

# THE RELIABILITY OF ASSAULT VICTIMS' IMMEDIATE ACCOUNTS: EVIDENCE FROM TRAUMA STUDIES

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## I. INTRODUCTION

Optimistically, rules of law ought to be objective, reliable, and, at the very least, rational. Yet a fundamental problem with the common law's tendency to rely upon long-standing precedence to justify retaining standards is that such a philosophy often remains ignorant of advancements in scientific knowledge. If the argument to retain a rule is simply due to its historical entrenchment, a visit to current, empirically-validated research is inherently unnecessary. A legal arena in which this unfortunate stance of preferring historical rules prevails is in the law of evidence. A commentator has rightly observed that the "land of evidence has a weird logic or illogic

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that is all its own.”<sup>1</sup> Interestingly, evidence law is itself divided in that officials seem quite willing, and rightly so, to update their knowledge of scientific research when it concerns expert evidence,<sup>2</sup> but willing to ignore modern advances in data outside expert testimony.

These reflections appear well confirmed when analyzing certain of the entrenched exceptions in evidence law to the general rule of excluding hearsay testimony. The admission of hearsay qualifying as excited utterances, present sense impressions, and statements about mental and bodily conditions are exceptions to the general rule. Evidence scholars explain them as being presumably reliable statements as they are generally contemporaneous with an event at issue such that faults with memory and time to lie are remedied. These three exceptions have been particularly depended upon in cases of interpersonal violence in which victims are considered to honestly complain during the occurrence of the assault or in its immediate aftermath. This state of affairs is particularly acute with female victims of domestic abuse and sexual assault as they are presumed to admit the truth of their victimizations at the first opportunity. For a variety of reasons, female victims of intimate partner and sexual violence later often recant or decline to cooperate with investigations and, therefore, her hearsay evidence is intended to offer an evidentiary substitute. Nonetheless, much recent research in interdisciplinary circles highlights that the impact of trauma has varied consequences upon subjects’ abilities to accurately and fully articulate what just transpired to them. Concurrent neurophysiological reactions to trauma can mediate, alter, or entirely thwart one’s capacity to conceptualize internally and to clearly verbalize externally the violent attack. Thus, unlike the hearsay exceptions’ presumption of accuracy, a surfeit of scientific knowledge now shows that violence victims may—or may not—issue in the near term holistic and reliable reports.

This Article proceeds as follows. Section II reviews the history of the general hearsay rule and relevant exceptions. Section III draws from neurobiopsychological studies of trauma responses to more fully conceptualize the cognitive, physiological, physical, and psychological effects of stress. This part expands upon the impact that the human stress response system and the potential of experiencing a dissociative state may have on the mind’s processing of stimuli and its consequences on the victim’s faculties in accounting the traumatic incident. In addition,

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<sup>1</sup> John Leubsdorf, *Presuppositions of Evidence Law*, 91 IOWA L. REV. 1209, 1210 (2006).

<sup>2</sup> *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593-94 (1993) (ruling expert evidence must be judged on its validity and reliability by considering such factors as testability, peer review and publication, methodological standards, and general acceptance in the relevant professional community).

neurocognitive studies help to respond to the assumption underlying these hearsay exceptions that the conjuring of lies takes at least a modicum of time. Then Section IV relates how modern scientific studies help to explain the particularly significant impact that trauma responses have on victims of interpersonal violence. The effects are particularly strong with respect to female victims of domestic and sexual violence. The extremely traumatizing consequences of these types of attacks render victims in many cases almost mute or not in the moment having the capacity to verbalize factual narratives. Empirical studies indicate that trauma responses tend to be heightened in women. Conclusions follow.

## II. HEARSAY EXCEPTIONS

Evidence law enjoys an epistemological edge in which it gains knowledge through the senses.<sup>3</sup> Still, evidentiary rules are interested in more than judging a witness' capacity to perceive information since there are also more subjective concerns about the witness' potential objectivity and impartiality.<sup>4</sup> Many rules of evidence may seem strange as they adhere to longstanding psychological assumptions about the truthfulness and potential deceit that frequently are at the heart of human behavior.<sup>5</sup> These dual considerations exemplify the common law's treatment of hearsay testimony.

### A. *The Hearsay Rule*

Hearsay roughly refers to as "second hand information."<sup>6</sup> More concretely, the Federal Rules of Evidence define hearsay as any statement the declarant does not himself give while testifying at a hearing but that a party offers in evidence to prove the truth of the matter asserted.<sup>7</sup> The general rule is that hearsay is inadmissible evidence. The hearsay rule has a long history, possibly even dating back to the sixteenth century.<sup>8</sup> Sir Geoffrey Gilbert, reflecting in the eighteenth century on the then common law rule, explained the ban on hearsay in this way: "Nothing can be more 'indeterminate' than loose and wandering 'Testimonies' taken upon the uncertain Report of the Talk and Discourse of others."<sup>9</sup> The reported talk of

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<sup>3</sup> Peter Tillers & David Schum, *Hearsay Logic*, 76 MINN. L. REV. 813, 815 (1992).

<sup>4</sup> Peter Tillers & David Schum, *Hearsay Logic*, 76 MINN. L. REV. 813, 816 (1992).

<sup>5</sup> John Leubsdorf, *Presuppositions of Evidence Law*, 91 IOWA L. REV. 1209, 1210-11 (2006).

<sup>6</sup> G. Michael Fenner, *The Residual Exception to the Hearsay Rule: The Complete Treatment*, 33 CREIGHTON L. REV. 265, 265 (2000).

<sup>7</sup> Fed. R. Evid. 801(c).

<sup>8</sup> 5 J. WIGMORE, EVIDENCE § 1364 (Chadbourn rev. 1974).

<sup>9</sup> GEOFFREY GILBERT, THE LAW OF EVIDENCE 890 (1791/1979 vol. II) (emphasis in original), <http://www.archive.org/details/lawevidence00gilgoog>.

others is loose and indeterminate because it is not rooted in the sensory experience of the current witness.<sup>10</sup> The witness reporting the hearsay may have misheard the declaration, misunderstood it, perverted it, or otherwise had a poor memory of it.<sup>11</sup>

Hearsay testimony is generally objected to as it does not permit a proper investigation of what has been referred to as the “Four Horsepeople of the Apocalypse: Memory, Sincerity, Perception and Ambiguity.”<sup>12</sup> Considering these four dangers, hearsay is considered too fraught with the dangers of inaccuracy and untrustworthiness<sup>13</sup> and thus too unreliable to be depended upon in a court of law.<sup>14</sup> With hearsay especially, the usual three corrections for potentially unreliable statements are missing, consisting of the “ordeal” of cross-examination,<sup>15</sup> under the legal and moral threat imposed by taking

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<sup>10</sup> GEOFFREY GILBERT, *THE LAW OF EVIDENCE* 889 (1791/1979 vol. II) (“the Attestation of the Witness must be to what he knows and not to that only which he hath heard, for a mere hearsay is no Evidence, for ‘tis his Knowledge that must direct the Court and Jury in the Judgment of the Fact, and not his Credulity”) (emphasis in original). See also Jennifer Andrus, *A Legal Discourse of Transparency: Discursive Agency and Domestic Violence in the Technical Discourse of the Excited Utterance Exception to Hearsay*, 20 TECHNICAL COMM. Q. 73, 79 (2011) (“Hearsay obscures “the original truth” because it is further removed from the empirical world and too reliant on language and the speaker.”).

<sup>11</sup> SIMON GREENLEAF, *A TREATISE ON THE LAW OF EVIDENCE* § 99a, at 183 (16th ed. 1899).

<sup>12</sup> Paul Bergman, *Ambiguity: The Hidden Hearsay Danger Almost Nobody Talks About*, 75 KY. L.J. 841, 842 (1986). These four impediments of hearsay are oft repeated. E.g., Laurence H. Tribe, *Triangulating Hearsay*, 87 HARV. L. REV. 957, 958 (1974) (“four testimonial infirmities of ambiguity, insincerity, faulty perception, and erroneous memory”); *The Theoretical Foundation of the Hearsay Rules*, 93 HARV. L. REV. 1786, 1796 (1980) (“The reliability of hearsay is usually determined by examining the degree to which believing the evidence requires unsupported reliance upon the declarant’s four testimonial capacities: narration, sincerity, memory, and perception.”); FRE 801, advisory committee’s note (noting troubles with hearsay are “untested with respect to the perception, memory, and narration (or their equivalents) of the actor”).

<sup>13</sup> 5 JOHN H. WIGMORE, *EVIDENCE IN TRIALS AT COMMON LAW* § 1420, at 251 (James H. Chadbourn rev. ed. 1974).

<sup>14</sup> Mary Morton, *The Hearsay Rule and Epistemological Suicide*, 74 GEO. L.J. 1301, 1306-07 (1986).

<sup>15</sup> SIMON GREENLEAF, *A TREATISE ON THE LAW OF EVIDENCE* § 98, at 182 (16th ed. 1899) (“For it is found indispensable, as a test of truth and to the proper administration of justice, that every living witness should, if possible, be subjected to the ordeal of a cross-examination, that it may appear what were his powers of perception, his opportunities for observation, his attentiveness in observing, the strength of his recollection and his disposition to speak the truth. But testimony from the relation of third persons, even where the informant is known, cannot be subjected to this test; nor is it often possible to ascertain through whom, or how many persons, the narrative has been transmitted from the original witness of the fact.”). See also 3 JEREMY BENTHAM, *RATIONALE OF JUDICIAL EVIDENCE* 396. (J. S. Mill ed. 1827) (“the absence of one of the principal securities for correctness and

an oath, and in the presence of the judge or magistrate.<sup>16</sup> Cross-examination of the actual declarant theoretically permits the factfinder to adjudge his moral character, motives, deportment, skills of observation, and memory.<sup>17</sup> Indeed, the values of cross-examination under oath have long been championed, such as by an eighteenth century American writer indicating that without those measures hearsay amounted to “no evidence” at all<sup>18</sup> and a prominent appellate judge recently denoting that hearsay “often is no better than rumor or gossip.”<sup>19</sup>

Despite the general rule excluding hearsay, as is often the case in the law, there are exceptions. Dispensation generally relates to categories of hearsay for which one or more of the four dangers are thought to be obviated.<sup>20</sup>

### B. Exceptions and Rationales

The three hearsay exceptions that are of interest in the case of assault victims have been referred to as the “transaction exceptions,” which are declarations made as part of the same general transaction as relevant out-of-court nonverbal evidence.<sup>21</sup> These entail excited utterance, present sense impression, and statement of current mental or bodily condition.

Notably, these exceptions to the general hearsay ban are notably not reliant upon data from the sciences but “grew out of intuitive beliefs about human nature” made in some cases centuries ago.<sup>22</sup> The Supreme Court has sanctioned the admissibility of hearsay for any exception that is “firmly rooted” in light of “longstanding judicial and legislative experience”<sup>23</sup> and “rests [on] such [a] solid foundation that admission of virtually any evidence within [it] comports with the ‘substance of the constitutional

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completeness; viz. interrogation ex adverso at the hands of a party, whose interest, in the event of its being incorrect or incomplete, may, in proportion to that incorrectness or incompleteness, be made to suffer by it”).

<sup>16</sup> SIMON GREENLEAF, A TREATISE ON THE LAW OF EVIDENCE § 99a, at 183 (16th ed. 1899); HEARSAY HANDBOOK § 3:2 (4th ed. 2013); Roger C. Park, “*I Didn’t Tell Them Anything About You*”: Implied Assertions as Hearsay Under the Federal Rules of Evidence, 74 MINN. L. REV. 783, 785 (1990).

<sup>17</sup> *Donnelly v. United States*, 228 U.S. 243, 273 (1913); SIMON GREENLEAF, A TREATISE ON THE LAW OF EVIDENCE § 99a, at 183 (16th ed. 1899).

<sup>18</sup> *Hearsay Evidence*, 21 AM. L. REG. 1, 1 (1873).

<sup>19</sup> *United States v. Boyce*, 742 U.S. 291 (7th Cir. 2014) (Posner, J., concurring) (presuming witness had recanted).

<sup>20</sup> Paul Bergman, *Ambiguity: The Hidden Hearsay Danger Almost Nobody Talks About*, 75 KY. L.J. 841, 843 (1986).

<sup>21</sup> Roger Park, *A Subject Matter Approach to Hearsay Reform*, 86 MICH. L. REV. 51, 74 (1987).

<sup>22</sup> John E.B. Myers et al., *Hearsay Exceptions: Adjusting the Ratio of Intuition to Psychological Science*, 65 LAW & CONTEMP. PROBS. 3, 3 (2002).

<sup>23</sup> *Idaho v. Wright*, 497 U.S. 805, 817 (1990).

protection.”<sup>24</sup> Firmly entrenched precedence is considered to be proof that the exceptions entail conditions in which the temptation to fabricate is eliminated.<sup>25</sup> For example, the Supreme Court deemed the excited utterance exemption to be firmly rooted because it “is at least two centuries old,” remains “widely accepted among the States,” and carries “substantial guarantees of . . . trustworthiness . . . [that] cannot be recaptured even by later in-court testimony.”<sup>26</sup> Thus, established exceptions are thought to “carry special guarantees of credibility” essentially equivalent to, perhaps even greater than, those produced by a preference for the declarant’s own live appearance under oath.<sup>27</sup>

The concern is not just about certain hearsay being perhaps more credible than cross-examined trial testimony of the speaker. Bans on evidence mean a loss of relevant information. “Any relevant evidence, including hearsay, has at least some absolute reliability because the existence of infirmities and uncertainties of a piece of evidence only justifies *discounting* the weight given to the evidence rather than *ignoring* the evidence through exclusion.”<sup>28</sup> Besides, as the Supreme Court has averred, “[r]eliability is an amorphous, if not entirely subjective, concept.”<sup>29</sup> Legal cases are founded upon a need for factual evidence. The three transaction hearsay exceptions that are on point with cases of assault will next be summarized, the rationales for their longstanding adoption outlined, and an initial perspective of some basic criticism offered.

### 1. Excited Utterance

The federal system and all states recognize evidence of an excited utterance as an exception to the hearsay rule.<sup>30</sup> The general criteria require a startling event about which the declarant makes a statement under the stress

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<sup>24</sup> *Ohio v. Roberts*, 448 U.S. 56, 66 (1980).

<sup>25</sup> *Mattox v. United States*, 156 U.S. 237, 244 (1895).

<sup>26</sup> *White v. Illinois*, 502 U.S. 346, 355-56 (1992). *See also Idaho v. Wright*, 497 U.S. 805, 817 (1990) (“Admission under a firmly rooted hearsay exception satisfies the constitutional requirement of reliability because of the weight accorded long-standing judicial and legislative experience in assessing the trustworthiness of certain types of out of court statements.”).

<sup>27</sup> *White v. Illinois*, 502 U.S. 346, 356 (1992).

<sup>28</sup> *The Theoretical Foundation of the Hearsay Rules*, 93 HARV. L. REV. 1786, 1787-88 (1980). “For example, even a statement by one known to be biased should not be ignored completely. With respect to hearsay, the existence of bias may be uncertain because there is no opportunity to cross-examine the declarant. Yet exclusion of such evidence would be inappropriate since the effect is to discount the evidence even more than if we were certain that the witness was biased.” *Id.*

<sup>29</sup> *Crawford v. Washington*, 541 U.S. 36, 63 (2004).

<sup>30</sup> HEARSAY HANDBOOK § 9:2 (4th ed. 2013) (listing statutes).

of excitement caused by and related to it.<sup>31</sup> The excited utterance exception was more commonly referred to as a “spontaneous exclamation” prior to the twentieth century.<sup>32</sup> Such qualifying statements have also been described as impulsively made<sup>33</sup> or constituting “instinctive and natural utterances.”<sup>34</sup> Excitability often accompanies frightful threats to our physical well-being. Normative examples of a startling effect include physical shock<sup>35</sup> and other assaultive crimes, including “being abducted, assaulted, injured, raped, robbed, shot, shot at or threatened.”<sup>36</sup>

Excited utterances are assumed to be particularly trustworthy.<sup>37</sup> The stress of nervous excitement is intuited to still one’s reflective faculties<sup>38</sup> such that excited utterances must be free of fabrication<sup>39</sup> as a startled person cannot have premeditated or designed an outburst<sup>40</sup> and has no time for self-interest.<sup>41</sup> “Courts reason that presumably if one is still agitated or nervous, or has a strong emotional reaction after an event, that person is not being

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<sup>31</sup> *United States v. Boyce*, 742 U.S. 291 (7th Cir. 2014) (citing *United States v. Joy*, 192 F.3d 761, 767 (7th Cir. 1999)).

<sup>32</sup> Jennifer Andrus, *A Legal Discourse of Transparency: Discursive Agency and Domestic Violence in the Technical Discourse of the Excited Utterance Exception to Hearsay*, 20 TECHNICAL COMM. Q. 73, 79 (2011).

<sup>33</sup> 6 JOHN HENRY WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW § 1749, at 199 (1976).

<sup>34</sup> JAMES POLK GORTER, LAW OF EVIDENCE 93 (1916).

<sup>35</sup> 6 JOHN HENRY WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW § 1747, at 195 (1976).

<sup>36</sup> 4 JONES ON EVIDENCE § 28:12 (7th ed. 2013) (citations omitted).

<sup>37</sup> 6 JOHN HENRY WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW § 1747, at 195 (1976).

<sup>38</sup> 6 JOHN HENRY WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW § 1749, at 199 (1976); *Spontaneous Statements* 23 MICH. L. REV. 301, 302 (1925); C.F. Reavis, *Evidence: Declarations Admissible as Part of the Res Gestae*, 4 CORNELL L. Q. 208, 212 (1919). See also CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, EVIDENCE § 8.35, at 1217 (1995) (noting that the exciting event “leaves the speaker momentarily incapable of fabrication, and his memory is fresh because the impression has not yet passed from his mind.” “In short, risks of insincerity and memory lapse are removed”); 6 JOHN HENRY WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW § 1747, at 195 (1976) (noting spontaneous declaration is “allowed because the reflective faculties are quiescent under the shock of a given event. If that event is such, then, as will still these reflective faculties, the ejaculation should be receivable in evidence”).

<sup>39</sup> *United States v. Joy*, 192 F.3d 761, 766 (7th Cir. 1999) (“This exception is premised on the belief that a person is unlikely to fabricate lies (which presumably takes some deliberate reflection) while his mind is preoccupied with the stress of an exciting event.”); 4 JONES ON EVIDENCE § 28:12 (7th ed. 2013); CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, EVIDENCE § 8.35, at 1217 (1995); GLEN WEISSENBERGER, FEDERAL EVIDENCE § 803.7, at 440 (2d ed. 1995).

<sup>40</sup> *Spontaneous Statements*, 23 MICH. L. REV. 301, 302 (1925).

<sup>41</sup> *United States v. Brown*, 254 F.3d 454, 458 (3d Cir. 2001); 6 JOHN HENRY WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW § 1747, at 195 (1976).

influenced by any outside stimuli”<sup>42</sup> and has no view of the consequences of her speech.<sup>43</sup> Another reason to admit spontaneous statements is that there is postulated to be little issue with one of the main concerns for hearsay regarding poor recollection as excited utterances are considered to occur when the memory is freshest.<sup>44</sup>

An alternative conceptualization is that an “excited utterance is the event speaking and not the speaker[; a] spontaneous utterance made under the impact of a shocking, unexpected emotion, precipitated by a traumatic event, renders the speaker the medium and not the message.”<sup>45</sup> Spontaneous statements are thought to carry such circumstantial guarantees of reliability that, in general, corroboration of the statement is not required<sup>46</sup> and hearsay testimony is permitted even when the actual declarant is available to appear.<sup>47</sup> An evidence expert has even suggested that hearsay testimony about an excited utterance was preferable over the declarant’s in-court testimony as representing a more likely unbiased version of events.<sup>48</sup> Notably, the Supreme Court has declared that an excited utterance “is so trustworthy that adversarial testing can be expected to add little to its reliability.”<sup>49</sup>

A commentator has helpfully collected together relevant factors in determining whether a declaration qualifies as an excited utterance. These include “(1) the lapse of time between the event and the declarations; (2) the age of the declarant; (3) the physical and mental state of the declarant; (4)

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<sup>42</sup> Angela Conti & Brian Gitnik, *Federal Rule Of Evidence 803(2): Problems with the Excited Utterance Exception to the Rule on Hearsay*, 14 ST. JOHN’S J. LEGAL COMMENT. 227, 245 (1999). See also *Idaho v. Wright*, 497 U.S. 805, 820-21 (1990) (“[t]he basis for the ‘excited utterance’ exception ... is that such statements are given under circumstances that eliminate the possibility of fabrication, coaching or confabulation”).

<sup>43</sup> BURR W. JONES & LOUIS HORWITZ, *THE LAW OF EVIDENCE IN CIVIL CASES* 812 (vol. 2 1913).

<sup>44</sup> CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, *EVIDENCE* § 8.35, at 1217 (1995) (“In short, risks of insincerity and memory lapse are removed.”); GLEN WEISSEBERGER, *FEDERAL EVIDENCE* § 803.7, at 440 (2d ed. 1995) (“the impression on the declarant’s memory at the time of the statement is still fresh and intense.”); Laurence H. Tribe, *Triangulating Hearsay*, 87 HARV. L. REV. 957, 967 n. 32 (1974) (“infirmity of erroneous memory is absent”).

<sup>45</sup> *Commonwealth v. Zukauskas*, 462 A.2d 236, 237 (Pa. 1983).

<sup>46</sup> *United States v. Boyce*, 742 U.S. 291 (7th Cir. 2014).

<sup>47</sup> FRE 803.

<sup>48</sup> MCCORMICK ON EVIDENCE § 272 (John William Strong ed., 4th ed. 1992) (opining excitement of the event, which justifies its reliability, also “serves to justify dispensing with any requirement that the declarant be unavailable because it suggests that testimony on the stand, given at a time when the powers of reflection and fabrication are operative, is no more (and perhaps less) reliable than the out-of-court statement”).

<sup>49</sup> *White v. Illinois*, 502 U.S. 346, 356-57 (1992) *Idaho v. Wright*, 497 U.S. 805, 820-21 (1990) (excited utterances are so reliable “cross-examination would be superfluous”).



the characteristics of the event; and (5) the subject matter of the statements.”<sup>50</sup> Courts have accepted excited utterances delivered quite some time after a trauma. In one case, the court admitted as an excited utterance the victim’s statements made to a neighbor two hours after the final assault as the beatings were repeated overnight and at the time of the utterance the victim was crying and hysterical.<sup>51</sup> In another case, the victim’s story made ten hours after the sexual assault was admitted as the victim’s unusual behavior between the assault and the statement indicated a continued state of stress.<sup>52</sup> A variation has arisen, though remains controversial, nicknamed the “re-excited” utterance exemption when the declarant makes a statement when reminded of the earlier startling event, such as upon watching a movie or reading a news article.<sup>53</sup>

That the excited statement was self-serving is not an automatic disqualifier. For example, a court held it reversible error to have excluded testimony that the decedent, after being unpinned from his van following a traffic accident, exclaimed, “Why did it happen to me, what could I do, the guy was coming at me.”<sup>54</sup> While spontaneous declarations might maintain an aura of truthfulness, they might also be cryptic for similar reasons.<sup>55</sup> Interestingly, ambiguity might actually help qualify the utterance. In a relevant case, hearsay about a clearly agitated woman’s report to police that her boyfriend had just physically attacked her was excluded as the account was perceived as too detailed, logical, and coherent a narrative to truly represent a spontaneous outburst.<sup>56</sup>

The presumptions of reliability and veracity underlying this exception have provoked general complaints. Evidence law is vulnerable to criticism when it conceptualizes excitement as presumably producing more reliable people.<sup>57</sup> The excited utterance exception is also vulnerable because of its premise that excitement destroys the ability for conscious reflection. “[E]ven if a person is so excited by something that he loses the capacity for reflection (which doubtless does happen), how can there be any confidence

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<sup>50</sup> Jay M. Zitter, *When Is Hearsay Statement Made to 911 Operator Admissible as “Excited Utterance” Under Uniform Rules of Evidence 803(2) or Similar State Rule*, 7 A.L.R.6th 233.

<sup>51</sup> *People v Walker*, 265 Mich. App. 530, 534 (2005), vacated in part on other grounds *People v Walker*, 477 Mich. 856 (2006).

<sup>52</sup> *People v Smith (Larry)*, 456 Mich. 543, 551-553 (1998).

<sup>53</sup> Edward J. Imwinkelried, *The Need to Resurrect the Present Sense Impression Hearsay Exception: A Relapse in Hearsay Policy*, 52 HOW. L.J. 319, 325 (2009).

<sup>54</sup> *Christensen v. Economy Fire & Cas. Co.*, 77 Wis. 2d 50, 252 N.W.2d 81 (1977) (regarding negligence suit arising out of a head-on collision between two cars).

<sup>55</sup> Laurence H. Tribe, *Triangulating Hearsay*, 87 HARV. L. REV. 957, 967 (1974).

<sup>56</sup> *State v. Machado*, 127 P.3d 941, 943-48 (2006).

<sup>57</sup> John Leubsdorf, *Presuppositions of Evidence Law*, 91 IOWA L. REV. 1209, 1210 (2006).

that his unreflective utterance, provoked by excitement, is reliable?”<sup>58</sup> Stress might induce sincere expressions though they can still be inaccurate ones.<sup>59</sup>

A commentator observes that the excited utterance exception is unfortunately “consistent with a common Freudian intuition that raw emotions can reveal our true views about the world, and, conversely, that logical reasoning can abide manipulation and obfuscation.”<sup>60</sup> To the contrary, excitement can distort one’s ability to make accurate observations and thus actually increases the risk of faulty perceptions.<sup>61</sup> Drawing on a “folk psychology of evidence,” this naïve belief that people are wholly incapable of spontaneously lying under emotional distress is farcical.<sup>62</sup> An appellate court opinion laments the faulty assumptions underlying the excited utterance rule, suggesting relevant empirical studies to the contrary likely exist and that the law ought to pay close attention.<sup>63</sup> Still, the court declines to undertake the task, commenting “that is a story for another day.”<sup>64</sup> Another critic has suggested that the excited utterance exception is simply pragmatic in the sense of when “it’s all we got” in terms of evidence about an event.<sup>65</sup>

## 2. Present Sense Impression

The second exception to the hearsay rule to be addressed is known as a present sense impression, which is a contemporaneous statement by a declarant explaining or describing an event or condition she personally perceives.<sup>66</sup> A case example of a present sense impression is a 911 phone

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<sup>58</sup> “One need not be a psychologist to distrust an observation made under emotional stress; everybody accepts such statements with mental reservation.” Robert M. Hutchins & Donald Slesinger, *Some Observations on the Law of Evidence: Spontaneous Exclamations*, 28 COLUM. L. REV. 432, 437 (1928).

<sup>59</sup> *Ferrier v. Duckworth*, 902 F.2d 545, 548 (7th Cir. 1990); *Lust v. Sealy, Inc.*, 383 F.3d 580, 588 (7th Cir. 2004) (noting “people are entirely capable of spontaneous lies in emotional circumstances”).

<sup>60</sup> Jamal Greene, *Pathetic Argument in Constitutional Law*, 113 COLUM. L. REV. 1389, 1448 (2013).

<sup>61</sup> THOMAS A. MAUET & WARREN D. WOLFSON, TRIAL EVIDENCE § 7.3 (4th ed. 2009); Laurence H. Tribe, *Triangulating Hearsay*, 87 HARV. L. REV. 957, 967 n. 32 (1974).

<sup>62</sup> *Lust v. Sealy*, 383 F.3d 580, 588 (7th Cir. 2004).

<sup>63</sup> *Lust v. Sealy*, 383 F.3d 580, 588 (7th Cir. 2004).

<sup>64</sup> *Lust v. Sealy*, 383 F.3d 580, 588 (7th Cir. 2004).

<sup>65</sup> Mike Redmayne, *The Structure of Evidence Law*, 26 OXFORD J. LEGAL STUDIES 805, 819 (2006).

<sup>66</sup> FRE 803(1). *See also* *United States v. Mitchell*, 145 F.3d 572, 576 (3d Cir. 1978) (“There are three principal requirements which must be met before hearsay evidence may be admitted as a present sense impression: (1) the declarant must have personally perceived the event described; (2) the declaration must be an explanation or description of the event rather than a narration; and (3) the declaration and the event described must be

call by a wife in which she asserted that “my husband just pulled a gun out on me.”<sup>67</sup> Unlike the centuries’ long history of excited utterances, this hearsay exception represents a relatively recent rule, having first been introduced in the United States in 1942,<sup>68</sup> though it had been recognized in legal commentary sixty years earlier.<sup>69</sup> There was not widespread adoption until it was incorporated into the Federal Rules of Evidence in 1975.<sup>70</sup> Today, most states recognize the present sense impression exception, either by statute or through judicial fiat.<sup>71</sup>

The justifications for the present sense impression exception to hearsay are similar to those underlying the exemption for excited utterances. Present sense impressions are presumed reliable as they take place at the time the person is experiencing the event and, therefore, indicate there is little disquiet about memory problems and it is predicated on the declarant having insufficient time to have prefabricated the story.<sup>72</sup> In addition, present sense impressions are conjectured as more trustworthy as they “are

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contemporaneous.”).

<sup>67</sup> *United States v. Hawkins*, 59 F.3d 723, 730 (8th Cir. 1995).

<sup>68</sup> *Tampa Electric Co. v. Getrost*, 10 So. 2d 83, 84-85 (Fla. 1942); *Houston Oxygen Co. v. Davis*, 161 S.W.2d 474, 476-77 (Tex. 1942) (testifying witness offered to relay that vehicle passenger observed of other car passing: “They must have been drunk, that we would find them somewhere in the road wrecked if they keep that rate of speed up.”).

<sup>69</sup> The doctrine was initially drafted in an 1881 article by the then premiere evidence law scholar, James Bradley Thaylor. Edward J. Imwinkelried, *The Need to Resurrect the Present Sense Impression Hearsay Exception: A Relapse in Hearsay Policy*, 52 *HOW. L.J.* 319, 326 (2009).

<sup>70</sup> Edward J. Imwinkelried, *The Need to Resurrect the Present Sense Impression Hearsay Exception: A Relapse in Hearsay Policy*, 52 *HOW. L.J.* 319, 322 (2009).

<sup>71</sup> *HEARSAY HANDBOOK* § 8:2 (4th ed. 2013) (listing statutes and cases). The present sense impression is evidently not recognized in a handful of states: California, Connecticut, Nebraska, Oregon, and Tennessee. *Id.*

<sup>72</sup> *HEARSAY HANDBOOK* § 8:1 (4th ed. 2013) (“The declarant need not be excited or otherwise emotionally affected by the event or condition. The trustworthiness of the assertion arises from its timing. The requirement of contemporaneousness, or near contemporaneousness, reduces the chance of premeditated prevarication or loss of memory.”); THOMAS A. MAUET & WARREN D. WOLFSON, *TRIAL EVIDENCE* § 7.2 (4th ed. 2009) (“the declarant did not have time or opportunity to forget the event or condition, nor did he have time to fabricate or distort a story about it.”); 4 DAVID W. LOUISELL & CHRISTOPHER B. MUELLER, *FEDERAL EVIDENCE* § 438 (1980) (“Statements of present sense impression are considered reliable because the immediacy eliminates the concern for lack of memory and precludes time for intentional deception.”). *See also* Franci Neely Beck, *The Present Sense Impression*, 56 *TEX. L. REV.* 1053, 1053 (1978) (“since the statement is contemporaneous with the occurrence being described, there is no likelihood of the declarant's memory being defective”); Fed. R. Evid. 803(1), advisory comm. note (“underlying theory” of the present sense impression exception to the hearsay rule “is that substantial contemporaneity of event and statement negate the likelihood of deliberate or conscious misrepresentation”).

usually made to one who has equal opportunity to observe and check misstatements.”<sup>73</sup> The potential hearsay witness “may be examined as to the circumstances as an aid in evaluating the statement.”<sup>74</sup> Despite the probability of an eyewitness who might testify about the same event, corroboration is not formally required to qualify evidence as an admissible present sense impression<sup>75</sup> as corroboration, or lack thereof, goes to the weight of the evidence, not its admissibility.<sup>76</sup>

A common form of present sense impression is an emergency call to police by domestic violence victims and the hearsay evidence is often crucial to making a case the perpetrator as these victims often later demur from participating with officials.<sup>77</sup> Thus,

911 audiotape recordings may serve as primary evidence where the victim changes his or her mind and refuses to testify. This situation is most commonly seen in the area of domestic violence, such as where the victim spouse calls 911 and then has second thoughts when the defendant spouse is taken away to jail. The criminal justice system is increasingly taking such cases seriously enough to prosecute assault, burglary, and similar charges even where the victim refuses to cooperate or tells a completely different story than at first, and the victim's 911 call is thus a crucial portion of the prosecution's case.<sup>78</sup>

Despite similarities with the present sense impression and excited utterance doctrines, there are tangible distinctions. The present sense impression exception is more limited in that the statement must explain or describe the event or condition that is being perceived, whereas the excited utterance rule only requires the statement be related to the event.<sup>79</sup> There exists a slightly different temporal dimension whereby the present sense impression must be contemporaneous with the event while the excited utterance applies as long as the excited state exists and produces the

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<sup>73</sup> Jay M. Zitter, *When Is Hearsay Statement Made to 911 Operator Admissible as “Present Sense Impression” Under Uniform Rules of Evidence 803(1) or Similar State Rule*, 125 A.L.R.5th 357, at \*2.

<sup>74</sup> Advisory Committee Note to Fed. R. Evid. 803(1) (citing EDMUND MORRIS MORGAN, *BASIC PROBLEMS OF EVIDENCE* 340–341 (1962)).

<sup>75</sup> Though some courts do appear to some minimal indicia of corroboration. See Edward J. Imwinkelried, *The Need to Resurrect the Present Sense Impression Hearsay Exception: A Relapse in Hearsay Policy*, 52 HOW. L.J. 319, 340–41 (2009).

<sup>76</sup> *U.S. v. Ruiz*, 249 F.3d 643, 647 (7th Cir. 2001).

<sup>77</sup> MELISSA HAMILTON, *EXPERT TESTIMONY ON DOMESTIC VIOLENCE: A DISCOURSE ANALYSIS* 102 (2009).

<sup>78</sup> Jay M. Zitter, *When Is Hearsay Statement Made to 911 Operator Admissible as “Present Sense Impression” Under Uniform Rules of Evidence 803(1) or Similar State Rule*, 125 A.L.R.5th 357, at \*2q.

<sup>79</sup> *HEARSAY HANDBOOK* § 8:1 (4th ed. 2013).

utterance,<sup>80</sup> regardless of the timing of the underlying event.<sup>81</sup> Yet a present sense impression is broader to the extent it does not require a startling event.<sup>82</sup>

Some experts consider present sense impressions to likely be more reliable than excited utterances.<sup>83</sup> “Both clinical studies and real-life observation show that nervous stress produces demonstrably less accurate statements; excitement impairs the sensory apparatus so that what is gained in sincerity is lost in perception, memory, and narration.”<sup>84</sup> Critics, though, decry the present sense impression’s premise that the requirement of contemporaneity assures the declarant’s sincerity.<sup>85</sup> In addition, the person’s state of mind at the time might be more relevant to the potential quality of the observations than time alone.<sup>86</sup> Further evaluations of this exception drawing upon the sciences will follow the last transaction exception from the hearsay rule to be considered herein.

### 3. Statement of Mental or Bodily Condition

The third on point hearsay exception is that regarding a statement about one’s existing mental, emotional, or physical condition. In the Federal Rules of Evidence, this one consists of a “statement of the declarant’s then-existing state of mind (such as motive, intent, or plan) or emotional, sensory, or physical condition (such as mental feeling, pain, or bodily health).”<sup>87</sup> The states now all recognize a hearsay exception for the declarant’s then existing intent even if the declarant is available to testify.<sup>88</sup>

The present mental or bodily condition exception shares with the prior two the idea that a declarant’s expression of knowledge at the time of an event is considered to be at least as credible, and likely more so, than the declarant’s later testimony at a hearing.<sup>89</sup> Because of the contemporaneous

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<sup>80</sup> HEARSAY HANDBOOK § 9:1 (4th ed. 2013).

<sup>81</sup> *United States v. Delvi*, 275 F. Supp. 2d 412, 415 (S.D. Tex. 2003).

<sup>82</sup> HEARSAY HANDBOOK § 9:1 (4th ed. 2013).

<sup>83</sup> 4 CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, *FEDERAL EVIDENCE* § 8:67, at 559 (3d ed. 2007); Franci Neely Beck, *The Present Sense Impression*, 56 TEX. L. REV. 1053, 1057 (1978).

<sup>84</sup> Franci Neely Beck, *The Present Sense Impression*, 56 TEX. L. REV. 1053, 1057 (1978).

<sup>85</sup> Edward J. Imwinkelried, *The Need to Resurrect the Present Sense Impression Hearsay Exception: A Relapse in Hearsay Policy*, 52 HOW. L.J. 319, 322 (2009) (quoting Edward J. Imwinkelried, *The Importance of the Memory Factor in Analyzing the Reliability of Hearsay Testimony: A Lesson Slowly Learnt-and Quickly Forgotten*, 41 FLA. L. REV. 215, 221 (1989)).

<sup>86</sup> *Spontaneous Statements*, 31 YALE L.J. 895, 895 (1921).

<sup>87</sup> FRE 801(3).

<sup>88</sup> HEARSAY HANDBOOK § 10:2 (4th ed. 2013) (listing statutes).

<sup>89</sup> Jay M. Zitter, *Admissibility of Evidence of Declarant’s Then-Existing Mental*,

timing, it is considered that one's own "perception reduces memory problems to the de minimis level" and negates the possibility of an erroneous perception.<sup>90</sup> The exception originated in cases of pain and suffering whereby it was accepted one would not misstate one's present disposition.<sup>91</sup> Perhaps one of the earliest times the exception appears in American case law is in a Supreme Court's opinion in 1869, wherein a statement about one's mental or physical condition was conceived as simply presenting her "expressions of natural reflexes."<sup>92</sup> An individual is considered to be the best judge, and bearing firsthand knowledge, of her own state of being.<sup>93</sup> One of the most common types of cases involving statements about one's own condition are related to victims of crime, such as an expression of fear or pain.<sup>94</sup>

A criticism of the state of mind exception is that it anoints clearly self-serving statements.<sup>95</sup> Anecdotal experience may chronicle instances of automatic responses, for example, to queries about how one is feeling with the habituated response of declaring one to be fine, without actual reflection. The latter almost reflexive interaction simply appears to be a social nicety ingrained within American culture.

All three transaction exceptions involve statements made at the time of an event, whether internal (e.g., excitement or personal condition) or external situated (e.g., present sense impression). Each has been disparaged for relying on pop psychology in its assumptions about veracity and insufficient time to fabricate. Observers have declared that these hearsay exceptions are generally "based on more or less dubious generalizations" and "crude" in their narrow foci.<sup>96</sup> The justifications for rules of evidence

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*Emotional, or Physical Condition, Under Rule 803(3) of Uniform Rules of Evidence and Similar Formulations*, 57 A.L.R.5th 141, at \*2a (2013) ("the statements take on a special reliability because of the spontaneous quality of the statements"); *The Theoretical Foundation of the Hearsay Rules*, 93 HARV. L. REV. 1786, 1809 (1980); C.S.J., *Exception to Hearsay Rule: Statement of Present Physical Condition or Present Pain, When Not Made to a Physician*, 2 CALIF. L. REV. 243, 244 (1914) (declaring an involuntary statement of present condition "by reason of its spontaneity, is better than any which may be obtained subsequently, when on the stand with the aid of cross examination").

<sup>90</sup> Laurence H. Tribe, *Triangulating Hearsay*, 87 HARV. L. REV. 957, 965 (1974).

<sup>91</sup> THOMAS A. MAUET & WARREN D. WOLFSON, TRIAL EVIDENCE § 7.4 (4th ed. 2009).

<sup>92</sup> *Ins. Co. v. Mosley*, 75 U.S. 397, 404 (1869).

<sup>93</sup> C.S.J., *Exception to Hearsay Rule: Statement of Present Physical Condition or Present Pain, When Not Made to a Physician*, 2 CALIF. L. REV. 243, 243 (1914).

<sup>94</sup> Jay M. Zitter, *Admissibility of Evidence of Declarant's Then-Existing Mental, Emotional, or Physical Condition, Under Rule 803(3) of Uniform Rules of Evidence and Similar Formulations*, 57 A.L.R.5th 141, at \*3a (2013) (citing cases).

<sup>95</sup> Christopher B. Mueller, *Post-Modern Hearsay Reform: The Importance of Complexity*, 76 MINN. L. REV. 367, 374 n.26 (1992).

<sup>96</sup> John Leubsdorf, *Presuppositions of Evidence Law*, 91 IOWA L. REV. 1209, 1228 (2006).

are unfortunately often encased in an historical shroud and legal practitioners may simply be complaisant with the status quo. A critic notes that “forces of inertia, notably the resistance of the trial bar, may have kept evidence law behind the times.”<sup>97</sup> With the advance of interdisciplinary sciences into studying human behavior, the time is ripe to explore evidence from cutting edge empirical studies to evaluate the underlying time-worn presumptions. Certainly, “when drafters of the evidentiary rules explicitly and naively employ folk psychological ideas to inform their rule-making, we must return to these scientific assumptions to make certain our existing normative commitments are being realized.”<sup>98</sup> The next section takes up the challenge of testing these hearsay exceptions by gaining knowledge from available scientific evidence offered in recent years by various scholars across academic disciplines. As the focus herein is on victims’ accounts of assaults, the studies reviewed from cross-disciplinary scholarship are generally referred to using the broad framework of trauma studies.

### III. TRAUMA STUDIES

The law’s turn to learn from other professions is laudable in many ways. The legal profession should not be an island unto itself. Thus, evidence scholars are increasingly embracing interdisciplinary skillsets.<sup>99</sup> This state of affairs is particularly poignant when legal minds seek out the best available evidence to explain human behavior.<sup>100</sup> Nonetheless, greater progress can still be achieved as archetypes of human action that tend to

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<sup>97</sup> John Leubsdorf, *Presuppositions of Evidence Law*, 91 IOWA L. REV. 1209, 1211 (2006).

<sup>98</sup> Teneille R. Brown, *The Affective Blindness of Evidence Law*, 89 DENV. U. L. REV. 47, 54 (2011). See also John M. Maguire & Edmund M. Morgan, *Looking Forward and Backward at Evidence*, 50 HARV. L. REV. 909, 921-22 (1937) (observing hearsay and exceptions “resemble an old-fashioned crazy quilt made of patches cut from a group of paintings by cubists, futurists, and surrealists”).

<sup>99</sup> Robert C. Parks & Michael J. Saks, *Evidence Scholarship Reconsidered: Results of the Interdisciplinary Turn*, 46 B.C. L. REV. 949, 957 (2006) (“[P]sychology is the most important of the interdisciplinary threads that can be woven into evidence law scholarship. Evidence law is much concerned with the abilities of witnesses to perceive, to remember, and to report what they have observed. It is also concerned with the abilities of jurors to comprehend, evaluate, and draw inferences from the evidence presented to them, including their ability to assess the sincerity of lay witnesses and to understand and not be overwhelmed by expert witnesses. All of these are psychological issues. By psychology we are referring to experimental psychology, cognitive psychology, and social psychology, rather than to clinical psychology. Experimental studies that address topics such as memory, perception, judgment, inference, decisions under conditions of uncertainty, and jury behavior are plainly relevant to evidence law.”).

<sup>100</sup> Jean Macchiaroli Eggen & Eric J. Laury, *Toward A Neuroscience Model Of Tort Law: How Functional Neuroimaging Will Transform Tort Doctrine*, 13 COLUM. SCI. & TECH. L. REV. 235, 236 (2012).

drive legal and public policies have so far utilized work from the social sciences that still mostly “denies significant differences in cognitive and volitional abilities based on human biology.”<sup>101</sup> The review herein will not make the same mistake. The trauma studies visited include research accomplished in a variety of disciplines that can help explain victims’ reactions to assault. These include explanations from neuroscience, medicine, biology (including physiology), psychology, and sociology, and various combinations thereof.<sup>102</sup>

Most assaults likely provoke a stressful reaction in the intended victims. Importantly, stress is not simply a mental exercise that may be overcome merely through strength of will. Interdisciplinary research continues to uncover an entire symphony of both coordinated and fragmented actions that our bodies and brains undertake when triggered by a cue that is perceived, consciously or not, as threatening. This Section will first review the literature on the quite convoluted human stress response and then highlight an adaptation to trauma common to interpersonal assaults involving dissociative states. Scientific research will also be referenced to specifically address the assumption common to the transaction hearsay exceptions that it takes at least a modicum of time to lie.

#### A. *Stress Responses*

Recent research has explored human processing of traumatic or stressful events. A more holistic picture is emerging that the stress response engages multiple systems—neurological, physiological, and physical. Perhaps a proper starting place is to identify relevant brain structures and their normal functions.

##### 1. Emotional Activation of the Brain

The amygdala is the most important part of the brain in terms of its unique reactivity to sources—whether conscious or not, whether physical or not—of emotion, stress, and fear.<sup>103</sup> In general, the amygdala is primarily

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<sup>101</sup> Theodore Y. Blumoff, *The Brain Sciences and Criminal Law Norms*, 62 MERCER L. REV. 705, 713 (2011).

<sup>102</sup> See Robert C. Parks & Michael J. Saks, *Evidence Scholarship Reconsidered: Results of the Interdisciplinary Turn*, 46 B.C. L. REV. 949, 956-57 (2006) (“[T]he increased amount and prestige of interdisciplinary scholarship is a welcome development because of the value of functional approaches to the analysis and criticism of law. Rules of law need to be assessed in light of their social impact. Light from other fields can be an aid in assessing the impact of law, but scholars in those other departments usually do not have the knowledge of legal doctrine and legal institutions needed to deliver well-crafted analyses. On the other side of the same coin, evidence scholars have a special need to become conversant with those other disciplines as well as with doctrinal analysis.”).

<sup>103</sup> Annie-Claude David, *Consistency of Retrospective Reports of Peritraumatic Responses and Their Relation to PTSD Diagnostic Status*, 23 J. TRAUMATIC STRESS 599,



responsible for evaluating information the brain receives to assess its potential emotional content.<sup>104</sup> “The amygdala’s influence on attention and perception ensures that stimuli that are arousing and emotionally salient receive priority in initial stimulus processing.”<sup>105</sup> The amygdala’s function then is to jumpstart the body’s neural systems that guide cognition, physiological preparedness, and behaviors in response to emotive cues.<sup>106</sup>

The amygdala does not entirely act independently as it comprises multiple neuronal connections that receive and transmit data to two other important brain structures in the stress reaction system, the prefrontal cortex and the hippocampus.<sup>107</sup> As the amygdala contextualizes incoming sensory information, it guides emotional behavior by sending signals across to these other parts of the brain.<sup>108</sup> The prefrontal cortex is the most evolved part of the human brain and is responsible for executive functions, e.g., decisionmaking, judgment, insight.<sup>109</sup> Under normal circumstances, the prefrontal cortex regulates the amygdala, filtering out nonessential stimuli and inhibiting the amygdala’s potential overresponsiveness to sensory input in order to maintain homeostasis (internal stability).<sup>110</sup> Representing its more evolved status, the prefrontal cortex provides a check on the other brain structures’ baser impulses and sensitivities.<sup>111</sup> For its part, the hippocampus receives emotional input from the amygdala, places a cognitive structure on it, and then categorizes the experience for later reference.<sup>112</sup> Like the prefrontal cortex, the hippocampus is more

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599 (2010).

<sup>104</sup> Michelle J. Bovin & Brian P. Marx, *The Importance of the Peritraumatic Experience in Defining Traumatic Stress*, 137 PSYCHOL. BULL. 47, 53 (2011).

<sup>105</sup> Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in HANDBOOK OF EMOTIONS 159, 170 (Michael Lewis et al., eds., 3d ed. 2008).

<sup>106</sup> Elizabeth A. Phelps, *Emotion and Cognition: Insights from Studies of the Human Amygdala*, 57 ANN. REV. PSYCHOL. 27, 29 (2006).

<sup>107</sup> Elizabeth A. Phelps, *Emotion and Cognition: Insights from Studies of the Human Amygdala*, 57 ANN. REV. PSYCHOL. 27, 28 (2006).

<sup>108</sup> Michelle J. Bovin & Brian P. Marx, *The Importance of the Peritraumatic Experience in Defining Traumatic Stress*, 137 PSYCHOL. BULL. 47, 53 (2011).

<sup>109</sup> Norman M. White et al., *Behavioral Neuroscience at 30: Dissociation of Memory Systems: The Story Unfolds*, 127 BEHAV. NEUROSCIENCE 813, 825 (2013).

<sup>110</sup> J. Douglas Bremner, *Brain and Trauma*, in ENCYCLOPEDIA OF TRAUMA: AN INTERDISCIPLINARY GUIDE 66, 67 (Charles R. Figley ed., 2012); Michelle J. Bovin & Brian P. Marx, *The Importance of the Peritraumatic Experience in Defining Traumatic Stress*, 137 PSYCHOL. BULL. 47, 53 (2011).

<sup>111</sup> Amy Arnsten et al., *This is Your Brain in Meltdown*, 306 SCIENTIFIC AMERICAN 48 (2012) (“Prefrontal cortical areas, which serve as the brain’s executive command centers, normally hold our emotions in check by sending signals to tone down activity in primitive brain systems.”).

<sup>112</sup> Michelle J. Bovin & Brian P. Marx, *The Importance of the Peritraumatic Experience in Defining Traumatic Stress*, 137 PSYCHOL. BULL. 47, 53 (2011).

emotionally neutral than the amygdala.<sup>113</sup>

These three parts of the brain make their own contributions to an emotionally-charged memory. The prefrontal cortex houses working memory.<sup>114</sup> The hippocampus converts working memory into long-term memory available for storage and retrieval. “The amygdala’s influence on memory ensures that emotional events are also more likely to be remembered over time.”<sup>115</sup> While the amygdala is associated with a raw form of emotional memory, the hippocampus is responsible for verbal declarative memory.<sup>116</sup>

## 2. Neurosymphony of Stress

In times of emotion amounting to a level of stress, though, the normal operation of the system in homeostasis is necessarily tested. In neurological terms, stress is any menace to homeostasis that necessitates some adaptive response.”<sup>117</sup> Trauma is a heightened form of stress. The amygdala is considered the brain’s “fear circuitry,” in that it activates the body’s stress system once it registers incoming input as indicative of emotion or danger.<sup>118</sup> The multiple chemicals the amygdala’s fear circuitry trigger are collectively referred to as comprising the “neurosymphony of stress.”<sup>119</sup> When the amygdala perceives a threat, it sends neuronal signals to engage both the sympathetic nervous system (SNS) and the hypothalamic-pituitary-adrenal axis (HPA). The SNS yields a flood of adrenaline and norepinephrine from the adrenal gland into the bloodstream to ready the body to engage a fight or flight response by increasing heart rate, blood pressure, and glucose levels.<sup>120</sup>

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<sup>113</sup> Annie-Claude David, *Consistency of Retrospective Reports of Peritraumatic Responses and Their Relation to PTSD Diagnostic Status*, 23 J. TRAUMATIC STRESS 599, 599 (2010).

<sup>114</sup> Amy Arnsten et al., *This is Your Brain in Meltdown*, 306 SCI. AM. 48 (2012).

<sup>115</sup> Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in HANDBOOK OF EMOTIONS 159, 170 (Michael Lewis et al., eds., 3d ed. 2008).

<sup>116</sup> Chris R. Brewin, *Episodic Memory, Perceptual Memory, and Their Interaction: Foundations for a Theory of Posttraumatic Stress Disorder*, 140 Psychol. Bull. 69, 78 (2014).

<sup>117</sup> Alexander C. McFarlane, *The Long-Term Costs of Traumatic Stress: Intertwined Physical and Psychological Consequences*, 9 WORLD PSYCHIATRY 3 (2010).

<sup>118</sup> Jesse Linde Frijling & Miranda Olf, *Biology Mechanism of Traumatic Stress Response*, in ENCYCLOPEDIA OF TRAUMA: AN INTERDISCIPLINARY GUIDE 47, 48 (Charles R. Figley ed., 2012).

<sup>119</sup> Jenalee R. Doom & Megan R. Gunnar, *Stress Physiology and Developmental Psychopathology: Past, Present, and Future*, 25 DEV. & PSYCHOPATHOLOGY 1359, 1360 (2013).

<sup>120</sup> Jesse Linde Frijling & Miranda Olf, *Biology Mechanism of Traumatic Stress Response*, in ENCYCLOPEDIA OF TRAUMA: AN INTERDISCIPLINARY GUIDE 47, 48 (Charles R. Figley ed., 2012).

The amygdala sends information to the hypothalamus as well, which in turn releases a hormone known as corticotropin-releasing factor, or CRF.<sup>121</sup> The CRF activates the stress system's HPA axis when it travels to the pituitary to prompt the discharge of the hormone called the adrenocorticotropin-releasing factor (ACTH), which in turn yields a flood of the stress hormone cortisol from the adrenal cortex.<sup>122</sup> "Cortisol redistributes energy to enhance survival, suppressing functions not needed for immediate survival, such as reproduction, the body's immune response, digestion, and the feeling of pain, and shunting energy to the brain and muscles."<sup>123</sup> Cortisol travels through the blood stream and crosses the blood-brain barrier, binding to receptors in the amygdala, prefrontal cortex, and hippocampus, with conflicting results.<sup>124</sup>

In the amygdala, a high level of cortisol excites the neurons and thus facilitates its neural processes.<sup>125</sup> In contrast, an excess of cortisol disrupts neural activity in the prefrontal cortex and the hippocampus.<sup>126</sup> The prefrontal cortex is indeed quite sensitive to stress as it is the most highly evolved and the largest part of the brain.<sup>127</sup> In the prefrontal cortex, a surplus of cortisol, together with the effect of the neurotransmitters adrenaline and norepinephrine, breach synapses and cause neurons to cease firing.<sup>128</sup> The consequence is that the prefrontal cortex is impeded from

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<sup>121</sup> ADAM CASH, WILEY CONCISE GUIDES TO MENTAL HEALTH: POSTTRAUMATIC STRESS DISORDER 95 (2006).

<sup>122</sup> ADAM CASH, WILEY CONCISE GUIDES TO MENTAL HEALTH: POSTTRAUMATIC STRESS DISORDER 95 (2006). The HPA axis is a neuroendocrine system. Thomas Frodl & Veronica O'Keane, *How Does the Brain Deal with Cumulative Stress? A Review with Focus on Developmental Stress, HPA Axis Function and Hippocampal Structure in Humans*, 52 NEUROBIOLOGY DISEASE 24, 25 (2013).

<sup>123</sup> J. Douglas Bremner, *Brain and Trauma*, in ENCYCLOPEDIA OF TRAUMA: AN INTERDISCIPLINARY GUIDE 66, 67 (Charles R. Figley ed., 2012). See also Thomas Frodl & Veronica O'Keane, *How Does the Brain Deal with Cumulative Stress? A Review with Focus on Developmental Stress, HPA Axis Function and Hippocampal Structure in Humans*, 52 NEUROBIOLOGY DISEASE 24, 25 (2013) ("Cortisol is a glucocorticoid, so called because it alters the function of numerous tissues in order to mobilize, or store, energy to meet the demands of the stress challenge.").

<sup>124</sup> Siobhan M. Hoscheidt et al., *Emotion, Stress, and Memory*, in THE OXFORD HANDBOOK OF COGNITIVE PSYCHOLOGY 557, 562 (Daniel Reisberg ed., 2013).

<sup>125</sup> Siobhan M. Hoscheidt et al., *Emotion, Stress, and Memory*, in THE OXFORD HANDBOOK OF COGNITIVE PSYCHOLOGY 557, 562 (Daniel Reisberg ed., 2013).

<sup>126</sup> Siobhan M. Hoscheidt et al., *Emotion, Stress, and Memory*, in THE OXFORD HANDBOOK OF COGNITIVE PSYCHOLOGY 557, 562 (Daniel Reisberg ed., 2013); Gregory M. Sullivan & Joseph E. LeDoux, *Conditioned Fear, Developmental Adversity and the Anxious Individual*, in FEAR AND ANXIETY: THE BENEFITS OF TRANSLATIONAL RESEARCH 1, 9 (Jack M. Gorman ed., 2004).

<sup>127</sup> Amy Arnsten et al., *This is Your Brain in Meltdown*, 306 SCI. AM. 48 (2012).

<sup>128</sup> Amy Arnsten et al., *This is Your Brain in Meltdown*, 306 SCI. AM. 48 (2012).

sending signals to other brain areas and through such failure it can cede its typical authority to the less evolved parts of the brain.<sup>129</sup> For example, in times of bodily states of emotion and stress, the prefrontal cortex may be obstructed from completing its high-level responsibilities, thus allowing the amygdala to control, and with the amygdala's excitability in emotive states the brain may yield to mental paralysis and primordial urges.<sup>130</sup> In cases of high stress, then, the instinctual flight or fight response driven by the more primitive amygdala can take over: "Quite simply, we lose it."<sup>131</sup>

The fear circuitry's ascendancy of the amygdala's role in neurophysiological functioning comes at a cost to hippocampal functioning, too.<sup>132</sup> Hippocampal tasks are optimally performed at a moderate level of cortisol.<sup>133</sup> When cortisol levels are either excessive or deficient, hippocampal cells can die.<sup>134</sup>

### 3. The Impact of Stress on Learning and Memory

Overall, stress hormones can cause deficits in learning and memory, but this is not always the case.<sup>135</sup> On the one hand, the amygdala's keen attention to emotional content may render the stressful event a clear, strong, and factually specific memory. An elevated level of cortisol is positive for amygdala functioning, allowing the amygdala to control and focus concentration on emotional or stressful cues, thus promoting the encoding and consolidation of emotional material.<sup>136</sup> The amygdala's primacy over emotional content may convince the hippocampus of the story's importance and thus enhance the hippocampal cognitive map and strengthen recollection.<sup>137</sup> If the amygdala is also engaged during retrieval there is some evidence that details and the emotional context of the event can better

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<sup>129</sup> J. Douglas Bremner, *Brain and Trauma*, in *ENCYCLOPEDIA OF TRAUMA: AN INTERDISCIPLINARY GUIDE* 66, 67 (Charles R. Figley ed., 2012). Such a situation prevents prefrontal from calming more primitive brain areas. Amy Arnsten et al., *This is Your Brain in Meltdown*, 306 *SCI. AM.* 48 (2012).

<sup>130</sup> Amy Arnsten et al., *This is Your Brain in Meltdown*, 306 *SCI. AM.* 48 (2012).

<sup>131</sup> Amy Arnsten et al., *This is Your Brain in Meltdown*, 306 *SCI. AM.* 48 (2012).

<sup>132</sup> ADAM CASH WILEY CONCISE GUIDES TO MENTAL HEALTH: POSTTRAUMATIC STRESS DISORDER 89 (2006).

<sup>133</sup> Siobhan M. Hoscheidt et al., *Emotion, Stress, and Memory*, in *THE OXFORD HANDBOOK OF COGNITIVE PSYCHOLOGY* 557, 562 (Daniel Reisberg ed., 2013).

<sup>134</sup> SUSAN HART, *BRAIN, ATTACHMENT, PERSONALITY: AN INTRODUCTION TO NEUROAFFECTIVE DEVELOPMENT* 206 (2008).

<sup>135</sup> Thomas Frodl & Veronica O'Keane, *How Does the Brain Deal with Cumulative Stress? A Review with Focus on Developmental Stress, HPA Axis Function and Hippocampal Structure in Humans*, 52 *NEUROBIOLOGY DISEASE* 24, 25 (2013).

<sup>136</sup> Siobhan M. Hoscheidt et al., *Emotion, Stress, and Memory*, in *THE OXFORD HANDBOOK OF COGNITIVE PSYCHOLOGY* 557, 565 (Daniel Reisberg ed., 2013).

<sup>137</sup> Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in *HANDBOOK OF EMOTIONS* 159, 170 (Michael Lewis et al., eds., 3d ed. 2008).

be recovered.<sup>138</sup> Moderate levels of cortisol facilitate the hippocampus' declarative memory,<sup>139</sup> potentially generating an "episodic, autobiographical, as well as contextual memory."<sup>140</sup>

On the other hand, despite cortisol improving the amygdala-led focus on emotional or stressful clues, there are different queries entirely whether the story is more likely to be remembered as compared to the accuracy of the details in the memory. There exists no simple relation between the level of emotional salience of an event and the accuracy of one's recollection of act details. Memories may be subjectively vivid yet bear few objective specifics, or the strength and weakness may be reversed.<sup>141</sup> One might recall that a particularly stress event occurred while remembering few spatial, temporal, or contextual details of it. Consider, for instance, what specifics you recall about your own wedding or birth of a child outside of being informed or reminded by photos or stories from others. Many likely can revisit the emotionality of the event while independently recalling few particulars. At the same time, one might recall extreme minutiae of a presumptively emotional memory albeit without also being able to qualitatively retrieve the emotional feelings that were connected thereto.

There is also no guarantee that a traumatic event, even though the amygdala's intent focus promotes the importance of paying attention to it, will enhance the accuracy of one's observations at that time.<sup>142</sup> High stress can impair sensory competence and potentiate prejudicial consequences. Studies show that people with a poor memory of a stressful experience often compensate by incorporating falsities,<sup>143</sup> perhaps to fill the story's

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<sup>138</sup> Elizabeth A. Kensinger et al., *Amygdala Activity at Encoding Corresponds with Memory Vividness and with Memory for Select Episodic Details*, 49 *NEUROPSYCHOLOGIA* 633, 633-34 (2011).

<sup>139</sup> Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in *HANDBOOK OF EMOTIONS* 159, 166 (Michael Lewis et al., eds., 3d ed. 2008).

<sup>140</sup> Annie-Claude David, *Consistency of Retrospective Reports of Peritraumatic Responses and Their Relation to PTSD Diagnostic Status*, 23 *J. TRAUMATIC STRESS* 599, 599 (2010).

<sup>141</sup> Elizabeth A. Kensinger et al., *Amygdala Activity at Encoding Corresponds with Memory Vividness and with Memory for Select Episodic Details*, 49 *NEUROPSYCHOLOGIA* 633, 633-34 (2011).

<sup>142</sup> Elizabeth A. Kensinger et al., *Amygdala Activity at Encoding Corresponds with Memory Vividness and with Memory for Select Episodic Details*, 49 *NEUROPSYCHOLOGIA* 633, 633-34 (2011). ("[E]vidence to suggest that emotion may enhance the subjective feeling of remembering rather than the recovery of accurate episodic detail has come from behavioral studies revealing that emotion can boost false recollection and can bias participants to believe they have encountered emotional information previously. Thus, it is possible that the connection between the amygdala and the recollection of past emotional experiences reflects not only a change in the subjective qualities but also in the amount of episodic detail retrieved.").

<sup>143</sup> Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in

gaps. The frequency of sincere, but false, eyewitness identifications makes an exemplary illustration.

There are many examples of eyewitnesses who erroneously but confidently identify a perpetrator or of individuals who vividly recollect inaccurate details of past emotional experiences. These findings emphasize that the subjective vividness of a memory is not always tethered to the amount of accurate episodic information remembered about an event, a finding that suggests these two types of mnemonic features may be supported by distinct processes.<sup>144</sup>

Particularly when the emotional event involves trauma, the accuracy even of encoding and storing a memory may be further sabotaged.

[M]ultiple pathways underlie memory formation and that, for some people, high levels of emotional arousal during a trauma can significantly disrupt cognitive processing of the most distressing parts of the event. In particular, the models propose that this disruption inhibits usual conceptual or verbal processing towards stronger sensory and perceptual processing. This focus results in the event being encoded predominantly as sensory or perceptual information with less encoding of the trauma as explicit, narrative and verbal memories.<sup>145</sup>

The symphony of stress hormones and neurotransmitters coursing through the body takes its toll on the brain's ability to function during a traumatic event. Whereas intermediate levels of cortisol promote hippocampal function, high levels distort it.<sup>146</sup>

This may account for why emotional arousal sometimes leads to an enhancement of memory and sometimes a memory impairment for an event. Glucocorticoids are particularly interesting for their contrasting effects on the amygdala and hippocampus. These hormones are released when the amygdala detects dangerous or otherwise threatening events. When they reach the brain, they

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HANDBOOK OF EMOTIONS 159, 166 (Michael Lewis et al., eds., 3d ed. 2008).

<sup>144</sup> Elizabeth A. Kensinger et al., *Amygdala Activity at Encoding Corresponds with Memory Vividness and with Memory for Select Episodic Details*, 49 NEUROPSYCHOLOGIA 633, 633-34 (2011).

<sup>145</sup> Shanna Logan & Richard O'Kearney, *Individual Differences in Emotionality and Peri-traumatic Processing*, 43 J. BEHAV. THERAPY & EXPERIMENTAL PSYCHIATRY 815, 815 (2012).

<sup>146</sup> Michele Bedard-Gilligan & Lori A. Zoellner, *Dissociation and Memory Fragmentation in Posttraumatic Stress Disorder: An Evaluation of the Dissociative Encoding Hypothesis*, 20 MEMORY 277 (2012) (“[N]eurobiological models of stress and memory suggest that stressful, traumatic experiences trigger increased release of cortisol. This is thought to contribute to hippocampal dysfunction, which is associated with deficits in declarative memory, and in particular memory fragmentation.”).

inhibit hippocampus dependent processes (e.g., spatial memory), but enhance amygdala-dependent processes (e.g., fear conditioning).<sup>147</sup>

Thus, the differing impacts of high levels of cortisol on the amygdala versus the hippocampus may mean that the brain's ability to form conscious memories of a traumatic event becomes prejudiced, while forming unconscious traumatic memories is strengthened.<sup>148</sup> The foregoing may elucidate why at times emotion and trauma improves one's awareness and the specificity of a declarative recall of the event (with moderate levels of cortisol) while with other traumatic experiences the memory may be recalled as emotional yet with contextual details lost, rendering the story fragmented and potentially embedded with unconsciously placed, potentially erroneous in nature, facts (given high levels of cortisol).<sup>149</sup>

The psychophysiology of stress responses is enlightening as to why peritraumatic reports of traumatic events may well not be accurate despite the sincerest of intentions on behalf of the declarant.<sup>150</sup> A related phenomena manifested by victims of trauma are dissociative states, which can further exacerbate degradations in personal and social functioning and in their ability to properly articulate facts and feelings related to the event. "The trauma model of dissociation provides that the traumatic experiences and high levels of stress are sociobiologically linked to cognitive deficits. The cognitive deficits include 'errors of omission, commission, and narrative fragmentation.'"<sup>151</sup>

### B. Dissociation

In the early nineteenth century, dissociation was referred to simply as hysteria.<sup>152</sup> Dissociation colloquially has been regarded as "the escape when

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<sup>147</sup> Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in HANDBOOK OF EMOTIONS 159, 166 (Michael Lewis et al., eds., 3d ed. 2008).

<sup>148</sup> Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in HANDBOOK OF EMOTIONS 159, 166-67 (Michael Lewis et al., eds., 3d ed. 2008).

<sup>149</sup> Annie-Claude David, *Consistency of Retrospective Reports of Peritraumatic Responses and Their Relation to PTSD Diagnostic Status*, 23 J. TRAUMATIC STRESS 599, 599 (2010); Joseph E. Ledoux & Elizabeth A. Phelps, *Emotional Networks in the Brain*, in HANDBOOK OF EMOTIONS 159, 166 (Michael Lewis et al., eds., 3d ed. 2008);

<sup>150</sup> Annie-Claude David, *Consistency of Retrospective Reports of Peritraumatic Responses and Their Relation to PTSD Diagnostic Status*, 23 J. TRAUMATIC STRESS 599, 599 (2010).

<sup>151</sup> Constance J. Dalenberg et al., *Evaluation of the Evidence for the Trauma and Fantasy Models of Dissociation*, 138 PSYCHOL. BULL. 550 (2012).

<sup>152</sup> Ellert R. S. Nijenhuis & Onno van der Hart, *Dissociation in Trauma: A New Definition and Comparison with Previous Formulations*, 12 J. TRAUMA & DISSOCIATION 416, 417 (2011).

there is no escape.”<sup>153</sup> A dissociating person simply loses normal control over her own cognitive processes and functions.<sup>154</sup> Employing a more refined description, the term dissociation refers to “a disruption in the integrated functions of consciousness, memory, identity, or perception of the environment.”<sup>155</sup>

Dissociation takes many forms such that a person in a dissociative state may experience any one or more of a variety of manifestations, though some obviously contrast with others. Positive dissociation may entail undesired cognitive or physical intrusions, such as traumatic memories, nightmares, re-experiencing pain, or developing tics.<sup>156</sup> Negative dissociative symptoms involve impairment of usual cognitive functioning, such as losing awareness, memory problems, or assuming physical disabilities such as impaired motor function or senses.<sup>157</sup> There are experiential symptoms, as well, feeling disconnected to one’s body or environment, such as in out-of-body experiences,<sup>158</sup> which can negatively impact one’s capacity to remain emotionally or physically connected to others.<sup>159</sup> Dissociation is commonly associated with alexithymia, a condition whereby one is unable to connect with one’s emotions and encounters difficulties with comprehending, much less being able to articulate, how one is feeling.<sup>160</sup> Deficits in accurate assessments of time are common with dissociation, either experiencing feelings of time passing by rapidly or slowing down.<sup>161</sup>

The latest version of the American Psychological Association’s “bible” of mental disorders, the Diagnostic and Statistical Manual (DSM-5),

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<sup>153</sup> HARVEY L. SCHWARTZ, *ALCHEMY OF WOLVES AND SHEEP: A RELATIONAL APPROACH TO INTERNALIZED PERPETRATION FOR COMPLEX TRAUMA SURVIVORS* 45 (2013).

<sup>154</sup> Martin J. Dorahy et al., *Complex Trauma and Intimate Relationships: The Impact of Shame, Guilt and Dissociation*, 147 *J. AFFECTIVE DISORDERS* 72, 73 (2013).

<sup>155</sup> Lydia Gómez-Pérez et al., *Predictors of Trait Dissociation and Peritraumatic Dissociation Induced Via Cold Pressor*, 210 *PSYCHIATRY RES.* 274 (2013).

<sup>156</sup> Etzel Cardeña & Eve Carlson, *Acute Stress Disorder Revisited*, 7 *ANN. REV. CLINICAL PSYCHOL.* 245, 251-52 (2011).

<sup>157</sup> Etzel Cardeña & Eve Carlson, *Acute Stress Disorder Revisited*, 7 *ANN. REV. CLINICAL PSYCHOL.* 245, 251-52 (2011).

<sup>158</sup> Chris R. Brewin, Belinda Y.T. Ma, & Jessica Colson, *Effects of Experimentally Induced Dissociation on Attention and Memory*, 22 *CONSCIOUSNESS & COGNITION* 315, 315 (2013).

<sup>159</sup> Martin J. Dorahy et al., *Complex Trauma and Intimate Relationships: The Impact of Shame, Guilt and Dissociation*, 147 *J. AFFECTIVE DISORDERS* 72, 73 (2013).

<sup>160</sup> CHRISTIANE SANDERSON, *COUNSELING SURVIVORS OF DOMESTIC ABUSE* 137 (2008).

<sup>161</sup> Chris R. Brewin, Belinda Y.T. Ma, & Jessica Colson, *Effects of Experimentally Induced Dissociation on Attention and Memory*, 22 *CONSCIOUSNESS & COGNITION* 315, 315 (2013).



recognizes an acute dissociative reaction to stress and describes it as “acute, transient conditions that typically last less than 1 month, and sometimes only a few hours or days. These conditions are characterized by constriction of consciousness; depersonalization; derealization; perceptual disturbances (e.g., time slowing, macropsia); micro-amnesias; transient stupor; and/or alterations in sensory-motor functioning (e.g., analgesia, paralysis).”<sup>162</sup> The professional organization’s nosology also denotes a complete or partial disconnection to one’s environment as indicating a dissociative trance.<sup>163</sup>

### 1. Peritraumatic Dissociation

Relative to victims’ accounts of traumatic incidents that implicate the hearsay objectives noted herein, peritraumatic dissociation is of prime concern. Peritraumatic dissociation is temporally focused on withdrawal symptoms occurring during and immediately following a stressful or traumatic event.<sup>164</sup> Victims with peritraumatic dissociation may experience depersonalization, derealization, altered perceptions, and emotional numbing.<sup>165</sup> Peritraumatic dissociation is considered situational as the term signifies the symptoms as responsive to the traumatic experience<sup>166</sup> and transient in nature,<sup>167</sup> to distinguish it from a more permanent condition that may rise to a diagnosed dissociative disorder.<sup>168</sup>

As a result of dissociation, it is common for one to experience disruptions in the brain’s encoding and storing of trauma-related details and stories.<sup>169</sup> A dissociative victim often is incapable of properly processing

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<sup>162</sup> DSM-5 § 300.15(3) (2013).

<sup>163</sup> DSM-5 § 300.15(4) (2013).

<sup>164</sup> Chris R. Brewin & Niloufar Mersaditabari, *Experimentally-induced Dissociation Impairs Visual Memory*, 22 CONSCIOUSNESS & COGNITION 1189, 1189 (2013); Chris R. Brewin, Belinda Y.T. Ma, & Jessica Colson, *Effects of Experimentally Induced Dissociation on Attention and Memory*, 22 CONSCIOUSNESS & COGNITION 315, 315 (2013).

<sup>165</sup> Chris R. Brewin, Belinda Y.T. Ma, & Jessica Colson, *Effects of Experimentally Induced Dissociation on Attention and Memory*, 22 CONSCIOUSNESS & COGNITION 315, 315 (2013); Marit Sijbrandij et al., *The Structure of Peritraumatic Dissociation: A Cross Validation in Clinical and Nonclinical Samples*, 25 J. TRAUMATIC STRESS 475, 475 (2012).

<sup>166</sup> Charles A. Morgan III & Marcus K. Taylor, *Spontaneous and Deliberate Dissociative States in Military Personnel: Are Such States Helpful?*, 26 J. TRAUMATIC STRESS 492, 492 (2013).

<sup>167</sup> Marit Sijbrandij et al., *The Structure of Peritraumatic Dissociation: A Cross Validation in Clinical and Nonclinical Samples*, 25 J. TRAUMATIC STRESS 475, 475 (2012).

<sup>168</sup> See J. Douglas Bremner, *Cognitive Processes in Dissociation: Comment on Giesbrecht et al. (2008)*, 136 PSYCHOL. BULL. 1, 2 (2010) (distinguishing dissociate symptoms from dissociative disorder).

<sup>169</sup> Chris R. Brewin & Niloufar Mersaditabari, *Experimentally-induced Dissociation Impairs Visual Memory*, 22 CONSCIOUSNESS & COGNITION 1189, 1192 (2013); Michele Bedard-Gilligan & Lori A. Zoellner, *Dissociation and Memory Fragmentation in Posttraumatic Stress Disorder: An Evaluation of the Dissociative Encoding Hypothesis*, 20

trauma-related information and thereby the neurocognitive systems fail to activate a more protective stress response.<sup>170</sup> Peritraumatic dissociation also commonly leads to deficits in memory. Withdrawal means “incomplete initial processing of a traumatic event along with analytic defense mechanisms produce[s] an incomplete, incoherent memory of the traumatic event.”<sup>171</sup> Or, unwanted trauma memories (whether true or not) may periodically intrude later on.<sup>172</sup>

Importantly, peritraumatic dissociation, even in circumstances involving cognitive, bodily, and environmental distortions, may actually be beneficial at times to the individual’s survival. The symptoms may save one from “a full conscious appreciation of peritraumatic distress,<sup>173</sup> in order to mitigate emotional distress or physical pain.<sup>174</sup> Depending on the threat posed, the dissociation may be complete in the sense of no conscious awareness and later amnesia or it may be partial whereby the response is to process some but not all details of the traumatic event, depending on one’s immediate competence in coping with the stress and its effects on the body and mind.<sup>175</sup> Peritraumatic dissociation may be an automatic response involving the stress response’s fear circuitry discussed earlier in this Section. Studies find distortions in the levels of the stress hormone cortisol in individuals who dissociated after trauma, indicating the body’s attempt to reduce physiological arousal as a protective device to minimize experiencing the negative effects of the stress reactivity.<sup>176</sup> Dissociating as a mental, emotional, and somewhat physical escape may be the best alternative if fight or flight from the threat is not in the moment possible.<sup>177</sup>

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MEMORY 277, 277 (2012).

<sup>170</sup> Leah A. Irish et al., *Gender Differences in PTSD Symptoms: An Exploration of Peritraumatic Mechanisms*, 25 J. ANXIETY DISORDERS 209 (2011).

<sup>171</sup> David C. Rubin, *The Coherence of Memories for Trauma: Evidence from Posttraumatic Stress Disorder*, 20 CONSCIOUSNESS & COGNITION 857, 857 (2011).

<sup>172</sup> Chris R. Brewin & Niloufar Mersaditabari, *Experimentally-induced Dissociation Impairs Visual Memory*, 22 CONSCIOUSNESS & COGNITION 1189, 1189-90 (2013).

<sup>173</sup> Marit Sijbrandij et al., *The Structure of Peritraumatic Dissociation: A Cross Validation in Clinical and Nonclinical Samples*, 25 J. TRAUMATIC STRESS 475, 475 (2012).

<sup>174</sup> Lydia Gómez-Pérez et al., *Predictors of Trait Dissociation and Peritraumatic Dissociation Induced Via Cold Pressor*, 210 PSYCHIATRY RES. 274 (2013).

<sup>175</sup> Pamela McDonald et al., *The Expectancy of Threat and Peritraumatic Dissociation*, 4 EUR. J. PSYCHOTRAUMATOLOGY 21426 (2013).

<sup>176</sup> Charles A. Morgan III & Marcus K. Taylor, *Spontaneous and Deliberate Dissociative States in Military Personnel: Are Such States Helpful?*, 26 J. TRAUMATIC STRESS 492, 495 (2013). See also Chris R. Brewin, Belinda Y.T. Ma, & Jessica Colson, *Effects of Experimentally Induced Dissociation on Attention and Memory*, 22 CONSCIOUSNESS & COGNITION 315, 315 (2013) (noting dissociation “has long been thought to assist coping by temporarily reducing negative emotional states and physiological arousal”).

<sup>177</sup> Eve M. Sledjeski & Douglas L. Delahanty, *Prior Peritraumatic Dissociative*

Feelings of shame play a salient role in peritraumatic dissociation.<sup>178</sup> “While guilt is often associated with actions or action failures during and after a traumatic event, shame reflects how the individual feels following appraisals of self during or after a traumatic event.”<sup>179</sup> Shame often is associated with social withdrawal or interpersonal avoidance.<sup>180</sup> Conversely, a shameful person in a dissociative state may try to deflect by attacking themselves or others.<sup>181</sup> Thus, shameful feelings may contribute to miscoding the traumatic experience, encouraging the implanting of false information whether consciously orchestrated or not.

## 2. Long-term Consequences of Dissociation

Dissociation can impose long-term consequences. Dissociation may be triggered voluntarily in a sense, though the individual may not be consciously aware of her ability to trigger it.<sup>182</sup> Disengaging from a traumatic event as a coping mechanism may be learned. Studies uncovered numerous examples of trauma victims deliberately inducing dissociative states to cope with stress by mentally and emotionally disengaging from the situation, similar to how an athlete might contrive to tune out mentally and physically as the competitive event approaches.<sup>183</sup> Still, a learned strategy can in turn become automatic, which may lead to more permanent disorders of mental health.<sup>184</sup> “Once individuals have learned to use dissociation to cope with a highly aversive event, dissociation can presumably become automatized and invoked on a habitual basis in response to even minor stressors. Habitual dissociation, in turn, engenders emotional constriction and numerous and varied manifestations of psychopathology.”<sup>185</sup>

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*Experiences Affect Autonomic Reactivity During Trauma Recall*, 13 J. TRAUMA DISSOCIATION 32 (2012).

<sup>178</sup> Martin J. Dorahy et al., *Complex Trauma and Intimate Relationships: The Impact of Shame, Guilt and Dissociation*, 147 J. AFFECTIVE DISORDERS 72, 73 (2013).

<sup>179</sup> Martin J. Dorahy et al., *Complex Trauma and Intimate Relationships: The Impact of Shame, Guilt and Dissociation*, 147 J. AFFECTIVE DISORDERS 72, 73 (2013).

<sup>180</sup> Martin J. Dorahy et al., *Complex Trauma and Intimate Relationships: The Impact of Shame, Guilt and Dissociation*, 147 J. AFFECTIVE DISORDERS 72, 73 (2013).

<sup>181</sup> Martin J. Dorahy et al., *Complex Trauma and Intimate Relationships: The Impact of Shame, Guilt and Dissociation*, 147 J. AFFECTIVE DISORDERS 72, 73 (2013).

<sup>182</sup> Charles A. Morgan & Marcus K. Taylor, *Spontaneous and Deliberate Dissociative States in Military Personnel: Are Such States Helpful?*, 26 J. TRAUMATIC STRESS 492 (2013).

<sup>183</sup> Charles A. Morgan III & Marcus K. Taylor, *Spontaneous and Deliberate Dissociative States in Military Personnel: Are Such States Helpful?*, 26 J. TRAUMATIC STRESS 492, 492 (2013).

<sup>184</sup> Timo Giesbrecht et al., *Cognitive Processes in Dissociation: An Analysis of Core Theoretical Assumptions*, 134 PSYCHOL. BULL. 617, 618 (2008).

<sup>185</sup> Timo Giesbrecht, *Cognitive Processes in Dissociation: An Analysis of Core*

Trauma victims' accounts of their peritraumatic reactions often change over the course of time, with stories potentially conflicting with each other.<sup>186</sup> A dissociative person consciously and unconsciously tends to avoid the memories of the trauma, downplay the event's importance, alter troubling facts or contexts, or perhaps even deny it altogether in order to cope.<sup>187</sup> "Typically, the memory disruption . . . is memory fragmentation, or abnormalities of sequence, coherence, and content in the trauma narrative. Fragmentation is thought to result from a lack of elaboration of the memory due to high emotion and dissociation during the traumatic experience."<sup>188</sup> The accounts trauma victims give, even if somewhat erroneous, is often not due to intended fabrication. Their stories may be their own heartily believed "truth" yet at its core simply impersonate reality with a distorted recall of the events as they actually occurred. It represents the mantra that, in a literal sense, "your mind is playing tricks on you."

Nonetheless, we will change course here. Recall the presumption of the transaction hearsay exceptions that a person issuing a statement in an excited state, giving their present sense impression, or describing their mental or physical condition cannot be lying. Evidence law speculates in these instances that an individual would not have the motive to lie, much less the time to fabricate facts and feelings. Next are considered empirical studies and more pragmatic perspectives as to the validity of such hypotheses.

### C. *The Time to Deceive*

A primary justification for the admissibility of hearsay involving an excited utterance, a present sense impression, and a statement of mental or bodily condition is that in those moments the person is presumably asserting the truth. To be sure, we are forced here to brazenly ignore the sociological prescription that all truth is socially constructed<sup>189</sup> as the operation of the law as it is would shatter in a world where the absolute truth is conceded as unascertainable. In any event, the neuroscientific explanation posited for immediate statements being truthful is that lying requires a higher cognitive

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*Theoretical Assumptions*, 134 PSYCHOL. BULL. 617, 618 (2008).

<sup>186</sup> Michele Bedard-Gilligan & Lori A. Zoellner, *Dissociation and Memory Fragmentation in Posttraumatic Stress Disorder: An Evaluation of the Dissociative Encoding Hypothesis*, 20 MEMORY 277, 277 (2012).

<sup>187</sup> Constance J. Dalenberg et al., *Evaluation of the Evidence for the Trauma and Fantasy Models of Dissociation*, PSYCHOL. BULL. (2011).

<sup>188</sup> Michele Bedard-Gilligan & Lori A. Zoellner, *Dissociation and Memory Fragmentation in Posttraumatic Stress Disorder: An Evaluation of the Dissociative Encoding Hypothesis*, 20 MEMORY 277, 277 (2012).

<sup>189</sup> See generally PETER L. BERGER & THOMAS LUCKMANN, *THE SOCIAL CONSTRUCTION OF REALITY: A TREATISE IN THE SOCIOLOGY OF KNOWLEDGE* (1966).

load as the deceiver must construct a story that is consistent with the facts and at least plausible.<sup>190</sup> Fabrication is argued to require the higher brain's executive function to both conceal the truth and construct the fabrication, and as a consequence, lying must take longer than truth telling.<sup>191</sup> The belief of those following this model is that our automatic response is honesty.<sup>192</sup> But this model is strained. Neuroscience studies do tend to show that it does take longer to lie, but the time lag is nominal.<sup>193</sup> As the Seventh Circuit has recognized, “[o]ld and new studies agree that less than one second is required to fabricate a lie.”<sup>194</sup> In a more recent case, the same court complained that “[i]t’s not true that people can’t make up a lie in a short period of time. Most lies in fact are spontaneous.”<sup>195</sup> The weight of the evidence substantially supports that the judges there are making a scientifically accurate assessment. Experimental studies in psychological and neuroscience consistently show a lag time of 200-400 milliseconds to commence a lie as compared to a truth.<sup>196</sup> To be clear, 200 milliseconds amounts to 0.2 seconds; quite literally, it takes just a split second to lie.

Anecdotally, there is evidence as well. Most adults have probably witnessed even young children lying immediately when confronted about a deviant act. A frequent refrain of the long-standing comic strip “Family Circus” involved the youngsters automatically, but most often

<sup>190</sup> Martin R. Sheridan & Kenneth A. Flowers, *Reaction Times and Deception - the Lying Constant*, 2 INT’L J. PSYCHOL. STUD. 41, 47 (2010).

<sup>191</sup> Catherine J. Hughes et al., *Recent Developments in Deception Research*, 1 CURRENT PSYCHIATRY REV. 273, 274 (2005).

<sup>192</sup> Martin R. Sheridan & Kenneth A. Flowers, *Reaction Times and Deception - the Lying Constant*, 2 INT’L J. PSYCHOL. STUDIES 41, 47 (2010) (“delay is due to the need to inhibit the natural response before producing the false one, that is, it requires a separate extra stage in the sequence of operations involved in generating the response”); Catherine J. Hughes et al., *Recent Developments in Deception Research*, 1 CURRENT PSYCHIATRY REV. 273, 274 (2005).

<sup>193</sup> Allison Curley, *The Truth About Lies: The Science of Deception* (2013), <http://www.brainfacts.org/in-society/in-society/articles/2013/the-truth-about-lies-the-science-of-deception/>.

<sup>194</sup> *Lust v. Sealy, Inc.*, 383 F.3d 580, 588 (7th Cir. 2004) (quoting Douglas D. McFarland, *Present Sense Impressions Cannot Live in the Past*, 28 FLA. ST. U.L. REV. 907, 916 (2001)).

<sup>195</sup> *United States v. Boyce*, 742 F.3d 792, 800 (7th Cir. 2014) (citing Monica T. Whitty et al., *Not All Lies Are Spontaneous: An Examination of Deception Across Different Modes of Communication*, 63 J. AM. SOC’Y OF INFO. SCI. & TECH. 208, 208–09, 214 (2012)).

<sup>196</sup> Martin R. Sheridan & Kenneth A. Flowers, *Reaction Times and Deception - the Lying Constant*, 2 INT’L J. PSYCHOL. STUD. 41, 43 (2010) (about 400 milliseconds); Tom F. D. Farrow et al., *Evidence of Mnemonic Ability Selectively Affecting Truthful and Deceptive Response Dynamics*, 123 AM. J. PSYCHOL. 447, 449 (2010) (200-230 milliseconds across studies); Sean A. Spence et al., *A Cognitive Neurobiological Account of Deception: Evidence from Functional Neuroimaging*, 359 PHIL. TRANSACTIONS ROYAL SOC’Y 1755, 1758-59 (2004) (200 milliseconds).

disingenuously, crying “Not Me!” as soon as a parent demanded to know who was responsible for some mishap, such as a broken lamp. There is some evidence in the literature that, contrary to the presumption that truth is the automatic practice, it might be our nature to do anything that serves our own narcissistic tendencies.<sup>197</sup> The ability to instantly lie to protect one’s self-interest may be genetic; there is evidence that primates lie to benefit themselves.<sup>198</sup> A recent neuropsychological experiment offered interesting findings: “in tempting situations, people’s automatic tendency is to serve their self-interest, even when such behavior requires lying. Only with time to deliberate can people correct this tendency, restrain it, and lie in moderation or avoid lying altogether.”<sup>199</sup> These researchers detailed how higher brain functioning may be required to override the natural inclination to promote our own interests.

[S]upport for the automaticity of self-interest comes from neuropsychological work showing that the right dorsolateral prefrontal cortex, a brain area involved in executive control, is associated with overriding selfish impulses in economic decisions and that this area, together with two other brain areas associated with self-control (the anterior cingulate cortex and the ventrolateral prefrontal cortex), is activated when individuals attempt to refrain from lying. Being able to exert self-control seems to be a prerequisite for ethical behavior, which suggests that people’s automatic tendency is to (unethically) serve their self-interest.<sup>200</sup>

The authors suggested the results showed that when we have to act quickly, our tendency is to act on greed unless there is sufficient time to override the impulse.<sup>201</sup>

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<sup>197</sup> Shaul Shalvi et al., *Honesty Requires Time (and Lack of Justifications)*, 23 PSYCHOL. SCI. 1264, 1265 (2012).

<sup>198</sup> Sean A. Spence et al., *A Cognitive Neurobiological Account of Deception: Evidence from Functional Neuroimaging*, 359 PHIL. TRANSACTIONS ROYAL SOC’Y 1755, 1758-59 (2004).

<sup>199</sup> Shaul Shalvi et al., *Honesty Requires Time (and Lack of Justifications)*, 23 PSYCHOL. SCI. 1264, 1268 (2012). *But see* Anna Foerster et al., *Honesty Saves Time (and Justifications)*, 4 FRONTIERS IN PSYCHOL. 473 (2013), <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3719030/> (arguing this study’s results are questionable and likely just a consequence of the limitations of the study design). For a reply, see Shaul Shalvi et al., *Honesty Requires Time—A Reply to Foerster et al.*, 4 FRONTIERS IN PSYCHOL. 634 (2013), <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3783836/>.

<sup>200</sup> Shaul Shalvi et al., *Honesty Requires Time (and Lack of Justifications)*, 23 PSYCHOL. SCI. 1264, 1265 (2012).

<sup>201</sup> Shaul Shalvi et al., *Honesty Requires Time (and Lack of Justifications)*, 23 PSYCHOL. SCI. 1264, 1268 (2012) (“[T]he current results reveal that in tempting situations, when people have to act quickly, they yield to temptation (act on their greed) and serve their self-interest by cheating. When they have time to deliberate, people restrain the

Perhaps we are wired to deceive, as well, in order to maintain autonomy in a group-based existence whereby our personal desires are mediated by social norms.<sup>202</sup> One may lie to promote her own standing in the eyes of others or to gain some economic or psychological benefit. Additionally, for many, lying may become an habitual practice. Another experimental study found that lying comes easier and quicker for habitual fabricators.<sup>203</sup> Thus, the empirical research supports the notion that we can lie even in an instant, thus undermining the folklore assumption underlying each of the three hearsay exceptions that in the immediacy of the moment there is no time to lie.<sup>204</sup>

Further, lies are not necessarily dichotomous things. "There are many ways to deceive other people. An obvious choice is to tell an outright lie, but it is also possible to deceive others by avoiding the truth, obfuscating the truth, exaggerating the truth, or casting doubt on the truth."<sup>205</sup> Just as a memory of a traumatic event may be fragmented, an instantaneous narrative may be variously embedded with an overlap of sincere and insincere thoughts by both commission and omission. The empirical evidence described herein about the neuropsychological role of stress, trauma, dissociation, disrupted memories, and the temporal requirements of lying is highly relevant to conceptualizing and judging the narratives given by victims of interpersonal violence.

#### IV. VICTIMS' ACCOUNTS OF INTERPERSONAL VIOLENCE

Clearly, violent threats from other persons can be sufficient to provoke the coordinated, multisystemic stress response for self-protection purposes. Resort to dissociative states during incidents of interpersonal violence can be especially strategic by socially and personally disconnecting from the perpetrator and thereby reducing the potential perception of provoking further attack. Certain neuropsychologists have noted that the combination of stress response plus dissociation can at its best represent a particularly

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amount of their lying to the extent that they may justify it, or they avoid lying altogether when justifications are not available.").

<sup>202</sup> Sean A. Spence et al., *A Cognitive Neurobiological Account of Deception: Evidence from Functional Neuroimaging*, 359 PHIL. TRANSACTIONS ROYAL SOC'Y 1755, 1758-59 (2004).

<sup>203</sup> Bruno Verschuere et al., *The Ease of Lying*, 20 CONSCIOUSNESS & COGNITION 908, 909 (2011). See also Xiaoqing Hu et al., *A Repeated Lie Becomes a Truth? The Effect of Intentional Control and Training on Deception*, 3 FRONTIERS PSYCHOL. 488 (2012).

<sup>204</sup> James D. Moorehead, *Compromising the Hearsay Rule: The Fallacy of Res Gestae Reliability*, 29 LOY. L. REV. 203, 229 (1995) ("Despite the nexus between event and statement, there appears to be ample opportunity under the present sense impression exception for deliberate or accidental misstatement by the declarant.").

<sup>205</sup> William von Hippel & Robert Trivers, *The Evolution and Psychology of Self-Deception*, 34 BEHAV. & BRAIN SCI. 1, 1 (2011).

adaptive survival strategy in three posited scenarios, each of which clearly insinuate threats posed by acts of interpersonal violence:

- when the organism is in direct and close encounter with a dangerous perpetrator, for example, when there is skin contact;
- in the presence of body fluids with danger of contamination, for example, blood or sperm;
- when bodily integrity is already injured, for example, invasion, penetration, sharp objects (e.g., teeth and knife) at the skin.<sup>206</sup>

The mind/body's defensive cascade may be acutely effective when faced with imminent human threat in such scenarios by facilitating immobility and pain tolerance to reduce the possible extension and severity of physical injury.<sup>207</sup> Further, an additional variation has been observed in cases of violent threats. Tonic immobility is a peritraumatic state triggered by extreme fear and characterized by muscular paralysis, inhibited vocalization, and analgesia.<sup>208</sup> This condition is akin to an animal in the wild playing dead when faced with a predator.

Excited utterance, present sense impression, and statement of mental or bodily condition all rest on the premise that declarations made concurrently with an event are truthful in the sense of being accurate representations of the facts. Yet for many of the considerations developed in Section III, the thesis is quite challenged in the context of interpersonal violence. The time needed to intentionally lie is infinitesimal and, even in times of high stress, such as in the midst of a quarrel, one's initial reaction may be to intentionally serve one's self-interest or it may simply be impulsive. At the same time, the neurophysiological stress response—which likely in most cases of assault is automatically triggered—may significantly impede correct processing and coding of the traumatic event, inhibit accurate recall, and, even if these two do not occur, the stress response can still disrupt one's ability to engage verbal narratives. The violence victim may simply not be able in the moment to adequately articulate the story, properly parse her emotions thereto, or to fully conceptualize various contexts or circumstances regarding the assaultive event. The addition of a peritraumatic dissociative state only exacerbates the impediments to relaying details or grasping the broader “reality” of the event. Narrative

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<sup>206</sup> Maggie Schauer & Thomas Elbert, *Dissociation Following Traumatic Stress: Etiology and Treatment*, 218 J. PSYCHOL. 109, 110 (2010).

<sup>207</sup> Maggie Schauer & Thomas Elbert, *Dissociation Following Traumatic Stress: Etiology and Treatment*, 218 J. PSYCHOL. 109, 110 (2010).

<sup>208</sup> Maggie Schauer & Thomas Elbert, *Dissociation Following Traumatic Stress: Etiology and Treatment*, 218 J. PSYCHOL. 109, 115 (2010).



disorganization has been linked to peritraumatic dissociation in assault victims,<sup>209</sup> often due to coding deficits.<sup>210</sup>

A. *The Salience of Hearsay in Domestic and Sexual Violence*

The usefulness of the three transactional hearsay exceptions in evidence law is perhaps at its greatest with respect to victims' accounts in domestic violence and sexual assault considering experience with high rates of these victims' minimizing and recanting their incidents of abuse. Thus, these exceptions have been praised for allowing the introduction of hearsay testimony in cases involving types of violent crime which have historically suffered setbacks in accumulating a sufficiency of evidence to make a legal case against perpetrators. For instance, since the 1980s, courts have been more liberal in applying the excited utterance exception in cases of child sexual abuse<sup>211</sup> and to adult sexual abuse victims, as well, considering evidentiary issues.<sup>212</sup> An author conceptualizes, for example, the heightened social policy need to admit hearsay in domestic assault cases:

[D]omestic violence is a very significant societal, as well as individual, problem that the criminal justice system needs resources to combat. The ability of the criminal justice system to do so is complicated by the fact that most domestic violence assaults usually take place in private, where only the abuser and the abused know with certainty what has occurred. Although the victim, immediately after the incident, may make statements to police investigators or others about what has happened, she is often unavailable, or unwilling, to testify at trial. Thus, her story is often left untold. In many situations, the prosecution of domestic violence cases can only be effective if the hearsay statements of the victim are admissible at trial.<sup>213</sup>

Others agree that hearsay from the victims' initial accounts may be the only available evidence in the usually private worlds in which domestic and sexual assaults often occur, and courts are thereby justified in admitting it in

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<sup>209</sup> Constance J. Dalenberg et al., *Evaluation of the Evidence for the Trauma and Fantasy Models of Dissociation*, 138 PSYCHOL. BULL. 550 (2012).

<sup>210</sup> Kristine A. Peace et al., *Are Memories for Sexually Traumatic Events "Special"?: A Within-Subjects Investigation of Trauma and Memory in a Clinical Sample*, 16 MEMORY 10, 12 (2008).

<sup>211</sup> Colin Miller, *A Shock To The System: Analyzing the Conflict Among Courts over Whether And When Excited Utterances May Follow Subsequent Startling Occurrences In Rape and Sexual Assault Cases*, 12 WM. & MARY J. WOMEN & L. 49, 63-70 (2005).

<sup>212</sup> Colin Miller, *A Shock To The System: Analyzing the Conflict Among Courts over Whether And When Excited Utterances May Follow Subsequent Startling Occurrences In Rape and Sexual Assault Cases*, 12 WM. & MARY J. WOMEN & L. 49, 70-76 (2005).

<sup>213</sup> Neal A. Hudders, *The Problem of Hearsay in Domestic Violence Cases: Is a New Exception the Answer?*, 49 DUKE L. J. 1041, 1060 (2000).

order to serve the public purpose of holding abusers legally accountable.<sup>214</sup> It is considered particularly suitable for judges to embrace legal solutions that permit the system to attain judgments against perpetrators who have committed horrendous crimes against victims historically unprotected by the law.<sup>215</sup> On the other hand, there has been recognized a downside. In the resulting scheme referred to as “witness lite/hearsay heavy,” when domestic violence and sexual assault victims have taken the stand and testified, “they were subject to stinging credibility attacks, based on their recantations or other inconsistencies in their testimony, their faulty memories, and/or charges that they were manipulated by their families, caregivers, or law enforcement.”<sup>216</sup>

Nonetheless, there is also a more pragmatic rationale used to justify hearsay admissions. Many legal commentators assume that domestic and sexual violence victims are more reliable in their accounts reporting abuse shortly after than they are later when they are perceived to fabricate stories by minimizing or recanting.<sup>217</sup> Thus, some have assumed that hearsay via 911 calls and reports to police officers or counselors of the occurrence domestic assault are more credible in the period closely following than thereafter.<sup>218</sup> Indeed, victims’ later stories explaining why she had lied about reporting domestic abuse at the time of the reported episode is often discounted by judges as merely reflecting the frequency of recantation in such cases, even though the account of the earlier fabrication and reasons therefor sound plausible.<sup>219</sup>

Notably, despite the perceived need for this hearsay testimony appearing legitimate for those reasons, the relative unreliability of it is even greater than in other cases of traumatic events. The impacts on narratives

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<sup>214</sup> Liesa L. Richter, *Don't Just Do Something!: E-Hearsay, The Present Sense Impression, and the Case for Caution in the Rulemaking Process*, 61 AM. U. L. REV. 1657, 1699 (2012). Victims’ hearsay provides “an invaluable and constitutionally sound window into domestic attacks that are often perpetrated without witnesses standing by.” *Id.* at 1703.

<sup>215</sup> Jone Tran, *Crying Wolf or An Excited Utterance? Allowing Reexcited Statements to Qualify Under the Excited Utterance Exception*, 52 CLEV. ST. L. REV. 527, 546 (2004).

<sup>216</sup> Myrna S. Raeder, *Domestic Violence, Child Abuse, and Trustworthiness Exceptions After Crawford*, 24 CRIM. JUST. 24, 24 (2005).

<sup>217</sup> Mark S. Brodin, *Behavioral Science Evidence in the Age of Daubert: Reflections of a Skeptic*, 73 U. CIN. L. REV. 867, 920 (2005) (“California recently reaffirmed its rulings admitting on credibility grounds the testimony of police officers and domestic violence counselors to the effect that victims usually tell the truth about their abuse within 48 hours of the incident, but then often recant or minimize it later on.”).

<sup>218</sup> Andrew King-Ries, *Crawford v. Washington: The End of Victimless Prosecution?*, 28 SEATTLE U. L. REV. 301, 327 (2005) (arguing abused women are more credible when speaking to 911 operators than they are later, including at trial).

<sup>219</sup> MELISSA HAMILTON, EXPERT TESTIMONY ON DOMESTIC VIOLENCE: A DISCOURSE ANALYSIS 105-10 (2009).

are exacerbated in cases of domestic and sexual violence because these victims are at high risk to feel shame,<sup>220</sup> peritraumatically dissociate,<sup>221</sup> and experience alexithymia.<sup>222</sup> One of the reasons for the increased risk of these consequences is simply the greater frequency of repeat victimizations for intimate partner assault victims<sup>223</sup> and victims of sexual assault.<sup>224</sup> Unfortunately, dissociation positively correlates with intimate partner and sexual revictimization.<sup>225</sup> Victims of repeat attack may actually learn to consciously dissociate during the attack and, when they perceive it becoming imminent, may have a better chance at triggering such a state. "It is possible that people who experience the dread of the imminent traumatic impact are more likely to experience peritraumatic dissociation than those who experience it without warning because they have greater opportunity to perceive the threat, and thereby engage in more dissociative responses."<sup>226</sup> Add to the mix tonic immobility, verbal speech is further thwarted and analgesia reduces perceptions of pain which, for assault victims, may understate the severity of the violence.

### B. Sex-Based Differentials in Trauma Responses

The political or practical justifications for the hearsay exceptions to be applied to domestic and sexual assault victims appear to ignore the veracity-challenging consequences of stress responses and dissociative states. More so, the context of intimate partner abuse and sexual assault only serve to increase those effects for reasons of sex. Men are somewhat more likely to

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<sup>220</sup> CHRISTIANE SANDERSON, COUNSELING SURVIVORS OF DOMESTIC ABUSE 134 (2008).

<sup>221</sup> CHRISTIANE SANDERSON, COUNSELING SURVIVORS OF DOMESTIC ABUSE 132 (2008); Katherine M. Iverson et al., *Predictors of Intimate Partner Violence Revictimization: The Relative Impact of Distinct PTSD Symptoms, Dissociation, and Coping Strategies*, 26 J. TRAUMATIC STRESS 102, 103 (2013).

<sup>222</sup> CHRISTIANE SANDERSON, COUNSELING SURVIVORS OF DOMESTIC ABUSE 137 (2008); Kristine A. Peace et al., *Are Memories for Sexually Traumatic Events "Special"?: A Within-Subjects Investigation of Trauma and Memory in a Clinical Sample*, 16 MEMORY 10, 12 (2008).

<sup>223</sup> CHRISTIANE SANDERSON, COUNSELING SURVIVORS OF DOMESTIC ABUSE 132 (2008); Katherine M. Iverson et al., *Predictors of Intimate Partner Violence Revictimization: The Relative Impact of Distinct PTSD Symptoms, Dissociation, and Coping Strategies*, 26 J. TRAUMATIC STRESS 102, 103 (2013).

<sup>224</sup> Kristine A. Peace et al., *Are Memories for Sexually Traumatic Events "Special"?: A Within-Subjects Investigation of Trauma and Memory in a Clinical Sample*, 16 MEMORY 10, 12 (2008).

<sup>225</sup> Katherine M. Iverson et al., *Predictors of Intimate Partner Violence Revictimization: The Relative Impact of Distinct PTSD Symptoms, Dissociation, and Coping Strategies*, 25 J. TRAUMATIC STRESS 102, 107 (2013).

<sup>226</sup> Pamela McDonald et al., *The Expectancy of Threat and Peritraumatic Dissociation*, 4 EUR. J. PSYCHOTRAUMATOLOGY (2013).

be victims of any violent crime than women.<sup>227</sup> But, at least in the United States, women are far more likely to be victims of domestic violence<sup>228</sup> and sexual assault than men.<sup>229</sup> Indeed, women are more likely to suffer them simultaneously whereby national estimates indicate that one out of twelve incidents of intimate partner assaults against women include a sexually violent component to them.<sup>230</sup>

Women are not only statistically the more likely victims in intimate partner and sexual violence cases, studies show that the fact they are female has greater consequences in terms of stress and dissociation. Studies show that when facing traumatic events, women assess them as more threatening and suffer greater psychological distress.<sup>231</sup> Consequently, the stress response is often heightened in women. A “higher degree of negative affectivity in females may result in more reactive emotional and somatic responses in females compared to males.”<sup>232</sup> Studies have also shown that being female is predictive of dissociation in the form of distorted perceptions associated with deficits in encoding and in derealization.<sup>233</sup> Potential explanations for gendered differences are the greater amygdala activation from fear experienced by women<sup>234</sup> and menstrual cycles have

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<sup>227</sup> JENNIFER TRUMAN ET AL., CRIMINAL VICTIMIZATION, 2012 7, tbl. 7 (2013) (Bureau of Justice Statistics report).

<sup>228</sup> JENNIFER L. TRUMAN & RACHEL E. MORGAN, NONFATAL DOMESTIC VIOLENCE, 2003–2012 1 (2014) (Bureau of Justice Statistics report finding “[t]he majority of domestic violence was committed against females (76%) compared to males (24%)”); SHANNAN CATALANO, INTIMATE PARTNER VIOLENCE: ATTRIBUTES OF VICTIMIZATION, 1993–2011 3 (2013) (Bureau of Justice Statistics report that women outnumber men in deadly domestic violence).

<sup>229</sup> MICHAEL PLANTY ET AL., FEMALE VICTIMS OF SEXUAL VIOLENCE, 1994–2010 3 (2013) (Bureau of Justice Statistics report finding “[f]rom 1995 to 2010, approximately 9% of all rape or sexual assault victimizations recorded in the [National Crime Victimization Survey] involved male victims”); Dorte Christiansen & Ask Elklit, *Sex Differences in PTSD*, in POST TRAUMATIC STRESS DISORDERS IN A GLOBAL CONTEXT 113, 115 (Emilio Ovuga ed., 2012) (noting females more likely to have been exposed to interpersonal trauma, such as sexual and domestic assault, and more frequently than men).

<sup>230</sup> SHANNAN CATALANO, INTIMATE PARTNER VIOLENCE: ATTRIBUTES OF VICTIMIZATION, 1993–2011 1 (2013) (Bureau of Justice Statistics report).

<sup>231</sup> Hasida Ben-Zura & Moshe Zeidner, *Gender Differences in Loss of Psychological Resources Following Experimentally-Induced Vicarious Stress*, 25 ANXIETY STRESS & COPING 457, 458, 468 (2012); Leah A. Irish et al., *Gender Differences in PTSD Symptoms: An Exploration of Peritraumatic Mechanisms*, 25 J. ANXIETY DISORDERS 209 (2011)..

<sup>232</sup> Dorte Christiansen & Ask Elklit, *Sex Differences in PTSD*, in POST TRAUMATIC STRESS DISORDERS IN A GLOBAL CONTEXT 113, 116 (Emilio Ovuga ed., 2012).

<sup>233</sup> Pamela McDonald et al., *The Expectancy of Threat and Peritraumatic Dissociation*, 4 EUR. J. PSYCHOTRAUMATOLOGY (2013).

<sup>234</sup> Lars Schwabe et al., *Opposite Effects of Noradrenergic Arousal on Amygdala Processing of Fearful Faces in Men and Women*, 73 NEUROIMAGE 1, 1 (2013).

been found to modulate physiological stress hormones.<sup>235</sup> In general, women are not only more likely to engage in peritraumatic dissociations<sup>236</sup> research indicates they experience such distorting states at a higher level.<sup>237</sup> In one study, a healthy percentage of female victims of sexual violence reported having frozen during the assault.<sup>238</sup> Some sexual assault victims report intentionally engaging cognitive ploys that are dissociative in nature, such as trying to focus on something else as a coping mechanism.<sup>239</sup> Considering the increased rates of these neuropsychological responses, it becomes easy to accept that research across cultures indicates that women are far more susceptible to fear disorders than men.<sup>240</sup>

Tonic immobility has been specifically recognized in cases of rape and wife battering whereby the evident impossibility of escape, along with severely aversive stimulation, trigger a sort of stupor and mutism in these victims, which unfortunately can appear to others as passivity.<sup>241</sup> Women, generally being the physically weaker of the sexes, are particularly prone to tonic immobility when faced with male aggressors.<sup>242</sup>

The premise of the assumptions underlying the transaction hearsay exceptions may actually disserve female victims. For example, the “excited utterance exception relies on the assumption that victims will immediately and passionately exclaim implicating evidence about their ordeal. This, however, ignores the fact that female victims of rape may undergo a psychological paralysis where they may be uncommunicative and experience emotional withdrawal.”<sup>243</sup> Victims who were either unable to

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<sup>235</sup> Anne Duchesne & Jens C. Pruessner, *Association Between Subjective and Cortisol Stress Response Depends on the Menstrual Cycle Phase*, 38 PSYCHONEUROENDOCRINOLOGY 3155, 3155-56 (2013).

<sup>236</sup> Leah A. Irish et al., *Gender Differences in PTSD Symptoms: An Exploration of Peritraumatic Mechanisms*, 25 J. ANXIETY DISORDERS 209 (2011).

<sup>237</sup> Dorte Christiansen & Ask Elklit, *Sex Differences in PTSD, in POST TRAUMATIC STRESS DISORDERS IN A GLOBAL CONTEXT* 113, 125 (Emilio Ovuga ed., 2012).

<sup>238</sup> Jessica Woodhams et al., *Behavior Displayed by Female Victims During Rapes Committed by Lone and Multiple Perpetrators*, 18 PSYCHOL. PUB. POL’Y & L. 415, 424-25 (2012).

<sup>239</sup> Jessica Woodhams et al., *Behavior Displayed by Female Victims During Rapes Committed by Lone and Multiple Perpetrators*, 18 PSYCHOL. PUB. POL’Y & L. 415, 425 (2012).

<sup>240</sup> Lars Schwabe et al., *Opposite Effects of Noradrenergic Arousal on Amygdala Processing of Fearful Faces in Men and Women*, 73 NEUROIMAGE 1, 1 (2013).

<sup>241</sup> Maggie Schauer & Thomas Elbert, *Dissociation Following Traumatic Stress: Etiology and Treatment*, 218 J. PSYCHOL. 109, 115-16 (2010).

<sup>242</sup> Maggie Schauer & Thomas Elbert, *Dissociation Following Traumatic Stress: Etiology and Treatment*, 218 J. PSYCHOL. 109, 116 (2010).

<sup>243</sup> Jone Tran, *Crying Wolf or an Excited Utterance? Allowing Reexcited Statements to Qualify Under the Excited Utterance Exception*, 52 CLEVE. ST. L. REV. 527, 533 n.39 (2004).

communicate or initially gave an incomplete, yet honest, story because of the impact of the stress response or lingering dissociative state may be faulted or challenged thereafter when their narratives improve. In general, trauma reactions are often unconsciously experienced such that many victims are likely incapable of articulating the neurophysiological processes that caused the deficits in the first place so they cannot really explain themselves in this regard.

Women are also not benefited by a hypothesis that they are incapable, even in an instant, of manufacturing fictional accounts of abuse. Like men, females can spontaneously and/or deliberately act out of self-interest. False accounts can be for a variety of reasons, such as revenge, deflecting blame for her own transgressions, or just as a bid for attention. In the laudable attempt to officially holding domestic and sexually violent offenders accountable, it is common for advocates to unfortunately insist that any positive statements admitting an assault are to be believed and any denial rejected.<sup>244</sup> Still, this observation is left to another day to reconcile.

Sexual assault victims may suffer from hearsay exceptions in an alternative fashion. Courts have ruled that male perpetrators can raise the statement of mental condition exception to try to prove the female sexual victim's consent at the time of the sexual interaction.<sup>245</sup> Where female victims may be suffering the aftereffects of the stress response or dissociating from the interaction, the failure to forcefully and verbally voice a negative reaction may thus be argued as evidence of their voluntary participation in the sexual interaction.

## V. CONCLUSIONS

The excited utterance, present sense impression, and statement of current mental or bodily condition exceptions to the hearsay rule were developed with good intentions. Evidence law is rightly concerned, on the one hand, with reliability and, on the other hand, with promoting the admission of relevant evidence as a goal of adjudication is to permit the factfinder to gather and assess an array of facts. When evidence rules are based on human intuition and pop psychology visions of normal human behavior, though, the function of the factfinding process is impeded, perhaps even inverted.<sup>246</sup> Evidence law's entrenchment in a precedential

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<sup>244</sup> MELISSA HAMILTON, EXPERT TESTIMONY ON DOMESTIC VIOLENCE: A DISCOURSE ANALYSIS 105-10 (2009).

<sup>245</sup> *State v. Prineas*, 809 N.W.2d 68, 75 (Wisc. Ct. App. 2011); *Layman v. State*, 728 So. 2d 814, 817 (Fla. Ct. App. 1999).

<sup>246</sup> Robert C. Parks & Michael J. Saks, *Evidence Scholarship Reconsidered: Results of the Interdisciplinary Turn*, 46 B.C. L. REV. 949, 1030 (2006) (“[A]s a general matter, it is hard to understand how a society can follow the rule of law in the absence of accurate fact finding. In pursuit of these purposes, one needs to have in mind goals for evidence law and

schematic relying upon longstanding tradition as proving any rule's validity is unfortunate in light of advances in scientific knowledge concerning human cognitions, physiological functioning, psychological experiences, and actions. The continued approval of the transaction hearsay exceptions appears to represent little more than intransigence on the part of judges and force of habit for legal practitioners.

The presumptions that purport to shore up the transactional hearsay statements fail in light of the significant body of neuropsychological research accomplished in recent years. The neurosymphony of the adaptive stress response disrupts normal functioning such that a stressed subject is often hindered, at times even entirely prevented, from issuing a clear, truthful, and connected narrative, including at times when a trauma causes more focused cognitive attention and memory presumably freshest. Deficits in functioning and in verbal declarative ability are aggravated in cases of severely traumatizing incidents of interpersonal violence, and more elevated for females victims of domestic and sexual assault. Women are at much higher risk of extreme stress responsivity and dissociative states when confronted with intimate partner and sexual assaults. All this means that the folk psychological presumptions underlying the three hearsay exceptions fail the test of scientific validity in light of recent scientific research. It may be the case that without these hearsay exceptions the evidence will often be insufficient to hold perpetrators accountable as domestic and sexual assault typically occur in private and victims are likely to recant or refuse to participate in related legal proceedings. Still, reliance upon scientifically discredited rules disserves the law and, to the extent the hearsay declarations are invalid, can do little to ensure that "real" abusers are held accountable.

It is also affront to the advanced nature of humankind to maintain the façade that people are simply incapable of spontaneous lies. The agility of the evolved human brain can conjure a fabrication in literally the blink of an eye. Indeed, self-interest may well be our default when taken by surprise.

In sum, the justifications for excitable utterance, present sense impression, and statement of mental or bodily condition have not withstood the test of time and should be abolished as draconian rules of evidence. There exists at least some precedence for abandoning a common law evidence rule when it is newly considered to be antiquated in its ideology, despite its deeply entrenched tradition. The exclusion of statements by

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evidence scholarship. We argue that the main, though certainly not the only, goal for evidence law is to promote accuracy in fact finding. Accuracy is essential to accomplishing the goals of substantive law. For the substantive law to work, the fact-finding mechanism must be accurate enough to enforce its prohibitions and dispense its rewards.").

interested parties, for example, has generally been retracted.<sup>247</sup>

Humans are complicated creatures and have adapted to life's threats in extraordinarily sophisticated ways, but not always. At times of stress, the brain's execution function may be overwhelmed and cede control to the more primitive cognitive instincts. This means that when faced with traumatic events, we often utter false and incoherent declarations (if we can utter at all), incorrectly perceive the event observed, and inexpertly assess our current condition. Evidence law itself should evolve to address advances in neuropsychological research to enable a more just and transparent legal system.<sup>248</sup>

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<sup>247</sup> JOHN HENRY GILLET, A TREATISE ON THE LAW OF INDIRECT AND COLLATERAL EVIDENCE §235, at 289 (1897) (“It was thought that the effect of interest made it unsafe to consider the testimony of such witnesses”).

<sup>248</sup> See Robert C. Parks & Michael J. Saks, *Evidence Scholarship Reconsidered: Results of the Interdisciplinary Turn*, 46 B.C. L. REV. 949, 1031 (2006) (“Evidence scholarship has many purposes, but surely one worthwhile purpose is to improve the accuracy of verdicts. Traditional doctrinal scholarship aimed at this goal by improving evidence law, for example by eliminating anomalies and obstacles to rational proof.”).