the fact that the event was not fully integrated at the time means that something of that event returns at a later time . . . the past is not in the past” (Rambo 2010, 19). This is essentially a restatement of Caruth’s “double-wound” thesis, which Rambo calls trauma’s “double structure.” In relation to the body, “when someone experiences trauma, the body draws all of its resources together to respond to the threat. Basic functioning processes in the body are unable to sustain the level of impact, and a person’s ability to regulate his body in response to the physical world is severely impaired” (Rambo 2010, 20–21). For Rambo, trauma has adverse consequences for one’s experience of time and one’s relation to the body.

In her book *Spirit and Trauma*, Rambo focuses on the soteriological narrative of Holy Saturday to assess the theological significance of trauma. Deploying trauma theory, Rambo suggests that Holy Saturday is a kind of temporal trauma because it signifies the persistence of the effects of violence beyond the initial event of the crucifixion. On this way of thinking Holy Saturday is a “double-wound” in the triduum story wherein the overwhelming violence of Christ’s crucifixion remains unresolved, much like psychological trauma. Rambo portrays this Holy Saturday moment in terms of a “razed terrain” of forsakenness, abandonment, and hell (Rambo 2010, 45–46, 113). While Christian theology has often focused on the cross

for redemption narratives, Rambo suggests that a theological account of trauma must be able to assess the persistence of violence beyond an initial event. This would require moving past an isolated focus on the cross to assessing the soteriological significance of Christ's descent into hell. The crucifixion is a traumatic event while the descent into hell involves divine interaction with the temporal consequences of trauma after the event is over. Rambo therefore proposes Holy Saturday, the day of death's remainder, as a promising theological framework for assessing the persistence of suffering indicative of the temporal alterations involved in trauma.

Drawing from Hans Urs von Balthasar's theology of Holy Saturday, Rambo interprets divine interaction with psychological trauma exclusively through the divine person of the Spirit after the crucifixion instead of the person of Christ (Rambo 2010, 39, 43, 113, 116, 121–122, 136–137). This pneumatological shift is motivated in part by feminist and womanist critiques against dominant atonement narratives that focus on the death of Christ (Williams 1993; Brock and Parker 2001; Brock and Parker 2008) and in part by similar critiques against theological frameworks that emphasize the resurrection to idealize triumph over all forms of suffering (McAdams 2006; Betcher 2007). The reasoning here seems to be that because the divine person of the Son is the subject of the crucifixion and the resurrection, and because exclusive focuses on the crucifixion and resurrection have had adverse consequences for marginalized persons such as trauma survivors, then the divine person of the Son ought not be the medium through which God relates to trauma in Christian soteriology.⁴ Because God does not relate to posttraumatic stress in the person of the Son on Holy Saturday, another person of the Trinity must be supplied. Rambo opts for the Holy Spirit. According to Rambo, a pneumatology of Holy Saturday (that excludes reference to Christ) is the most effective conceptual framework for witnessing trauma in theology.

While Holy Saturday signifies divine relation to the temporal alterations of trauma following the violence of the crucifixion, Rambo interprets the effects of posttraumatic stress on human bodies through the person of the Holy Spirit. To emphasize the significance of the Spirit for embodiment in trauma, Rambo proposes a unique reading of the passage of Christ's death in the gospel of John (Rambo 2010, 105–107). When Scripture says that Jesus "yielded up" or "delivered over"

⁴ I leave aside here the issue of coherence of this reasoning because this paper focuses on how science may inform the theological argument not how other theological considerations may inform it. However, there are clearly other theological stakes in this reasoning worth considering, such as how the persons of the Trinity relate to the economy of salvation, the significance of the incarnation during Christ's intermediate state, and the relation between seemingly conflicting motifs in the Christian salvation narrative.

(*paradidonai*) his spirit during the final conscious moments of his crucifixion, Rambo sees two possibilities: either Christ is handing over some part of himself “upward” to the Father, or Christ is handing over his spirit “downward” to the human community.⁵ Since *paradidonai* simply means “handing over,” either option is viable. To select between these two options, Rambo focuses on the following question: *who* is the recipient of this “handing over” at the moment of Jesus’ death? As Jesus breathes his last breath and releases an exhale of death, who is receiving what Jesus is handing over?

Drawing from biblical scholarship on John (Brown 1970), Rambo opts for the second option proposing that this exhale is released by Jesus *downward* upon the witnesses of his crucifixion:

Between passion and resurrection, we encounter this breath in the context of death. Jesus gives up his spirit, his breath, on the cross . . . This unleashed breath—this exhale—is no longer contained within the body of Jesus; it is handed over at the moment of death . . . Instead, the focus of the text is on the witnesses’ bodies, their turnings, and their movements . . . this release of breath . . . is carried on . . . in the bodies of those who move in the aftermath of death . . . It is significant then, that bodies remain . . . Alongside the language of trauma, this testimony borne somatically makes sense (Rambo 2010, 118–123).

The indication here seems to be that the embodied effects of posttraumatic stress are related to the divine not through the assumed physical body of Jesus but through an indwelling relation between the Spirit and the disciples of Christ. When Christ’s disciples received the spirit released by Jesus, they were indwelt by the Holy Spirit and through this indwelling God experienced the aftermath of Christ’s trauma through the bodies of these disciples. The disciples who remained on Holy Saturday and were indwelt by the Spirit of Christ offer a theological frame of reference for the embodiment involved in traumatic events of the crucifixion.

2. Trauma Studies and the Neuroscience of PTSD

Theologians like Rambo and other theorists engaging trauma have drawn heavily from trauma studies as these have developed from the early 1900s. However, the more clinical and medical research of this same period has been somewhat neglected

⁵ Rambo does not clearly distinguish between the various options of how “spirit” (*pneuma*) here may be interpreted, whether some anthropological component of human persons (such as the soul of Jesus) or the divine person of the Spirit.

in the approaches of theorists and theologians. Neuroscience has recently clarified much of this neglected research. It is therefore important to survey the clinical background of trauma studies to contextualize the approach of theorists and theologians before moving to the neuroscience of PTSD.

The clinical study of trauma waxed and waned throughout the 1900s. It was not until 1980 that the treatment of outspoken Vietnam veterans led the American Psychiatric Association to canonize traumatic stress with the diagnosis "Post Traumatic Stress Disorder" (APA, 1980). The medical treatment of combat trauma in the late 1900s opened up doors for parallel diagnoses in such atrocities as domestic violence, childhood sexual abuse, and political captivity. Trauma has come to be defined as "an inescapably stressful event that overwhelms one's coping mechanisms" (van der Kolk, McFarlane and Lars Weisaeth 2007, 279). During a highly stressful event of overwhelming violence in which one is powerless to fight or flee, human persons are able to survive psychic stress of the event by undergoing a complex process of hyperarousal and alterations of consciousness that protect the person from fully experiencing the threat. In clinical terms, this process is a "freeze" response called "dissociation" which has been formally identified as the central pathogenic mechanism involved in PTSD (van der Kolk and Fisler, 1995). During dissociation, a traumatized person who is threatened with violence undergoes an extreme narrowing of perception as a defense mechanism which numbs the person's consciousness against the brutality being experienced.

Survivors frequently report dissociation as a kind of "out of body" experience where they have the perception of floating above their own bodies, as if they were watching the trauma happen to someone else (Herman 1992, 87–88). Through such experiences "the helpless person escapes from [one's] situation not by action in the real world by rather by altering [one's] state of consciousness . . . this altered state of consciousness might be regarded as one of nature's small mercies, a protection against unbearable pain" (Herman 1992, 42–43). However, clinicians and neuroscientists agree that while dissociation is adaptive in trauma, it is maladaptive for recovery (van der Kolk 2014, 92). Because the traumatic experience is walled off from ordinary consciousness, the memories of the trauma are not recalled in an integrated fashion in the post-traumatic context but are felt as intrusive and sporadic flashbacks of sensory overload.

These conclusions from clinical trauma care indicate that Freud was essentially correct when he noted that traumatized persons "suffer mainly from *reminiscences*" because "the patient is, one might say, fixated to the trauma" (Freud 1961, 7–8). Traumatized persons suffer from unintegrated memories of terror that interrupt present consciousness because they dissociated from those experiences in the past.

“The mind’s meaning-making structures have collapsed . . . the information rushes in too fast and furiously to be marked . . . because it simply cannot be processed and stored, [it] simply wanders and consistently replays itself” (Jones 2009, 29–30). The inability to process an experience of violence and the subsequent perception that it is still occurring is the central feature of posttraumatic stress. “Misperception—in mind and body—that past trauma is still happening is the main feature that distinguishes PTSD” (Rothschild 2010, 27). The experience of having one’s present mental state constantly interrupted by the fear of an overwhelming threat of the past indicates a maladaptive alteration in one’s consciousness which is at the very heart of the PTSD syndrome.

The question that has driven many trauma researchers is whether there is any mechanism in neurobiology or otherwise that can be taken into account to explain why the terrors of a traumatic event tend to be reexperienced by survivors who have a posttraumatic stress diagnosis. Some leading neuroscience of PTSD seems to provide a clue. Recent advances in neuroscience have discovered that the dissociative alterations in consciousness that occur during a traumatic event are the result of measured interruptions that take place in the brain-body connection. As Bessel van der Kolk puts it, “the body keeps the score” (van der Kolk, 1994, 253–265). Neuroscientific studies researched and discussed by van der Kolk suggest that traumatic memories become embedded in human persons through predictable breakdowns in the brain’s normal adaptations to stressful circumstances. Instead of being experienced cognitively and linguistically, traumatic memories are experienced through the brain’s subcortical connections with the body’s nervous system and this means that traumatic stress is uniquely felt in the visceral sensations of the body.

For instance, brain scans (such as fMRIs) have shown that entire regions of the brain associated with logical thinking, executive functioning, and deductive reasoning (along with the Broca’s area of the brain which is responsible for language) are substantially curtailed during trauma. Accordingly, van der Kolk calls trauma a “speechless horror,” starkly asserting that “All trauma is preverbal . . . bodies reexperience terror, rage, and helplessness . . . but these feelings are almost impossible to articulate” (2014, 43). As a result, trauma survivors do not find it merely unpleasant to revisit intrusive memories of violence but actually find it neurologically insurmountable because the memories have been dissociated from active consciousness. At the extreme, traumatized persons can experience alexithymia, which is the complete inability to put one’s feelings into words (van der Kolk 2014, 98).

Instead of these “left brain” areas, the “right brain” is overstimulated during trauma, especially a subcortical portion of the brain called the limbic system which is responsible for organizing social relations and assimilating sensuous input from the body (van der Kolk 2014, 44–45, 56–57). In particular, during a traumatic event the hippocampus and thalamus are severely compromised within the limbic system, while the amygdala undergoes extreme hyperarousal. The hippocampus is responsible for providing spatiotemporal awareness; the thalamus is responsible for processing one’s bodily senses in an orderly fashion; the amygdala is responsible for registering potential threats in one’s environment, much like a smoke detector. During a traumatic event, the brain’s “smoke detector” (amygdala) goes on overdrive and high alert while the brain’s “timekeeper” (the hippocampus) collapses, causing a timeless terror that is exhaustively stimulated in isolation from any narrative orientation (van der Kolk 2014, 60–70). At the same time, the brain’s “cook” (the thalamus), which normally registers and integrates sensuous experiences, goes offline and opens the floodgates to an overload of fragmented sensory data that remains unprocessed and intrusive (van der Kolk 2014, 70–71).

The effect of this is significant in that it means that “Trauma is not stored as a narrative with an orderly beginning, middle, and end” but rather as “flashbacks that contain fragments of the experience, isolated images, sounds, and body sensations that initially have no context other than fear and panic” (van der Kolk 2014, 135). Traumatic stress provokes a fight-or-flight response in the human “mammalian brain” which, if rendered ineffective, reverts back to a total dissociative freeze in the “reptilian brain” (MacLean 1990). In such an immobilized state of dissociation,

The overwhelming experience is split off and fragmented, so that the emotions, sounds, images, thoughts, and physical sensations related to the trauma take on a life of their own. The sensory fragments of memory intrude into the present, where they are literally relived (van der Kolk, 2014, 66).

The consequence of all this is that trauma survivors have the experience of being in a timeless terror for which there is no language and for which there is a bombardment of sensual triggers in the body.

What this neuroscience indicates is that PTSD involves experiencing a past threat which continues to be felt in present consciousness due to neurobiological factors. When a survivor is “triggered,” the brain is literally “rekindled as if the trauma were actually occurring” (van der Kolk 2014, 44). In other words, for survivors who have PTSD, the terror of the original trauma is physiologically felt during a trigger just as it was the first time they suffered. This is because the fear involved in the original

traumatic event has not been resolved but instead continues to be felt even after the event is over due to breakdowns in measurable interconnections of neurobiological health. In the end, therefore, the body indeed keeps the score of trauma. PTSD (and the dissociation that causes it) are fundamentally somatic experiences for survivors in the real world. The repetitive quality of posttraumatic stress can be significantly explained through the neurobiology of human nervous systems in which traumatized persons experience events of violence and reexperience the unbearable sensations as these events continue to be remembered and reexperienced within the same human organism even after the violence has ended.

3. If Trauma is God's, Christ's Body Keeps the Score

While Rambo has deepened the whole discussion by proposing Holy Saturday as a theological point of reference for assessing the temporal alterations of traumatic stress, I suggest her pneumatology is lacking in an important respect. It is not entirely clear that Rambo's proposal of the Holy Spirit indwelling Christ's disciples on Holy Saturday is adequate given the important role that individual physiology plays in the neuroscience of PTSD to explain the concrete experience of trauma survivors. At best Rambo's proposal is underdeveloped and requires further explanation as to how the Holy Spirit's indwelling of human persons can constitute a genuine experience of trauma given the way posttraumatic stress is experienced idiosyncratically for individual human bodies ordinarily. This would require a complex explanation for how the traumatic stress on Christ's body during the crucifixion was shared with the divine person of the Spirit who has no assumed human body and then further shared with the bodies of Christ's disciples through the Spirit's indwelling for experiencing posttraumatic stress. While such an explanation may be possible, I suggest there is a more obvious route for explaining divine relation to trauma in the triduum salvation narrative in a way consistent with the neuroscience of PTSD. This requires a focus on Christology given that Christ is the divine person who assumed human nature and experienced the infirmities of human nature in a manner most similar to other humans when compared to something like the indwelling of the Spirit.

Drawing from the neuroscience of PTSD I wish to propose how it may be more theologically defensible to affirm that God experienced trauma in the human nature of Christ than in the human nature of other non-divine persons through the Spirit's indwelling. Since the body keeps the score of trauma, and this body belongs to a single human individual who experiences both the original traumatic event and the posttraumatic stress, it seems to make more sense to say that God needed an

assumed human body to experience trauma and that this individual human body was that of the crucified Christ. Given the neuroscience of PTSD, there is sufficient reason to believe that if soteriology requires that God experiences posttraumatic stress then this requires a body to keep the score and that Christ's body may be the most suitable candidate for this experience.

If Good Friday and Holy Saturday are interpreted as frames of reference for God's experiences of traumatic stress and posttraumatic stress respectively, these will correspond much more accurately to concrete experiences of trauma if they refer to a *single human body* whose first experience of traumatic stress is the rationale for experiencing posttraumatic stress in subsequent consciousness. The neuroscience of PTSD indicates that it is important to understand trauma as a single human body undergoing a double-wound in the psyche because it is always the same physiological organism whose dysregulated adaptations to stress bring about intrusive repetition in subsequent experience *within the same organism* (van der Kolk, 2014, 39–47). Consequently, assessing traumatic events in the salvation narrative of Christian theology will fit better with neuroscience if the double-structure of Good Friday and Holy Saturday contain a single human body on both sides of the double-wound.⁶ In Rambo's arrangement, this would involve a focus on Christ and his traumatized brain and body rather than a shift from Christ to the Holy Spirit and the bodies of disciples indwelt by the Spirit.

Observing that traumatic stress occurs in the same body across the psychic double-wound is significant because this is how it happens for survivors of trauma in the real world. One cannot suffer a traumatic event and then "hand over" the resulting posttraumatic stress to other "witnesses" (as Rambo suggests) as the primary explanation for how posttraumatic stress is embodied. One suffers a traumatic and then reexperiences bodily sensations of the trauma within one's own body. Moreover, Rambo's suggestion that trauma immanently relates to the divine through the Spirit rather than the human nature of Christ is ambiguous given that trauma is clearly suffered by contingent creatures ordinarily. Contrary to Rambo's suggestions under examination here, neuroscience indicates that PTSD is best explained as an overwhelming experience of stress within one physiological organism that causes the perception that the experience is continuing to occur *within the very same organism*, not in some other divine person or group of indwelt human

⁶ My point is not that the double-wound *only ever* has a single subject but that there is *always initially* a single subject. Traumatic double-wounds can implicate secondary subjects who are external witnesses as in "vicarious trauma." However, those who are traumatized vicariously are implicated precisely because they have witnessed the double-wound having previously plagued a single subject (Arel and Rambo 2016, 179-180).

persons.⁷ That is, neuroscience indicates that the rationale for traumatic stress (such as the crucifixion) causing subsequent posttraumatic stress is the physiological substrates of a single agent's human body (and its coping mechanisms during violence). PTSD at base means a *single human organism* feeling terror and feeling terror's return.

If trauma-informed theologians do not allow the science of PTSD to place constraints on their proposals, then the entire exercise is in danger of what recent trauma theorists have called "obscurantism." In a recent edited volume on trauma theory, Eric Boynton and Peter Capretto have underlined the importance of tending to the lived realities of trauma to avoid this danger. The philosophical treatments of trauma (as in Caruth and Rambo) run the risk of abstracting trauma theory into a hermeneutical principle so theoretical that it can obscure trauma theory away from the very survivors it intends to witness. To avoid this risk, Boynton and Capretto suggest a "person-centered" approach that attends to the lived experience of real-world trauma survivors: "Wherever the future of trauma studies is headed, these person-centered claims must be taken seriously to ensure its discourse remains closely tied to the concrete and material context of traumatic encounter" (2018, 3). Boynton and Capretto are pointing out the necessity for conceptual explorations of trauma to remain vigilantly attentive to the concrete experience of survivors in the real world in order to avoid the irrelevance of over-abstractionism. Attending to the lived experience of trauma survivors in the real world through the neuroscience of PTSD can help avoid such obscurantism by promoting a "person-centered" approach.

When applied to the triduum narrative of salvation, this insight means that the crucifixion may be aptly conceived as a traumatic event and Holy Saturday as the site of posttraumatic stress. However, this trauma must occur for *the same human body* in both cases according to neuroscience. This is what Holocaust survivor and psychoanalyst Dori Laub means by "the first level" of witness to trauma, which is "that of being a witness to oneself" or "autobiographical awareness" (Felman and Laub 1992, 75; Laub 1995, 61). The haunting nature of trauma depends upon the continuity of a single embodied person between the initial event and the subsequent triggering: it is always the same mind that both survives harm and feels harm's return. That is how trauma happens in the real world. For Christian theology, this would involve a Christological account of God's experience of posttraumatic stress on Holy Saturday following the crucifixion, since Christ suffered the initial trauma

⁷ Another issue I will not address further is Rambo's insistence that God experiences trauma in the immanent divine life rather than the human nature of Christ. This raises important questions outside the scope of the present science-engaged approach.

of the cross (if, indeed, the crucifixion truly was an event that properly “traumatized” Christ, which can never be definitely proven).⁸ While this raises questions about how Christ’s posttraumatic psyche relates to his dead body in the intermediate state and how this relation can map onto the embodiment of PTSD, I think these questions are easier to answer than Rambo’s account of posttraumatic indwelling, and in any case, they seem more pertinent for traditional soteriology.⁹

A Christological account of trauma on Holy Saturday could help tie a theological approach to trauma more closely to the concrete phenomenon of trauma as it is normally experienced by real human beings according to neuroscientific studies of van der Kolk in terms of physical organisms and their neurological substrates. Shifting from pneumatology to Christology therefore promises a more accurate approach to trauma for theologians who want this approach to reflect the real dynamics of PTSD in the embodied human experience as indicated by neuroscience today.

Simply put, because the body keeps the score of trauma from a psychological and neuroscientific perspective, the *body of Christ* keeps the score of trauma from a theological perspective. The Holy Spirit has no amygdala, thalamus, or hippocampus to keep the score.¹⁰ Moreover, attempting to account for the

⁸ To be clear, I am not suggesting in this article that the crucifixion “traumatized” Christ, though I believe that to be entirely possible. What I am suggesting is that *if* one wants to assert God’s personal relation to human trauma then the most viable person for such an experience is Christ since Christ has a human nature capable of this experience.

⁹ Some further questions arising from this entire discussion—regardless of the loci chosen, be it pneumatology or Christology—is whether it is warranted or theologically pertinent in the first place to propose that God experiences trauma and, if so, what this means for classical understandings of divine nature such as impassibility, apathy, simplicity, etc. Again, I think there are convincing ways to answer these queries with resources germane to traditional Christology and soteriology, which might involve referencing the unity of Christ’s person, the integrity of Christ’s two natures, and the soteriological reasons why one might think it relevant or even necessary for God to experience trauma to accomplish redemption. While these considerations are outside the scope of this paper, I hope to develop them further in future research.

¹⁰ It is important to note that my proposal in this paper does not devolve into tritheism for the simple reason that my distinction relates to the manifold hypostases in God, not the simplicity of substance in God. That is, only one person of the Trinity assumed human nature, the Son, and therefore only the Son is the divine person who has human experiences, hypostatically speaking. This is not to say that the other divine persons do not share in the human experiences of the Son qua the shared divine nature. So then, while the Son can experience trauma by virtue of a human nature (whereas the Father and the Holy Spirit cannot), because the Son is truly God, then God is capable of trauma, but only by virtue of the assumption of human nature through the Son. If my account falls into tritheism, then so does classical Trinitarian and Christological orthodoxy. My account merely tries to follow this same patristic logic.

neurobiology of trauma as Rambo has suggested through the Spirit's indwelling of Christ's disciples raises more questions than answers. However, Christ clearly has the kind of body needed for traumatic experiences and his own body was the organism that underwent the trauma of the crucifixion and therefore he can experience posttraumatic stress on Holy Saturday in a way more consistent with the findings of neuroscientific studies of PTSD. As the gospel of John attests and theological exegetes of church history has underscored, there is something salient and significant in the fact that even in his glorified post-resurrection state, Christ's body continues to bear the scars of his crucifixion (John 20:27), and the wounds of the Lamb are not absent from his heavenly rule (Rev. 5:6). Even for Rambo this important Christological reflection warrants consideration in future trauma-informed theology, since there is something worth considering in the fact that in Christ's resurrection appearances, he is "resurrecting wounds" in the afterlife of his own embodied trauma (Rambo 2017).¹¹ I agree with this most recent assessment of Rambo, and I hope that a SET (and ASET) approach as exemplified here can bolster further research along these Christological lines for the future of trauma-informed theology.

Conclusion

The neuroscientific studies of PTSD demonstrate that the alterations in consciousness that occur as a defense mechanism during an event of overwhelming violence are the result of measured interruptions in the interconnections of the brain-body network meant to adapt to stressful circumstances. As a result, the phenomenon of dissociation, and the "double-wound" it creates in survivor experience, is always connected to the dysregulation of *a single human body* and the physical substrates that correspond to psychic states of social awareness. For this reason, theologians who employ traumatic suffering as a conceptual framework for analyzing Christian theology—in particular, the soteriological events of the triduum and Holy Saturday—can more accurately reflect the dynamics of posttraumatic stress in the real world if reference is made to traumatic suffering as an embodied event in the Christian story for a single physiological organism. For this reason, in contrast to what trauma-informed theologians like Shelly Rambo have suggested,

¹¹ It is important to note that the latest research from Shelly Rambo highlights the importance of Christological reference for trauma-informed theology. My science-engaged evaluation of Rambo should only be taken here in reference to her seminal work *Spirit and Trauma* (2010). More engagement with her most recent research is needed to assess the impact of the current argument for latest publications in the field, something which I hope to undertake in my future research.

Christology is a more obviously fitting locus in Christian theology for assessing traumatic stress in soteriology than pneumatology or indwelling. Christ's body keeps the score of PTSD from a SET (and ASET) perspective.

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