

Phenomenology of Blackout Rage:
The Inhibition of Episodic Memory in Extreme Berserker Episodes

John Protevi
protevi@lsu.edu

DRAFT OF 6 November 2019

ESSAY OUTLINE

- Introduction
- Taxonomy of the berserker rage
- Neuropsychology of berserker rage
- Evolutionary account of berserker rage
- Neuropsychology of stress-related Transient Global Amnesia (“blackout rage”)
- Phenomenology of blackout rage
- Conclusion

INTRODUCTION

The berserker rage is a fascinating and to many people repugnant phenomenon. While there are certainly cultural variations in its triggers, and it can be modulated by breathing exercises and conscious attention-focusing, its full expression seems to exhibit cross-cultural similarities: snarling, spitting, grimacing, screaming, along with prolonged and hyper-intense but not very precise no-holds-barred fighting, with a fairly sudden crash landing as the episode concludes, sometimes in the most intense cases bringing with it a “blackout” or impossibility in recalling the details of the episode. This profile leads some to posit its evolution in selection for effective reaction of prey mammals. While predation is often conducted in a cool, stalking, manner until the final leap – which even then can have precise targeting of the vulnerable parts of the prey – prey behavior under extreme stress (when fight rather than flight or freeze occurs) is often a reactive lashing out at what moves in the attack zone to which the prey has access.

In this paper, I follow the leading idea of an “inhuman gaze” to explore the perceptual-motor effects and possible episodic memory inhibition in extreme cases of the “berserker rage.” I first locate berserker rages in a taxonomy of aggressive behavior as out-of-control reactive aggression triggered by blocked flight in a high-danger situation. I then sketch its military implications, and present a plausible neurological substrate, as well as locate it in relation to the “Human Self-Domestication Hypothesis” currently being worked out at the intersection of anthropology and biological psychology. I then zero in on the most extreme manifestations, the so-called “blackout rages” – or in technical terms, “Transient Global Amnesia” (TGA) – in which episodic memory is inhibited or attenuated, even though there is retention of affective-charged sensory fragments. Here I have two objectives: first, I will present recent research on the

neuropsychological mechanisms at work producing TGA; second, we will work out its phenomenological implications, using discourse analysis of the first-person reports of berserkers in interviews as well as the second- and third-person testimony of witnesses. In doing so we come upon the recurrent theme of an “inhuman gaze” in which the berserker seems to be transformed or even possessed, so that their eyes gleam or flash in compelling and disturbing ways. What then are we to say about an “experience” of which we have only a partial ability to reconstruct, and even then, the use of “flipping a switch” or “automatic pilot” are prevalent terms in those reconstructions? We here face the paradox of a phenomenological report of an experience whose episodic details seem lost even if an affective tone is left behind to be available for voluntary recall or indeed to arise unbidden with sometimes debilitating effect.

TAXONOMY OF THE BERSERKER RAGE

The berserker rage is a highly intense reactive aggression behavior pattern eluding full conscious control. Hence the emotion term “rage” in “berserker rage” is tricky, as the extreme cases are blind or blackout behavior with no recall of a subjective experience. So, in this paper “berserker rage” should not necessarily be taken to imply an emotional experience, even though many violent episodes do have a feel to them that can be recalled.

The berserker rage is a classical means for enabling close-range killing behavior; it is close-to-automated state that unleashes extreme violence on almost anything in its path. (Note the reference to “autopilot,” and “felt something switch” in Vaughan 2015, an interview with Robert Bales, a berserker). It can have both reactive, proactive, and redirected dimensions, insofar as it deals with immediate threats but can then go out in search of threats to eliminate, or passive and helpless victims on which to vent (Bales’ victims were unarmed civilians). It has accompanied military action for all of recorded history, starting with its most memorable invocation in Homer’s description of Achilles in the *Iliad* (Shay 1994; Cairns 2003). While some dis-inhibiting anger is needed in many close-range encounters for those who have not mastered the techniques for cold-blooded engagement, unleashing the berserker rage is associated with many problems in the contemporary military. Its hyperactive threat processing fits poorly in counter-insurgency operations, both urban and rural, as it can lead to civilian atrocities (as in the case of Bales) and it is closely associated with PTSD (van der Kolk and Greenberg 1987).

In close combat, fear, anger, and aggression are always intersecting in various dimensions and intensities. In the psychological literature, a three-fold distinction among types of aggression is common: reactive, proactive, and instrumental. Although we have to beware any simple models, in general, anger-mediated aggression depends on the surmounting of the first flash of fear and the avoidance of the final surrender of full-fledged freezing. 1) Reactive aggression is a quick if not automatic attack on a close-range, inescapable threat that nonetheless offers the chance of being overcome by attack; the chance of winning is crucial here in avoiding freezing

(Blair 2012; Siegel and Victoroff 2009). 2) Proactive aggression is a consciously controlled attack in order to eliminate a future threat (Siegel and Victoroff 2009; Wrangham 2014: 3) Instrumental aggression is a consciously controlled attack on those that do not pose present or future threat in order to gain various rewards (Nelson and Trainor 2007, 536).

We propose the following links of these types of aggression to variations in anger. First, there is appropriate anger, which is associated with adaptive reactive aggression that is calibrated accurately to the threat; contrast this with hyperbolic anger, which is associated with maladaptive reactive aggression that comes from those with a low threshold of threat detection and poorly calibrated threat estimation, problems often acquired by previous trauma.¹ Second, instrumental aggression tends to be accomplished in cold-blood; this can be associated with psychopaths (Nelson and Trainor 2007; Blair 2010, 2012; Hirstein and Sifferd 2014), but can also be produced by people who have undertaken various training procedures to control fear and anger and produce an emotional dominance over their victim (Collins 2008 discusses techniques employed by professional hit men). Lastly, proactive aggression, when subjects are not completely successful in using self-calming techniques, is intermediate in intensity between hot reaction and cold instrumentality. Proactive aggression often needs some angry arousal as one is attacking to eliminate a future threat to those in whom you are emotionally invested; thus, linking the image of the one to be protected and the image of the threat kicks up anger. In this way, proactive aggression is less intense than reactive aggression, but is not cold-blooded instrumental aggression either.

This is not the whole story, however, as Barash and Lipton 2011 distinguish reactive aggression or retaliation (attacks directed back at the aggressor) from redirected aggression, which sometimes targets the kin of the aggressor (39). Redirected aggression provides a costly, honest signal of continued potency that increases the chances of non-victimization in the future. The proximate explanation of redirected aggression is relief from stress hormones from the adrenals. Barash and Lipton hypothesize that prolonged stress, especially social subordination stress, burns out the pituitary – adrenal axis and produces lower testosterone and serotonin and higher cortisol. There is thus a hypothesized reduction in bad hormonal effects for those able to engage in redirected aggression when retaliation is not possible.

With this in mind, we can recognize a few basic dimensions to military anger, always keeping in mind two things: first, that anger is contrary to simple fear and to paralyzing freezing, and secondly, that both fear and anger are contrary to calm self-possession. Anger can be linked to quick reactive retaliation or self-motivated returned aggression; to quick or planned redirected aggression aiming to harm the kin or comrades of the enemy; to proactive or preventive aggression, either retaliatory or redirected, designed to protect self and others; and to vengeance or third-party mediated retaliatory or redirected aggression. Experiences of anger in each of these dimensions also vary in intensity, from white-hot flashes to the sort of simmering "baseline resentment" among US soldiers in Iraq for wrongs ranging from 9/11 to Saddam Hussein's treatment of civilians and the latest atrocity (Sherman 2005, 90; cited in Flanagan 2016). This fluctuating background anger is amped up by the death or wounding of comrades; here there is a narrow temporal / spatial / attachment focus on wrongs done to the "band of

brothers." There can also be resentment at the betrayal of a moral code by superiors (Shay 1994, 2003, 2014). Of course, there is also the hot flash of anger at being trapped and in mortal danger yet with a chance of overcoming the foe.

NEUROPSYCHOLOGY OF BERSERKER RAGE

While Panksepp (1999) invokes rage as a pan-mammalian "basic emotion" resulting from the triggering of subcortical neural circuits homologous between humans and other mammals, such that rage is triggered in us when we are put into the situation of a trapped prey animal, we have to nuance this picture. Human anger is dependent on situational analysis: for many soldiers, being trapped cuts off fear-mediated flight and thus pushes them toward rageful fighting, but often only when the situation is analyzed as winnable, even if dire, as otherwise panicked freezing might kick in or conscious surrender be chosen.

We will examine four paradigms for emotion. For Paul Griffiths, the concept of "affect program" is the key. Jaak Panksepp ties such affect programs to evolutionarily inherited "basic emotion" circuits. Departing from both Griffiths and Panksepp's focus on specific modules or circuits are two "constructivist" accounts, Lisa Feldman Barrett's radical constructivism and Joseph LeDoux's moderate constructivism. We will adopt LeDoux's position.

From a cognitive psychology perspective, the berserker rage seems like a candidate for an "affect program," which for Griffiths (1997) is a modularized, automatic, behavior pattern (recall the notion of "autopilot" the recent American berserker Robert Bales mentioned [Vaughan 2015]). From this perspective, extreme cases of rage produce a modular agent or "affect program" that attenuates if not eliminates conscious control. "Affect program" draws on a computer metaphor in which the body is hardware, and rage is the software, but with no pre-reflective self-awareness. Affect programs are emotional responses that are "complex, coordinated, and automated ... unfold[ing] in this coordinated fashion without the need for conscious direction" (Griffiths 1997: 77). They are more than reflexes, but they are triggered well before any cortical processing can take place (though later cortical appraisals can dampen or accelerate the affect program). Griffiths makes the case that affect programs should be seen in light of Fodor's notion of modularity, which calls for a module to be "mandatory ... opaque [we are aware of outputs but not the processes producing them] ... and informationally encapsulated [the information in a module cannot access that in other modules]" (93; my comments in brackets).

From his "basic emotion" perspective, Panksepp cites studies of direct electrical stimulation of the brain and neurochemical manipulation as identifying homologous subcortical "rage" circuits in humans and other mammalian species (1999: 190). Panksepp proposes an adaptationist story for rage agents given their utility for prey, further sharpening the difference between rage and predator aggression. While a hunting attack is an instance of proactive or instrumental aggression, rage reactions are a prey phenomenon, a vigorous reaction when pinned down by a predator. Initially a reflex, Panksepp claims, the rage action pattern developed into a full-fledged neural phenomenon with its own circuits (1999: 190). The evolutionary inheritance of

rage is confirmed, for Panksepp, by the well-attested fact that infants can become enraged by having their arms pinned to their sides (1999: 189).

Lisa Feldman Barrett proposes a radical constructivism. Feldman Barrett (2017) insists on a strong neural globalism, which, with her insistence on holism, emergence, and degeneracy (same outcome from different mechanisms), results in a strong nominalism, such that no “fingerprint” of necessary circuits can be identified for either emotion instances or even emotion categories (2017, 35-41; see also Pessoa 2017 for a similar distributed network approach to emotions).

For Barrett, emotion concept construction occurs via bottom-up summarizing of singular experiences, drawing on neural inputs from multiple brain sites mapping the body and other higher and lower intra-brain regions; each of these “core affect” experiences is tagged with culturally specific emotion terms. Hence there is a high-level, cortical / semantic component to emotion concepts, which are constructed from these multiple inputs. Such summarizing produces concepts as abstract but non-essential capacities that don't exist as enduring, locatable, actual firings, but only exist as potentials for actualization. Given Feldman Barrett's strong holism, emergence, and degeneracy, concept creation is the progressive construction of a virtual field: virtual, because emotion concepts do not exist as things do, but inhere in the manner of potentials.

For Feldman Barrett, an emotional episode is the actualization of the potential concept. It occurs as prediction, a top-down simulation that “unpacks” concepts, constructing an instance of the concept that assembles its components from occurrent inputs and checks the assemblage against the prediction. This actualization occurs in a degeneracy mode, such that no single set of neural firings is necessary for each instance of the concept. Hence the concept is a virtual diagram with multiple mechanisms for the actualization of instances. In Deleuzian terms, it is an “abstract machine” with multiple machinic assemblages for its actualization / individuation / integration / differentiation (Protevi 2013).

We classify Joseph LeDoux's work as moderate constructivism. Contra Feldman Barrett, he identifies specific neural circuits, so he is a moderate constructivist, but contra Panksepp's notion of pre-programmed basic emotional circuits, he is a constructivist, insofar as he says that there is “recipe” for emotions constructed by working memory agent -- in LeDoux's terms, a *bricoleur*.

For LeDoux, threat detection evokes nonconscious defense states, but not emotions. These states are produced from a “recipe” of nonconscious elements (senses, brain arousal, body feedback, and memory) assembled by a working memory *bricoleur* to produce conscious emotional feelings (LeDoux 2015, 228). The neural circuitry of the rage reaction is recapitulated by LeDoux 2015 (93ff) in the following way. Sensory processing follows a fast “low” road and a slower “high” road. In the fast or low road, the lateral amygdala feeds the central amygdala and the basal amygdala. From the central amygdala, we get defensive behavior (initial freezing), physiological support in the autonomic nervous system, hormonal output via the pituitary, and

brain arousal neuromodulators (norepinephrine, dopamine, serotonin and others [LeDoux 2015, 90; see also Nelson and Trainor 2007]).

The slow or high road allows regulation of these first responses by the prefrontal cortex and hippocampus. Note the first reaction is freezing (see also Blair 2012), so that to activate learned responses, you have to inhibit freezing (LeDoux 2015: 101). LeDoux's full action model builds on the early reactions, adding connections from basal amygdala to the nucleus accumbens of the ventral striatum in the pre-frontal cortex (2015: 102-3).

At this point, past freezing, and when flight is unavailable or cognitively unacceptable, then rage is the last resort. The defensive circuit seems to be amygdala / hypothalamus / periaqueductal gray (LeDoux 2015: 89; see also Blair 2012 and Siegel and Victoroff 2007). Along with supporting physiology, the defensive rage reaction is an "innately programmed reaction pattern" (LeDoux 2015: 89).

Interestingly, the hippocampus, which is an important part of risk assessment, creates environmental maps, especially spatial relations (LeDoux 2015, 106). Might it be the case that overstimulation here accounts for the very narrow focus or tunnel vision reported by some berserkers? LeDoux's final suggestion relevant to us is that the BNST ("bed nucleus of the stria terminalis") "sits at the crossroads between defensive circuits involving the amygdala and accumbens and risk-assessment circuitry involving the septohippocampal circuitry and prefrontal cortex. It thus may coordinate the two systems, balancing which dominates behavioral control, depending on the degree of uncertainty" (107). The berserker rage might then be caused by a BNST-mediated lock-in of the defense circuits, outlasting or overpowering controlled threat response and moving on to super-charged hot reactive or redirected aggression-seeking behavior (as opposed to the "warm" proactive or "cold" instrumental forms of aggression).

It's possible to bring together the perspectives of Griffiths, Panksepp, and LeDoux, but not Feldman Barrett. However, we can say that a berserker rage is a highly intense reactive aggression behavior provoked by threat detection to the extent that conscious, subjective, control is severely attenuated, resulting in an automatically running "affect program" with the limit case being the inhibition of episodic memory, thus earning the name "blackout" rages. (LeDoux 2015, 124 allows for use of "affect program" terminology; on "redout" rages, see Swihart, Yuille, and Porter 1999; clinical work with blackout rage is recapped in Potter-Efron 2007.)

EVOLUTIONARY ACCOUNT OF BERSERKER RAGE

The Human Self-Domestication (HSD) hypothesis is one of the most interesting new developments in anthropology. The HSD hypothesis concerns the evolution of reactive aggression control (Hare 2017). As we have seen, reactive aggression occurs with blocked flight after threat detection, and berserker rage is out-of-control reactive aggression. But HSD cannot be perfect; it can increase the cortical means of behavior control and raise danger detection

thresholds for defensive behavior activation in a large portion of the population, but the genetic disposition to develop defensive motivational circuits remains for many, so for them the circuits themselves are present and able to be activated, and there will also be ontogenetically-induced variation in control and thresholds. All that means that, given the right circumstances, instances of blind rage behavior are still possible in many members of the human population.

According to the HSD hypothesis, "later human evolution was dominated by selection for intragroup sociality over aggression," and because of this, "the reduced emotional reactivity that results from self-domestication and increased self-control created a unique form of human tolerance allowing the expression of the more flexible social skills only observed in modern humans" (Hare 2017). The HSD hypothesis is an advance on the "emotional reactivity hypothesis" which states that "human levels of cooperative communication were a result of an increase in social tolerance generated by a decrease in emotional reactivity... an increase in tolerance in humans allowed inherited cognitive skills to be expressed in new social situations. Selection could then act directly on revealed variance in these newly expressed cognitive abilities" (Hare 2017; with reference to Hare and Tomasello 2005a, b). The HSD predicts neurological changes in humans ("interaction between subcortical and cortical pathways"; as well as increased serotonin, which is known to inhibit impulsivity and reactive aggression [Nelson and Trainor 2007]) producing self-control via reduced reactivity and increased inhibition, which "creates the human-specific adaptation for more flexible tolerance and unique forms of human social cognition" (Hare 2017).

The HSD brings up the question of the last common ancestor (LCA) for the lineages now represented by *Pan* (chimps and bonobos) and *Homo* (humans). For Hare (2017), the HSD "also led to enhanced cooperation in intergroup conflicts." This pushes the HSD toward an assumption of a relatively chimp-like LCA (Vaesen 2014; Gonzalez-Cabrera 2016). If the last common ancestor (LCA) was more chimp-like than bonobo-like, then evolutionary human emotional development allowing complex social life is primarily about top-down cortical anger / aggression control of emotions oriented to domination. But if there were significant bonobo-like traits in the LCA we would have developed capacities for bottom-up pacific emotions (joy in cooperation, helping, and caring) at the same time as those for top-down anger control. When circumstances permit, humans are remarkably pacific and sharing towards both in-group and out-group, relative to chimpanzees. Is this because we have learned ways to suppress our dominance-enabling hair-trigger temper and violent reactive aggression, so that we can appreciate when cooperation is the rational choice? Or is it because we *also* genuinely and positively have an emotional structure that provides joy in care and cooperation, in peace and sharing? Do we merely settle for cooperation when punishment for domination attempts are too costly, or can we directly experience, and hence desire, joy in care and cooperation, even at times beyond kin and the in-group?

A "chimpocentric" view like the HSD emphasizes anger control as the condition for later development of care and cooperation. Although we are tempted to question that, the HSD still has some fascinating implications. Note that a prime selection pressure for self-domestication

in early humans is capital punishment (CP) in unsegmented foragers (Wrangham 2014). There is an interesting dialectic here: the acephalic social structure of forager bands is reinforced (and possibly initially produced, if we are chimpanzee-centric) by the CP killing of murderers qua would-be dominators, while that same structure produces the need for CP, as, without an alpha to impose conflict resolution, individual conflict can result in murder, and hence the need for CP (Boehm 2012).

Forager CP is a paradigm case of “warm” proactive aggression (Wrangham 2014), but the targeted killers are those hot-heads exhibiting poor control of reactive aggression or those cold-blooded bullies whose instrumental aggression is used to dominate others. CP thus selects for the ability to carry out the controlled anger / proactive aggression complex that enables war when social circumstances permit. CP is language-mediated, group-oriented, and premeditated, though sometimes achieved by taking advantage of spontaneous opportunity. We should note that Kelly 2000 distinguishes single CP from ambush by multiple people. This latter case is on the way to war, as it requires a perceived duty to enact group vengeance. Once we couple group duty on the side of the victimized avengers to group liability on the side of the offenders, we have set up feud, an intermediate form of violence on the way to war as fully anonymous inter-group violence.

NEUROPSYCHOLOGY OF STRESS-RELATED TRANSIENT GLOBAL AMNESIA

Normal threat memories occur with the encoding of pre-frontal cortex (PFC) narrative consciousness of what happened, along with an affective tagging performed by the amygdala activating defensive motivational states. Using LeDoux’s moderate constructivism, we then see the constructed emotional state available for conscious recall: “I was angry when that happened.” However, in the “blackout rage,” we speculate that very intense defensive motivational states will crowd out PFC encoding and hence prevent the formation of narrative memory. So, in these states there’s nothing “there” to encode for episodic content.

There are a number of mechanisms proposed to account for stress-induced Transient Global Amnesia (TGA). A popular one is hippocampus damage in hyperarousal states from stress-related cortisol exposure. A piece of evidence here is that the CA-1 region of hippocampus has glutamate uptake blockage in stress episodes (Popoli, Yan, McEwen, and Sanacora 2012). So even if the PFC had encoded episodic detail, that content wouldn’t be encoded in the hippocampus. However, critics of the hippocampus damage theory point out that the amygdala and the medial PFC play very important roles in stress. These critics call for a systems analysis of stress and hippocampus: “it may be a time for stress research to shift its focus from the usual neurochemical emphasis to systems-level and neural computation approaches to capture the multifaceted nature of stress” (Kim, Pellman, and Kim 2015).

An example of such a systems-level analysis is the “temporal dynamics model” (Diamond et al, 2007). The key concept in Diamond et al (2007) is the distinction in phase in emotional memory encoding. In phase 1 we see that “plasticity in hippocampus and amygdala are activated for a short time by a strong emotional learning experience.” In phase 2, however, the “induction of

new plasticity [is then] suppressed.” Here we see a mechanism for a shift from narrative memories to flashbulb memories should an emotionally intense event occur during phase 2.

With strong emotionality, the hippocampus shifts from a “configural/cognitive map” mode to a “flashbulb memory” mode. This underlies the long-lasting, but fragmented, nature of traumatic memories.” The key is that events occurring in phase 2 (post-stress) may not be well encoded; given that the PFC is weak under severe stress, it can be the case that narratives are not supplied. So, the shift from narrative to flashbulb memory encoding underlies the fragmentary nature of post-stress memories to the point of episodic memory failure or TGA but with retention of affective-charged sensory fragments.

With flashbulb memories we see a strong emotional experience, sometimes accompanied by more or less coherent narrative memory, but sometimes not, if the experience is too intense. In these latter cases, only sense fragments tagged with amygdala-produced affect get through. Metaphorically, then, post-stress amnesia blackouts are when you look right at the flashbulb, so that all that is encoded for recall or flashback are “intense implicit components interwoven with fragmented declarative recollections” (Diamond et al., 2007).

PHENOMENOLOGY OF BLACKOUT

So far, we have classified berserker rage as an episode of hyper-intense pre-emptive aggression whose neurological profile includes a threat-activated defense state that attenuates conscious control. We then moved to sketch a possible evolutionary path, via the Human Self-Domestication hypothesis, that accounts both for the possibility of rage behavior but also its rarity, and then tied all that to an account of the neurological basis for “blackout rages,” or episodes of Transient Global Amnesia (TGA), using Diamond et al’s (2007) “temporal dynamics” model.

We now move to an account of the phenomenology of blackout, an endeavor that is made intrinsically difficult by the gaps in narrative memory shown in TGA cases.

Based on cases from his practice, the clinical psychologist Ronald Potter-Efron proposes three scales of rage episodes; we will re-order these from his presentation to move from least to most extreme. First, there is moderate rage, described as “losing control,” in which the subject retains a feeling of ownership of action, even if they cannot control themselves. They are themselves, just behaving badly and unable to stop of their own accord. The second scale is something like “being possessed.” There is still a subject, but it’s a different one than one’s normal self. You’re not just out of control; you’re someone else. The third and most extreme scale is the limit case of “blackout” rage or TGA as we have elucidated it above. The subject loses awareness of action and has no ability to spontaneously construct coherent memory narratives, but must instead infer responsibility from testimony and evidence about what happened (Potter-Efron 2007: 157).

The first scale, “losing control,” can be called, using terms from Shaun Gallagher (2005), ownership without agency, that is, the person can recall that they owned the experience, that it was them, but what is recalled is a lack of volition, in which they can’t assume responsibility for stopping, but can only note that a stoppage occurred. “When Ricky rages, he loses control over what he says and does. Notice however that even in the midst of this rage episode, he didn't lose total control (“I didn't even try to stop. I did stop, though”)" (Potter-Efron, 44). Here is another analysis of the attenuation of voluntary control such that the rage becomes the subject, as it were: “When Ricky rages, he becomes instantly furious, so angry that he cannot keep his rage from taking over control of his mind and body.” We claim that such a phenomenon of ownership without agency is the “automatic pilot” that the American berserker Robert Bales mentions. Potter-Efron continues: “The ‘I snapped’ is a sign [of] a mini-rage. It felt to him, just for a moment, that he wasn't exactly himself. Not that he completely lost conscious awareness, nor did he lose his sense of his normal self. Yes, he was himself, but at the same time, he could sense right then that he was also not quite himself. He had an incomplete transformation.”

The second scale is that of “becoming someone else” (the mundane expression for the Greek mythological trope of “possession by Ares”). Potter-Efron offers the following clinical evidence for this second state. Second-person observation shows that the body changes its appearance as the berserker shows an “inhuman gaze”: “Friends tell Ricky when he is raging: ‘It's your eyes,’ they say. Ricky's eyes get weird when he rages, looking both glazed over and brilliant.” From the first-person perspective of second scale episodes, we see the testimony of someone feeling they are no longer themselves. Not just themselves without normal control, but someone else: “Ricky admits that he feels like a different person when he rages, as if he were somebody else.” The “he feels like” and the “as if” mark this as still ownership; it's recognition of behaving in non-ordinary ways, poetically expressed as “becoming somebody else.” There is still a “he,” Ricky qua pre-reflective self, that feels like he – Ricky – is acting abnormally. So, there's still the ability to compare these actions to the expected actions as characteristic or not of Ricky.

The third scale is blackout rage. Potter-Efron writes of “Ricky” that “Sometimes he blacks out, unable later to remember much or all of what he has done.” Here we see the partial or full inhibition of episodic memory, and the loss of a feeling of ownership, which we can attribute to either a disruption of pre-reflective self-awareness, or an inability to reflectively access that pre-reflective state (Zahavi 2005; Gallagher and Zahavi 2019). To flesh out our account of blackout rage, we will turn to the case of Robert Bales we have previously mentioned.²

Robert Bales claims he doesn't remember setting fires during his rampage, but in the trial, he says, “I must have done it, it's the only thing that makes sense.” So here there is a bivalence of the “I” as agent constituted after the fact by inferences, and the “I” as narrative self who now incorporates this action into the life story even without direct memory of it. Diamond et al (2007) point to the role of later inferences: “the reconstructed memory would therefore be a hybrid representation of information processed by the hippocampus (and amygdala) in a

fragmented manner at the time of the experience, in conjunction with post-event reconstructions of the memory.”

From a long-form magazine story on Bales, with extensive interviews of him:

The other soldiers wanted to simply haul the tree into a burn pit. To Bales, this would not do. He wanted to destroy the thing himself. Finally, on the morning of Saturday, March 10, 2012, after fixating on this symbol of failure for three days and mostly sleepless nights, Bales went at the tree with a hand axe. It took him eight hours—in full view of the entire base—but he eventually succeeded in chopping it to bits.

“This tree was used to hurt my friends, man,” Bales told me recently, recalling the episode in an odd, detached tone. “It was used by the enemy. I had to see it go, you know?”

Later that evening, Bales would turn his rage to less symbolic targets. Shortly after midnight, under cover of a deep rural darkness, Bales slipped away from the base and walked to a nearby village, where he killed four Afghans, including a 3-year-old girl. Then, after returning to his base to reload and telling another soldier what he had done, Bales left again to murder 12 more in another village just down the road. Of the 16 people he killed, four were men, four were women, and eight were children. The youngest was 2”. (Reference?)

But this phrase "turn his rage" makes the rage the possession of Bales. That's the deep logic in which actions are attributable to continuously active subjects that "being possessed by Ares" calls into question. We can say that in such extreme cases that the "subject" is split. It is both a seat of moral responsibility and a center of autobiographical narrative – " 'I' " did that" " and a simple abiding substance to which accidents can accrue – the rage belonged to Bales. So yes, in the history of the substance that is Bales, a rage episode occurred, so we can say "his rage." But it wasn't willed, which is what the first, moral and autobiographical, subject presupposes.

From our discourse analysis of Bales's testimony we propose five "selves" of the blacked-out berserker: (1) a level of pre-reflective self-awareness allowing "ownership" of actions; (2) the body agent performing the behavior (recalled later as "automatic pilot"); (3) the abiding substance to which blackout rage happens as an event recounted in 2nd or 3rd person history ("you did it" / "he did it"); (4) the "I" as agent constituted after the fact by inferences ("it's the only thing that makes sense"); and (5) the "I" as narrative self who now incorporates this action into the life story even without direct memory of it ("I did it; I must have done it").

What's missing is the "true self," the "I" as classical subject: the seat of moral responsibility for actions consciously taken and able to be recalled in a first-person autobiographical narrative in which one directly "owns" one's actions, acknowledging them as products of their will. Here events belong to the self, a unitary self that provides a focus for all five aspects that come apart in the blacked-out berserker.

CLASSICAL SELF: unified along five aspects	BLACKED-OUT BERSERKER: five dispersed selves
Pre-reflective self-awareness: that which allows ownership of action	A loss of pre-reflective self-awareness or an inability to reflectively access it.
Self-conscious agent: "I'm doing this"	Body-agent available in 1 st person recall only as "automatic pilot" or "someone else"
Abiding substance to which self-conscious events accrue: "my life history"	Abiding substance to which events accrue via 2 nd - or 3 rd person testimony: "you did that" or "he did that"
Agent continually self-constituting: "I recall doing this sequence at that time"	Agent constituted after the fact by inferences: "I must have done this: it's the only thing that makes sense of the evidence"
Narrative self: "I did that for the following reasons"	Narrative self who now incorporates this action into the life story even without direct memory of it ("I accept that I must have been the one to do this because of my rage")

The phenomenology of such a dispersed subjectivity must then include, no matter its difficulties, reconstructing memories and forming integrated selves. This is for its subjects no mere philosophical exercise but the working through of trauma. Normal memory recall often has gap-filling inferences / testimony. So, the post-stress amnesiac may assume ownership of the episode's contents at first by conscious inference, and then perhaps by reconstruction, so that they may "re-member" them.

Psychiatrist Jonathan Shay has extensive clinical experience with veterans of the US armed forces suffering psychological trauma. Some of that is PTSD from being under continual stress; they are suffering from what was done to them, to what they underwent. Some of Shay's patients, however, suffer from what Shay calls "moral injury," or psychological disturbance stemming from the soldier's actions. Shay feels that some of this damage can be ameliorated when soldiers can partake in self-narratives coupled to ritualized expiation, so that the soldier feels less isolated and recognizes he was fulfilling a socially recognized role.

As we have seen, however, some combat trauma experiences cannot be easily narrativized. When they can be reconstructed with the help of therapeutic intervention and guidance, by narratives that piece together fragmentary memories with the help of inference from other people's testimony, these narratives can help restore the connections among the "five selves" we discussed:

Severe trauma explodes the cohesion of consciousness. When a survivor creates a fully realized narrative that brings together the shattered knowledge of what happened, the emotions that were aroused by the meanings of the events, and the bodily sensations that the physical events created, the survivor pieces back together the fragmentation of consciousness that trauma has caused. (Shay 1994: 191)

Hence, for Shay, it's not simply isolated narratives inside the soldier's head that works. It's being able to share stories of the events that provides relief by the "communalization" of trauma. The "paradox that narrative temporality can never be completely true to the timeless experience of prolonged, severe trauma.... disappears when ... narration is a step in the survivor's move to communalize the trauma by inducing others who were not there to feel what the victim felt when he or she was going through it" (Shay 1994: 191).

CONCLUSION

We have discussed the complexities of understanding how the berserker rage is experienced by perpetrators. When they assume the "inhuman gaze," who exactly is the subject of that gaze, who is looking outward? We don't wish to underplay the moral complexity of therapy for those who have performed atrocities; do we as a society really wish to make it easier for people to return to "normal lives" after showing what they are capable of?³

There are two things to say here: first, one can offer both deontological and utilitarian reasons for such therapy. Deontologically, berserkers are human beings, and deserve the dignity both of care and help in understanding what they have done. And from a utilitarian perspective, the rates of domestic "collateral damage" in the form of violence and substance abuse that occurs with untreated berserkers suffering from the physiological and psychological trauma of PTSD and "moral injury" might be lessened by therapeutic intervention.

Secondly, however, all our moral notions, to the extent they are tied up in notions of personal responsibility that rest on the capacity to keep agency and ownership together, are put to the test by cases of the transformed and sometimes dispersed "selves" we find in various scales of berserker rage episodes. So, a self that can take responsibility is not a given in these cases; it must be produced through processes of narrative construction trying to tie together affect-laden sensory fragments, second- and third-person testimony, and inferences.

It's an open question, we believe, whether berserkers should feel themselves, at the end of those processes, to be guilty, or whether acknowledging the damage the "rage agent" has done and appreciating the dangers to self and others of allowing such states to recur, is enough.

While some berserkers avail themselves of "neurological exculpation," by referring to analyses of the "my brain made me do it" kind, others do feel guilty. We should remark upon the tenacity of retrospective guilt produced through passage from "I must have done that, it's the only thing that makes sense" to "My God, what have I done?," even when the practical agent of the act of killing can be acknowledged as a "rage agent." We can see a "centripetal power" to subject constitution, a power that draws to an abiding, conscious, directly memorialized and narratively accessible autobiographical self, responsibility for acts it never really committed, acts that were performed by another software program running their hardware, acts committed while "possessed," by "someone else," acts performed while the agent exhibits an "inhuman gaze."

Thus, it seems some people who have experienced berserker rage episodes paradoxically just cannot help taking responsibility. In other words, to heighten the paradox, they are irresponsible in taking responsibility, in taking upon themselves moral agency, when practical agency lies elsewhere, in the "rage agent" that for a time "possessed" them. Questions for future research concern the genealogy of this powerful motivation for subject construction and the assumption of moral responsibility when seemingly exculpatory explanations based on deep neurological processes are at hand.

LIST OF WORKS CITED

- Barrett, Lisa Feldman. 2017. *How Emotions are Made*. New York: Houghton Mifflin Harcourt.
- Brison, Susan. 2003. *Aftermath: Violence and the Remaking of a Self*. Princeton: Princeton University Press.
- Cairns, Douglas. 2003. Ethics, Ethology, Terminology: Iliadic Anger and the Cross-cultural Study of Emotion. In S. M. Braund and G. W. Most, eds., *Ancient Anger*. Cambridge: Cambridge University Press: 11-49.
- Coccaro, E. 2012. Intermittent explosive Disorder as a Disorder of Impulsive Aggression for DSM-5. *American Journal of Psychiatry* 169:577–588.
- Diamond, David M, Campbell, Adam M, Park, Collin R, Halonen, Joshua, and Zoladz, Phillip R. 2007. The Temporal Dynamics Model of Emotional Memory Processing: A Synthesis on the Neurobiological Basis of Stress-Induced Amnesia, Flashbulb and Traumatic Memories, and the Yerkes-Dodson Law. *Neural Plasticity*. Article ID 60803, 33 pages, doi:10.1155/2007/60803.
- Gallagher, Shaun. 2005. *How the Body Shapes the Mind*. New York: Oxford University Press.
- Gallagher, Shaun and Zahavi, Dan. 2019. Phenomenological Approaches to Self-Consciousness. In Edward N Zalta, ed., *The Stanford Encyclopedia of Philosophy*.
<https://plato.stanford.edu/archives/sum2019/entries/self-consciousness-phenomenological/>.
- Griffiths, Paul. 1997. *What Emotions Really Are: The Problem of Psychological Categories*. Chicago: University of Chicago Press.

- Kelly, Raymond. 2000. *Warless Societies and the Origin of War*. Ann Arbor: University of Michigan Press.
- Kim, Eun Joo, Pellman, Blake, and Kim, Jeansok J. 2015. Stress effects on the hippocampus: a critical review. *Learning & Memory* 22:411–416.
- LeDoux, Joseph. 1996. *The Emotional Brain*. New York: Simon & Schuster.
- LeDoux, Joseph. 2015. *Anxious: Using the Brain to Understand and Treat Anxiety and Depression*. New York: Penguin.
- Miller, Greg. 2013. A Gruesome War Crime Renews Concerns About a Malaria Drug's Psychiatric Side Effects. *Wired*. <https://www.wired.com/2013/08/mefloquine-robert-bales/all/>
- Panksepp, Jaak. [1998] . *Affective Neuroscience*. New York: Oxford University Press.
- Popoli, Maurizio, Yan, Zhen, McEwen, Bruce, and Sanacora, Gerald. 2012. The stressed synapse: the impact of stress and glucocorticoids on glutamate transmission. *Nature Reviews Neuroscience* 13: 22–37. doi:10.1038/nrn3138
- Potter-Efron, Ronald. 2007. *Rage*. Oakland CA: New Harbinger Books.
- Protevi, John. 2013. *Life, War, Earth: Deleuze and the Sciences*. Minneapolis: University of Minnesota Press.
- Protevi, John. 2017. The Berserker Rage. In Myisha Cherry and Owen Flanagan, eds. *The Moral Psychology of Anger*. Lanham MD: Rowman and Littlefield. 139-156.
- Shay, Jonathan. 1994. *Achilles in Vietnam*. New York: Macmillan.
- Shay, Jonathan. 2003. *Odysseus in America*. New York: Scribner.
- Shay, Jonathan. 2014. Moral Injury. *Psychoanalytic Psychology* 31.2: 182–191

Sherwell, Philip. 2012. Sgt Robert Bales: The story of the soldier accused of murdering 16 Afghan villagers. *The Telegraph*.

<http://www.telegraph.co.uk/news/worldnews/northamerica/usa/9150641/Sgt-Robert-Bales-The-story-of-the-soldier-accused-of-murdering-16-Afghan-villagers.html>

Vaughan, Brendan. 2015. Robert Bales Speaks: Confessions of America's Most Notorious War Criminal. *GQ*. <http://www.gq.com/story/robert-bales-interview-afghanistan-massacre>

Zahavi, Dan. 2005. *Subjectivity and Selfhood: Investigating the first-person perspective*, Cambridge MA: MIT Press.

NOTES

¹ See Flanagan 2016 for a criticism of this basically Aristotelian position on the appropriateness of some forms and intensities of anger; although he does not advocate a universal condemnation of all forms of anger, he does propose a smaller range of appropriate forms than is the contemporary American norm.

² The Robert Bales case was multi-factorial, but we can note that one of the soldiers he was charged with protecting had lost a leg hours before he committed the massacre. The Bales massacre occurred in Afghanistan March 2012. Bales was a staff sergeant charged with providing base security for combat troops, killed 16 civilians in two villages near base in two trips at 3 am, dressed in Afghan clothes over his military uniform. Three other factors besides the injury to one of his soldiers are mentioned: a) alcohol and steroid use; b) mefloquine, a malaria drug with possible psych effects (Miller 2013); c) domestic and financial trouble, as 3 days previously house was put up for sale in an “underwater mortgage” in which the property was listed for less than what they had paid for it in 2005, and less than what they owed the bank (Sherwell 2012).

³ It may seem obscene or perverse to cite in the discussion of the fragmented subjectivity of berserkers, who are the perpetrators of violence, Susan Brison’s beautifully poignant and philosophically rich memoir *Aftermath* (Brison 2003), as it recounts the author’s struggles to reconstruct a narratable self of the traumatized victim of sexual violence. Nonetheless, it is an astounding work of philosophy and essential reading for any discussion of narration as the recovery of self.