

# THE TRAUMA-INFORMED MIND:

## EMDR and the Rise of Scientism

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### INTRODUCTION

Counseling victims who have painful, traumatic memories can often be overwhelming, leaving the counselor to question the best kind of care they can offer. In these moments of crisis, the counselor has a choice to either hold fast to the Word of God or attempt various man-centered therapies in the care of souls. Today, a third group of counselors exists, seeking to integrate the Word of God with secular psychological findings to provide the best of both worlds, especially integrating what is considered “scientifically based evidence” or “scientifically factual.” This paper is an evaluation of one such utilized therapy. Eye Movement Desensitization and Reprocessing (EMDR)<sup>2</sup> is a popular evidence-based psychotherapy utilized by some Christian counselors<sup>3</sup> to desensitize traumatic memories via voluntary bilateral eye movements. Yet, along with having no scientific consensus to prove that eye movements are directly linked to memory reconsolidation, biblical counselors should reject adapting EMDR into their counseling methodology because it is contradictory to the goals of biblical counseling. Instead, they should utilize teaching God’s Word, submitting to God’s method of change, and incorporating God’s Church to help those who are suffering from painful memories to rely upon

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<sup>2</sup> Francine Shapiro, *Eye Movement Desensitization and Reprocessing (EMDR): Basic Principles, Protocols, and Procedures*, 3rd ed. (New York, NY: The Guilford Press, 2018), Kindle.

<sup>3</sup> See minutes 4:31-35 and 14:00. Jeremy Lelek and Eliza Huie, “What is EMDR Therapy - With Author & Biblical Counselor Eliza Huie,” *Speak the Truth*, May 25, 2020, <https://www.listennotes.com/podcasts/speak-the-truth/ep-59-what-is-emdr-therapy-Y5L39voKUyA/>. Both Jeremy Lelek and Eliza Huie utilize this therapy in their practices.

and trust in Christ's healing power. This article will first define pertinent terms and then briefly provide an overview of EMDR's methodology and epistemology. This will be followed by a survey of the various explanations of eye movement mechanisms that have emerged in the psychiatric world. The aim is to demonstrate the lack of consensus within the scientific community and the rise of scientism regarding EMDR in the counseling world. Finally, this article will discuss what is being assumed and adopted by those who accept EMDR under the guise of common grace, and then a retort will be given by advocating for using God's sufficient words, methods, and church over EMDR in biblical counseling methodology.

## DEFINING TERMS

Before moving forward with arguing for and defending the thesis of this article, it is important to define certain terms that will be used throughout to provide clarity for the readers. Since EMDR is classified as an evidence-based therapy in treating post-traumatic stress disorder (PTSD) that is utilized to desensitize traumatic memories, clarifying the meaning of both "evidence-based" and "trauma" is important to furthering the argument.<sup>4</sup> The working definition of being evidence-based is "the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences."<sup>5</sup> In conjunction with this definition, trauma is defined as "an event, series of events, or a set of circumstances an individual experiences as physically or emotionally harmful or threatening, which may have lasting adverse effects on the individual's functioning and mental, physical, social, emotional, and spiritual well-being."<sup>6</sup> Lastly, scientism is defined as "an

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<sup>4</sup>Mark C. Russell, and Francine Shapiro, *Eye Movement Desensitization and Reprocessing (EMDR) Therapy, Theories of Psychotherapy Series*, ed. Matt Englart-Carlson (Washington, D.C.: American Psychological Association, 2022), 5, Kindle Pages 5-7 list out the major organizations it is recommended for the treatment of PTSD. It is also adapted for use in treating other disorders.

<sup>5</sup> American Psychological Association, "Evidence-Based Practice in Psychology," APA.org, 2008, <https://www.apa.org/practice/resources/evidence#:~:text=Evidence%2Dbased%20practice%20is%20the,at%20their%20August%202005%20meeting>. For EMDR's classification as an evidence-based treatment, see Francine Shapiro, and Margot Silk Forrest, *EMDR: The Breakthrough Therapy for Overcoming Anxiety, Stress, and Trauma*, New York, NY: Basic Books, 2016, 275-76. Kindle.

<sup>6</sup>Substance Abuse and Mental Health Services Administration (SAMHSA), *Practical Guide for Implementing a Trauma-Informed Approach*, Rockville, MD: National Mental Health and Substance

exaggerated trust in the efficacy of the methods of natural science applied to all areas of investigation.”<sup>7</sup>

## THE INCEPTION OF THE PROBLEM

One example of biblical counselors deviating from traditionally held

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Abuse Policy Laboratory, 2023, VII. See also Substance Abuse and Mental Health Services Administration (SAMHSA), *SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach*, Rockville MD: Substance Abuse and Mental Health Services Administration, 2014, 7-9. Shapiro states this about trauma: “These may include intrusive images; negative thoughts or beliefs the client has about herself or her role in the rape; negative emotions such as fear, guilt, or shame and their associated body sensations; and, conversely, the precise way the client would prefer to think about herself instead.” Shapiro: *EMDR*, 2. “Although the adverse events may not breed the intrusive imagery of PTSD, the emotions, beliefs, and physical sensations arise in the body and mind, coloring present perceptions and leading to unhappiness and inappropriate behaviors in the present. In simple terms, the past is present. It therefore does not matter whether it is a “big T” traumatic event that precipitates PTSD or the more ubiquitous “small t” events that are rampant throughout childhood. There is a long-lasting negative effect on self and psyche. By dictionary definition it is a “trauma” and, in information-processing terms, it is posited to be dysfunctionally stored as an emotional/episodic memory, in a form that prevents it from subsequently evolving into a usable integrated/semantic memory.” See Shapiro, *EMDR*, 4. Post-Traumatic Stress Disorder is defined as “a mental health condition triggered by a traumatic event—either experiencing it or witnessing it in person. Symptoms may include flashbacks, nightmares, and severe anxiety, as well as uncontrollable thoughts about the event.” SAMHSA, *Practical Guide for Implementing a Trauma-Informed Approach*, VII. Psychotherapy is defined as “any psychological service provided by a trained professional that primarily uses forms of communication and interaction to assess, diagnose, and treat dysfunctional emotional reactions, ways of thinking, and behavior patterns,” The American Psychological Association, “Psychotherapy,” *APA Dictionary of Psychology* (11/15/2023), [https://dictionary.apa.org/psychotherapy?gl=1\\*1uep704\\*\\_ga\\*Mjc3MjUxMDQ0LjE2NjY3MjAyMTA\\*\\_ga\\_SZXLGDJGNB\\*MTY5MTU5NDAYOS41Ny4wLjE2OTE1OTQwMjkuMC4wLjA.&\\_ga=2.225164890.1711128830.1691594030-277251044.1666720210](https://dictionary.apa.org/psychotherapy?gl=1*1uep704*_ga*Mjc3MjUxMDQ0LjE2NjY3MjAyMTA*_ga_SZXLGDJGNB*MTY5MTU5NDAYOS41Ny4wLjE2OTE1OTQwMjkuMC4wLjA.&_ga=2.225164890.1711128830.1691594030-277251044.1666720210). It is also described as carried out by psychiatrists and psychotherapists and is derived from Freud’s psychoanalysis. However, it is also described as referring to all psychological treatments. See Richard Gross, *Psychology: The Science of Mind and Behavior*, 8th ed., (London, England: Hodder Education, 2020), 6, 774. <https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=nlebk&AN=2550075&site=eds-live>.

<sup>7</sup> Merriam-Webster Dictionary (2024), s.v. “scientism.” “Scientism is qualified by the recognition that many of the events that require explanation are not simple physical or physiological processes, but complex phenomena that can be explained only by taking into account the cultural significance they undoubtedly possess, such as “the meanings of words,” “the morals of a story,” “the significance of gestures and facial expressions,” “the challenges and obligations and social opportunities,” and “all the intricacies that make up a functioning culture.” See John Kekes, *The Nature of Philosophical Problems: Their Causes and Implications* (Oxford, United Kingdom: Oxford University Press, 2014), 137, <https://doi.org/10.1093/acprof:oso/9780198712756.001.0001>.

positions regarding the adaptation of secular psychologies with Scripture was Eliza Huie's podcast interview in 2020 explaining what EMDR is and why it is acceptable for biblical counselors to use.<sup>8</sup> In the podcast, she introduced EMDR as "good neuroscience." She described the mechanism of EMDR's eye movements as based upon rapid eye movement (REM), and since it has helped so many people, it must be beneficial for biblical counselors.<sup>9</sup> Since then, a debate has ensued as to whether or not EMDR is an acceptable practice for biblical counselors to use based on the "scientific fact" of eye movement within EMDR being able to help sufferers.<sup>10</sup> Within the Christian counseling domain, EMDR is a commonly accepted practice and is utilized by many regardless of the scientific nature of it.<sup>11</sup> Therefore, a decision has to be made. Do biblical counselors reject "legitimate science" and use the Bible only?<sup>12</sup>

There are misconceptions that biblical counselors are against using science or scientific facts in counseling.<sup>13</sup> Even within the biblical counseling

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<sup>8</sup> Lelek and Huie, "What is EMDR Therapy?" Eliza Huie is a self-proclaimed biblical counselor who serves as the director of counseling for McLean Bible Church. She is certified through the Christian Counseling Education Foundation (CCEF) and is a licensed clinical counselor specializing in trauma and EMDR. More biographical information may be found at <https://www.elizahuie.com/about>.

<sup>9</sup> See Lelek and Huie, "What is EMDR Therapy?" Minutes 8:40-10:45.

<sup>10</sup> In the podcast, Jeremy Lelek states that a therapist at his clinic, Metroplex Counseling, practices EMDR. <https://www.metroplexcounseling.com/wellness-team/>. See Lelek and Huie, "What is EMDR Therapy?" minute 7:53. Jeremy Lelek is the president and founder of the Association of Biblical Counselors (ABC). While the acceptance of EMDR is not currently stated within their doctrine or core beliefs, seeing that their president and influential member (Eliza Huie) both utilize it in counseling, it is safe to assume that ABC accepts the integration of EMDR into counseling.

<sup>11</sup> The American Association of Christian Counselors endorses the use of EMDR: <https://aacc.net/2023/02/27/can-christian-clients-benefit-from-emdr-therapy/>. Focus on the Family ministries advocate for EMDR at <https://www.focusonthefamily.com/family-qa/eye-movement-desensitization-and-reprocessing-emdr/>. There is also a Christian EMDR therapist website at <https://christianemdrtherapists.com>. All of this is to show that EMDR is a commonly accepted therapy in the treatment of trauma and PTSD.

<sup>12</sup> For the sake of clarity for this paper, Christian counselors are defined as counselors who utilize both the Bible and secular psychological findings within their counseling methodology. Another term for this could be "integrationists." Biblical counselors do not utilize secular psychological findings within their counseling methodology. Instead, the Bible alone is used in counseling others through problems.

<sup>13</sup> While the authors of these blogs do not outright state that biblical counselors are "anti-science," they emphasize that Christian and clinical counselors utilize evidence-based practices and biblical counselors do not. See Rachel Miley, "The Difference Between Biblical Counseling & Christian Counseling," Crossroads Professional Counseling, July 9, 2020,

movement, there is a debate about what may be integrated into the counseling methodology based upon the utilization of God's common grace.<sup>14</sup> Before those questions are settled, how does the secular psychiatry world think about the eye movement mechanism in EMDR, and is it considered a settled scientific fact by psychologists and therapists? These questions must first be addressed before answering whether biblical counselors can accept EMDR as scientifically valid and thus integrate it into their counseling methodology.

## EMDR OVERVIEW

EMDR debuted in the psychological world in 1987 after the founder, Francine Shapiro, made a "chance observation" while walking in a park and thinking about painful memories. She moved her eyes back and forth and found that the more she did that while thinking about the memory, the negative intrusions decreased.<sup>15</sup> At that point, she first tried out her technique on colleagues, and then the first controlled study was done on Vietnam veterans, and her therapeutic process began to be formulated.<sup>16</sup> Since then, it has developed into an eight-phase therapeutic process that targets disturbing memories, negative images, negative emotions, and negative beliefs to "(1) help the client learn from the negative experiences of the past, (2) desensitize present triggers that are inappropriately distressing, and (3) incorporate templates for appropriate future action that allow the client to excel individually and

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<https://crossroadcounselor.com/christian-living/christian-counselor/>. See also Joel Michael Herbert's blog at <https://joelherbert.medium.com/biblical-counseling-is-not-counseling-6d1f4857546d>. Sheila Wray Georgie, "4 Concerns with Biblical Counseling: And Why Integrated Christian counseling is the Best," Bare Marriage Blog, <https://baremarriage.com/2022/04/4-concerns-i-have-with-biblical-counseling/>.

<sup>14</sup> See Nate Brooks, "Everybody Integrates: Biblical Counseling and the Use of Extrabiblical Material," *The Southeastern Theological Review* 15, no. 1 (Spring 2024): 7-20. See also this blog by Robert Kellemen: <https://rpmministries.org/2023/11/a-highly-recommended-journal-of-biblical-counseling-article-on-common-grace-deep-breathing-and-biblical-counseling/>. A discussion on common grace will be addressed later.

<sup>15</sup> Shapiro, *EMDR*, 6-7. Francine Shapiro is the founder of EMDR therapy and was a California licensed psychologist before her passing. She received her Ph.D. in Clinical Psychology from the Professional School of Psychological Studies and was the executive director of the EMDR Institute. More information regarding her published works, as well as awards, may be found at: <https://www.emdr.com/francine-shapiro-ph-d/>.

<sup>16</sup> *Ibid.*, 7-10.

within her interpersonal system.”<sup>17</sup> The EMDR process is epistemologically rooted in an eclectic conglomeration of various psychodynamic practices and beliefs that each provide a unique flavor to the therapy.<sup>18</sup> The eight phases of EMDR therapy employ these beliefs throughout to provide treatment so that the client’s previously disruptive memory would become adaptive and non-distressing.<sup>19</sup>

Phases one through three involve client history intake and evaluation for establishing a treatment plan, preparing the client for the therapy process by coaching them through various affect-regulating practices for managing disturbances in therapy, helping the client rate their current distress level along the Subjective Units of Distress (SUD) scale, and determining the validity of positive cognitions along the Validity of Cognitions (VoC) Scale.<sup>20</sup> This article will discuss phases four and five because both phases utilize eye movements and bilateral stimulation to first desensitize disturbing/intrusive memories and then replace them with positive self-created cognitions with the goal of raising the “client’s sense of self-efficacy and self-esteem.”<sup>21</sup> It is proposed that within both of these phases, eye movements (and later bilateral stimulation) are the key to desensitizing and replacing (putting off and putting on) traumatic memories with new self-derived “truths” to help the client feel better.<sup>22</sup> Phases six, seven, and eight involve the client scanning their body for

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<sup>17</sup> Shapiro, *EMDR*, 2.

<sup>18</sup> *Ibid.*, 3. The eclectic nature that follows demonstrates where beliefs and convictions fall. “The importance of early childhood memories clearly fits into the psychodynamic model, and the importance of focused attention to current dysfunctional reactions and behaviors is completely consistent with the conditioning and generalization paradigms of classical behaviorism. In addition to being a client-centered approach with a strong affective and experiential basis, EMDR therapy addresses the concept of positive and negative self-assessments, which has firm roots in the field of cognitive therapy and the emphasis on the physical responses related to a client’s presenting dysfunction is an important element in its full therapeutic utilization.” Shapiro, *EMDR*, 19.

<sup>19</sup> *Ibid.*, 2.

<sup>20</sup> *Ibid.*, 65-67; 85-134.

<sup>21</sup> *Ibid.*, 68-69, 141-53. The bilateral stimulation, along with holding the painful memory in their mind, is repeated until the SUD score is reported to be 0. At that point, the installation phase begins and will continue with the new belief being held in the mind along with bilateral stimulation until the client self-reports a seven on the Validity of Cognition (VOC) scale. The rating is based upon how the client feels, not whether or not the statement is objectively true. “It is crucial that the client choose the positive cognition that is most meaningful for her.” Shapiro, *EMDR*, 152.

<sup>22</sup> Russell and Shapiro, *Eye Movement Desensitization and Reprocessing (EMDR) Therapy*, 85-87.



how they feel, and if better, then the therapist brings the session to a close.<sup>23</sup>

## THE ROLE AND FUNCTION OF EYE MOVEMENT

Understanding how EMDR determines the nature of man's problem will provide clarity as to why this cure is being offered. The Adaptive Information Processing (AIP) model is the driving hypothetical mechanism of healing in EMDR that Shapiro developed to explain the clinical results.<sup>24</sup> It is the theoretical body's natural information processing system. When the AIP mechanism works properly, the various components metabolize new information to be integrated into existing memory networks and appropriate emotions for future guidance.<sup>25</sup> When trauma happens, as defined above, fluctuations in cortisol, adrenaline, and other neurotransmitters bring about dysregulation and dysfunction within the limbic system and prefrontal cortex.<sup>26</sup> The traumatic stress will then inhibit the functioning of the prefrontal cortex, whereas the limbic system facilitates the memory forward.<sup>27</sup> However, according to Shapiro's AIP model, it is never resolved and thus becomes maladaptively stored in the brain.<sup>28</sup> The understanding of the nature of traumatic memories becomes evident here as Shapiro relies upon Bessel van der Kolk to provide an explanation and support for how traumatic memories elicit physical responses.<sup>29</sup> Shapiro hypothesizes that as memories are stored in

<sup>23</sup> Shapiro, *EMDR*, 70-71, 154-60. A fuller critique of Shapiro's work can be read at Ryan Thomas, "Choose This Day Whom You Will Serve: EMDR and Biblical Man," a paper submitted for DR31280 The Bible and Pastoral Care, Midwestern Baptist Theological Seminary, August 20, 2023.

<sup>24</sup> *Ibid.*, 14.

<sup>25</sup> *Ibid.*, 26. See also Margaret Duval Hill, "Adaptive Information Processing Theory: Origins, Principles, Applications, and Evidence," *Journal of Evidence-Based Social Work* 17, no. 3 (2020): 317-20. Roger M. Solomon, and Francine Shapiro, "EMDR and the Adaptive Information Processing Model," *Journal of EMDR Practice and Research* 2, no. 4 (2008): 315-16.

<sup>26</sup> *Ibid.*, 26. Here, Shapiro states that adrenaline, cortisol, and other neurotransmitters are involved, yet she does not name which neurotransmitters. Instead, she cites three studies in support. See Gerald D. Griffin, Dominique Charron, and Rheem Al-Daccak, "Post-Traumatic Stress Disorder: Revisiting Adrenergics, Glucocorticoids, Immune System Effects, and Homeostasis," *Clinical and Translational Immunology* 3, no. 27 (2014):1-7. It is accepted that in trauma, as well as fight or flight, neurochemicals are involved.

<sup>27</sup> Hill, "Adaptive Information Processing Theory," 321.

<sup>28</sup> *Ibid.*

<sup>29</sup> Shapiro cites *The Body Keeps the Score* and various other studies by Bessel van der Kolk. Shapiro, *EMDR*, 17, 19. She relies heavily on him in other notable works such as, Francine Shapiro,

a distressed state in the brain, the result will be negative behavioral, emotional, and cognitive reactions as this memory or adjacent parallel memories are accessed.<sup>30</sup> Shapiro states, “Attitudes, emotions, and sensations are not considered simple reactions to a past event; they are seen as manifestations of the physiologically stored perceptions stored in memory and the reactions to them.”<sup>31</sup> Therefore, according to Shapiro, the emotions, physical fight or flight bodily reactions, and painful memories that image bearers display as a result of suffering in a fallen world are nothing more than dysfunctionally processed and storied memories in the cortex.<sup>32</sup>

EMDR advocates maintain that since the impact of traumatic stress is understood to be biologically-rooted, dysfunctionally-stored memories, the proposed treatment is to “recalibrate” the problem. Shapiro hypothesizes that bilateral stimuli (eye movements, tapping, auditory cues) initiate the AIP self-healing process; however, she is unable to substantiate the evidence

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*Getting Past Your Past: Take Control of Your Life With Self-Help Techniques from EMDR Therapy*, New York, NY: Rodale Publishers, 2012. Kindle. In developing her theory of embodied trauma, this resource is used: Bessel van der Kolk, “The Body Keeps the Score: Memory and the Evolving Psychobiology of Post Traumatic Stress,” *Harvard Review of Psychiatry* (January 1994): 1-21. Shapiro states: “Traditional psychotherapy has been time-bound in the sense that its effects occur only after a protracted period of time. Conventional therapy uses verbal (rather than physiologically based) procedures to shift information that is dysfunctionally locked in the brain (see also van der Kolk, 2002, 2014). In the AIP model the healing of psychological dysfunction is viewed as being comparatively “time-free,” because rapid treatment effects can be observed when EMDR processing is initiated, regardless of the number of disturbing events and no matter how long ago they occurred.” Shapiro references van der Kolk’s work here to imply how trauma is stored biologically, and since that is the case, a solution that addresses the biological nature of trauma is needed. Shapiro, *EMDR*, 45. There will be a further discussion on Van der Kolk’s influence on EMDR below.

<sup>30</sup> Solomon and Shapiro, “EMDR and the Adaptive Information Processing Model,” 316. See also Shapiro, *EMDR*, 26.

<sup>31</sup> Ibid.

<sup>32</sup> An important note is made here by Shapiro, “It is particularly important to underscore that the efficacy of EMDR therapy is independent of the validity of the model being proposed. This is relevant because the physiology of the brain is not yet sufficiently understood to confirm the validity of this or any other psychotherapy model at that level. However, the model does not appear to contradict anything known to be true, is consonant with the current knowledge in cognitive neuroscience, is congruent with the observed treatment effects of EMDR therapy, and serves as a clinical road map for treating a wide range of pathologies.” Shapiro, *EMDR*, 26. Shapiro does not necessarily care how her proposed mechanism helps or harms. Instead, efficacy triumphs due to the brain’s complexity. This is alarming as many counselors utilize this therapy without understanding the iatrogenic effects of EMDR. Also, Shapiro’s “truth” is atheistic in nature, which she is pushing to be adapted into other treatments.



by which this happens.<sup>33</sup> Shapiro states that the body will naturally default towards self-healing once activated.<sup>34</sup> At the inception, Shapiro claimed that eye movements were the crucial component to the efficacy of the therapy and the jumpstart to AIP functioning, but after others' research into alternative bilateral stimulations affected the therapeutic process, she changed her hypothesis to include both.<sup>35</sup> Therefore, the next questions to be considered are: what is the proposed mechanism of actions for the eye movements that jumpstart an innate healing process, and is this scientifically factual or conjecture? The following sections will evaluate the REM sleep hypothesis, Working Memory, Orienting Response, and Interhemispheric Interaction mechanisms to provide a factual basis for evaluating EMDR's claims.

## REM SLEEP MECHANISM

When Shapiro first developed EMDR, she hypothesized that rhythmic eye movements reduced distressing emotions connected to traumatic memories because they seemed to function like rapid eye movements (REM) in sleep. Therefore, to jumpstart the AIP process and heal the dysregulated memory, bilateral eye movements would be used for reprocessing.<sup>36</sup> This initial hypothesis was later picked up and developed further by Robert Stickgold as he sought to prove that the physiological state of mind in REM sleep supports memory integration that is necessary for distressing memory recovery. Stickgold maintains that if this is the case, "it is not unreasonable to conclude

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<sup>33</sup> Shapiro provides three possible proposals: "1. Deconditioning caused by relaxation response, 2. A shift in brain state, enhancing the activation and strengthening of weak associations, and 3. Other factors involved in the client's dual focus of attention as he simultaneously attends to the present stimuli of the past trauma." Shapiro, *EMDR*, 27.

<sup>34</sup> Ibid. The reader should note the humanistic understanding of the nature of healing in EMDR.

<sup>35</sup> Francine Shapiro, "Efficacy of the Eye Movement Desensitization Procedure in the Treatment of Traumatic Memories," *Journal of Traumatic Stress* 2, no. 1 (1989): 220. She states, "It would therefore appear, congruent with the author's personal experience, that the crucial component of the EMDR procedure is the repeated eye movements while the memory is maintained in awareness. If so, it is of interest to speculate how eye movements might produce these results." See also Ramon Landin-Romero et al. "How Does Eye Movement Desensitization and Reprocessing Therapy Work? A Systematic Review on Suggested Mechanisms of Action," *Frontiers in Psychology* 9, (August 2018): 3. See also Landin-Romero et al., "How Does Eye Movement Desensitization and Reprocessing Therapy Work," 3.

<sup>36</sup> Landin-Romero, "How Does Eye Movement Desensitization and Reprocessing Therapy Work," 15. Shapiro, *EMDR*, 27, 29, 73, 373. Shapiro, *EMDR*, 373.

that interventions which shift the brain toward this state likewise would be beneficial.”<sup>37</sup> Stickgold went so far as to hypothesize that the rhythmic saccadic eye movements produced an orienting response in clients and thus induced a “REM-like state” by which memories may be processed and desensitized.<sup>38</sup> This claim is made without direct peer-reviewed scientific or medical support, but instead, multiple studies are used to perform scientific gymnastics to prove his hypothesis.<sup>39</sup>

REM sleep contains several biological processes, and a discussion of them all is beyond the scope of this paper. However, one process that concerns the subject of this paper is the bursts of eye movements during this brain state, which are random and unpredictable.<sup>40</sup> Eye twitches, brain activity, and dreaming all occur during the REM sleep phase, and the main function regarding memory seems to be consolidation rather than sorting out or through memories. Still, there is no record of involuntary eye movements being involved in the process of memory consolidation.<sup>41</sup> The functions associated with these processes may be inhibited if that person is deprived of REM sleep.<sup>42</sup> However, the question remains: do saccadic eye movements

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<sup>37</sup> Robert Stickgold is a psychiatrist and professor of psychiatry at Harvard Medical School. Stickgold primarily focuses on studying the role of sleep in memory processing. Robert Stickgold, “EMDR: A Putative Neurobiological Mechanism of Action,” *Journal of Clinical Psychology* 58, no. 1 (2002): 70.

<sup>38</sup> *Ibid.*, 71. Stickgold states, “Activation of these systems simultaneously shifts the brain into a memory processing mode similar to that of REM sleep. This REM-like state permits the integration of traumatic memories into associative cortical networks without interference from hippocampally mediated episodic recall.” The reader should remember, this is not being stated as factual science, but theory.

<sup>39</sup> *Ibid.* “Thus it seems reasonable to suggest that having a subject repetitively reorient her attention from one location to another could produce shifts in regional brain activation and neuromodulation similar to those produced during REM sleep.” The reader should note the subjective nature of this quote.

<sup>40</sup> The author could find no scientific textbooks that noted that eye movements are predictable. See Julie M. Hereford, *Sleep and Rehabilitation: A Guide for Health Professionals* (Thorofare, NJ: Slack Incorporated, 2014), 39, ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/mbts-ebooks/detail.action?docID=4396507>. Hereford states, “REM sleep involves a state of sleep in which there are binocularly synchronous rapid movements of the eye.” Page 5.

<sup>41</sup> Alan Baddeley, *Essentials of Human Memory: Classic Edition* (New York, NY: Psychology Press, 2014), 110-11.

<sup>42</sup> “The generally accepted current view is that sleep helps the process of consolidation of the memory trace, whereby its representation within the brain becomes more robustly established.” Alan Baddeley, Michael W. Eysenck, and Michael C. Anderson, *Memory*, 3rd ed. (New York, NY: Routledge, 2020), 137-40. Kindle. See also Jan Born, Bjorn Rasch, and Steffen Gais, “Sleep

(i.e., rapid, jerky) in EMDR induce a “REM-like state” by which memories may be reprocessed and consolidated? Currently, this hypothesis is merely that—a hypothesis—as there is a lack of studies that directly test this REM hypothesis.<sup>43</sup> Stickgold argues that “most proposed mechanisms of action of EMDR hypothesize that the bilateral stimulation results in an altered brain/mind state in which trauma processing is enhanced,” and these eye movements trigger “global changes in the brain/mind state, which are in turn responsible for the treatment benefits.”<sup>44</sup> In the end, utilizing eye movements to induce the reduction of vividness and intensity of memory is largely mysterious, and this hypothesis remains in the minority among scientists today.<sup>45</sup>

## WORKING MEMORY THEORY

The working memory theory is the most popular among the proposed EMDR eye movement mechanisms and is thought to be the most likely.<sup>46</sup> This theory is derived from the working memory model proposed by Dr. Alan Baddeley.<sup>47</sup> The premise of Dr. Baddeley’s theory is that the working memory function of the brain has four critical components, each limited in

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to Remember,” *The Neuroscientist* 12, no. 5 (2006): 410-24.

<sup>43</sup> Landin-Romero, “How Does Eye Movement Desensitization and Reprocessing Therapy Work,” 15. Numerous theories seek to explain what the eye movement’s roles are in-memory processing, but as Landin-Romero states, “these theories remain to be tested empirically.” The authors note that none are available.

<sup>44</sup> Robert Stickgold, “Sleep-Dependent Memory Processing and EMDR Action,” *Journal of EMDR Practice and Research* 2, no. 4 (2008): 296.

<sup>45</sup> The REM eye movement mechanism is only mentioned in passing in this following journal article that lists multiple mechanisms of action. See Olivia G. Calancie, et. al, “Eye Movement Desensitization and Reprocessing as a Treatment for PTSD: Current Neurobiological Theories and a New Hypothesis,” *Annals of the New York Academy of Sciences* 1426 (2018): 132.

<sup>46</sup> Carter, Clare, and Derek Farrell, “A Systematic Review Exploring the Role of Eye Movements in EMDR Therapy From a Working Memory Perspective,” *EMDR Therapy Quarterly*, (Spring 2023): 3. <https://etq.emdrassociation.org.uk/2023/05/10/a-systematic-review-exploring-the-role-of-eye-movements-in-emdr-therapy-from-a-working-memory-perspective/>. See also Calancie, et. al, “Eye Movement Desensitization and Reprocessing as a Treatment for PTSD,” 128-30.

<sup>47</sup> Alan Baddeley, Michael W. Eysenck, and Michael C. Anderson, *Memory*, 3rd ed. (New York, NY: Routledge, 2020), 73-87. Kindle.; Baddeley, *Essentials of Human Memory*, 42-64. Dr. Alan Baddeley is a British psychologist and a professor of psychology at the University of York who has devoted his career to the study of memory and neuropsychology and is famous for his research into working memory. He received his doctorate from the University of Cambridge. Shapiro, *EMDR*, 357, 370.

capacity. These components are the central executive, phonological loop, visuospatial sketchpad, and episodic buffer.<sup>48</sup> The domain of primary concern regarding EMDR is the visuospatial sketchpad. This is “responsible for the temporary maintenance of visual and spatial information” for “maintaining and manipulating visual images.”<sup>49</sup> The primary task deteriorates when multiple tasks engage a working memory domain.<sup>50</sup> When applied to EMDR, the theory is that when the traumatic memory is recalled within the visuospatial sketchpad, eye movements (a visuospatial task) then utilize more of the working memory capacity, and the negative feelings associated with that memory deteriorate, and it becomes less vivid and intrusive.<sup>51</sup> Eye movements are primarily used as they have shown the most impact on desensitizing emotions connected to memory, but other bilateral stimulations may also have an impact.<sup>52</sup> As the memory is reconsolidated, it is integrated into normal long-term storage with less intrusion.<sup>53</sup>

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<sup>48</sup> Baddeley, Eysenck, and Anderson, *Memory*, 74-84. The Central Executive “is assumed to be a limited-capacity attentional system that controls the phonological loop and sketch pad and relates them to long-term memory. The executive is almost certainly considerably more complex than either of the two slave systems, which make it considerably harder to investigate.” Baddeley, *Essentials of Human Memory*, 62. This working memory domain functions more like the central control at an airport, which directs traffic. The Phonological Loop functions as a form of verbal short-term memory. It serves as one of the slave systems to the central executive, encoding speech and sound for the memory system. This domain is hypothesized to facilitate language learning. Baddeley, *Essentials of Human Memory*, 46. Baddeley, Eysenck, and Anderson, *Memory*, 74. The episodic buffer “assumes a multidimensional code, allowing the various subcomponents of working memory to interact with long-term memory.” Baddeley, Eysenck, and Anderson, *Memory*, 86. This component was developed later to explain how working memory interacts with long-term memory.

<sup>49</sup> Baddeley, *Essentials of Human Memory*, 64. Baddeley, Eysenck, and Anderson, *Memory*, 73. Baddeley states “Our own approach is to suggest that spatial information is probably stored in some abstract code in long-term memory, but that one method of displaying and manipulating such information is via a spatial slave system.”

<sup>50</sup> Shapiro, *EMDR*, 369.

<sup>51</sup> Ibid. See also Jongh, “State of the Science,” 4. “Research on the working memory hypothesis has consistently demonstrated that performance is degraded when participants engage in two simultaneous tasks that require the same working memory resources, suggesting that the EM’s in EMDR impairs the ability to hold a visual image in conscious awareness, resulting in the degradation of its vividness.” Landin-Romero, et al., “How Does Eye Movement Desensitization and Reprocessing Therapy Work?” 5-14.

<sup>52</sup> Calancie, et. al, “Eye Movement Desensitization and Reprocessing as a Treatment for PTSD,” 129.

<sup>53</sup> Jongh, “State of the Science,” 4. There is no absolute scientific or medical consensus on memory reconsolidation. For a fuller discussion, see Josue Haubrich, and Karim Nader, “Memory Reconsolidation,” *Current Topics in Behavioral Neuroscience* 37 (November 2016): 1-26.

One observation that has propelled this hypothesis to the forefront is that taxing working memory through rapid eye movements consistently reduces the “vividness and emotionality” of memories across multiple studies.<sup>54</sup> Helping clients “feel better” or dulling the emotionality of memory has been the primary catapult for accepting this hypothesis. So much so, EMDR 2.0 has been proposed as the next phase in the evolution of this therapy.<sup>55</sup> This is to make “EMDR therapy [appear to be] more effective and efficient.”<sup>56</sup> Shapiro herself was not fully convinced that this hypothesis fully explained the mechanism of EMDR as she stated, “Despite occasional failures to support

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<sup>54</sup> Ibid., 4-5. From a neurobiological point of view, taxing working memory has been shown to suppress the activity of the amygdala. The amygdala acts as the “alarm” of the brain and is central to the storage and reconsolidation of memories. Eye movements and other bilateral stimulations that tax the working memory “can cause a weakening and desensitizing effect on emotionally laden memories.” Jongh, “State of the Science,” 5.

<sup>55</sup> Suzy J.M.A. Matthijssen et al., “The Effect of EMDR versus EMDR 2.0 on Emotionality and Vividness of Aversive Memories in a Non-Clinical Sample,” *European Journal of Psychotraumatology* 12 (2021): 1-11. EMDR 2.0 is an updated version of the normal EMDR procedure but enhances certain aspects of treatment to “increase working memory taxation and activation of traumatic memory, add arousal, add modality-specific working memory taxation, and an element of surprise.” The authors of this updated therapy have stated that the non-clinical trial results showed that EMDR 2.0 protocol was effective in vividness and emotionality of traumatic memories. For further discussion, see Valentijn V. P. Alting van Geusau et al., “The Effectiveness, Efficiency, and Acceptability of EMDR VS. EMDR 2.0 vs. the Flash Technique in the Treatment of Patients with PTSD: Study Protocol for the Enhanced Randomized Control Trial,” *Frontiers in Psychiatry* 14 (November 9, 2023): 2-3.

<sup>56</sup> Ibid., 2. This study states that EMDR can be improved in multiple ways. “There is some evidence that a larger impact on working memory is found when both the dual task performed and the (dominant) sensory modality of the memory are in the same modality. Hence, findings show anecdotal evidence for another possible treatment enhancing effect in that, albeit the general effect of WM taxation is large, adding modality-specific taxation might enhance the effectiveness of EMDR therapy somewhat more.” There is a push to increase the efficacy of EMDR 2.0 by helping the patient be more motivated to process their traumatic memory through activities to maximize their WM load. Taxing the working memory at an increased rate would help reduce the amount of treatment time and sessions needed. Time and cost are becoming the driving force of efficiency in therapy. Another suggestion is that “there is evidence to suggest that the element of surprise makes complex memories mouldable by destabilizing them.” Lastly, “there is evidence to suggest that arousal could boost memory updating during reconsolidation.” It is evident here that the desire for efficiency and becoming a “better therapy” is driving the push for better results. This is concerning because this hypothesis is seeking to be accepted as fact. Matthijssen et al., “The Effect of EMDR versus EMDR 2.0 on Emotionality and Vividness of Aversive Memories in a Non-Clinical Sample,” 2-3. The results of this study demonstrated that EMDR 2.0 was no more effective than regular EMDR in desensitizing memories, but it was slightly more efficient. The authors of this study are convinced that it can be made “better” and more enhanced. So much so that they propose to focus on further “dismantling working mechanisms” so they can better understand and tweak the therapy.

the fine details of the working memory hypothesis, the consensus conclusion is that this mechanism is an important aspect of EMDR processing.”<sup>57</sup> Another major criticism of the working memory theory is that most studies are performed in non-clinical settings, and the results do not support current neurobiological conjectures.<sup>58</sup> Regardless, this hypothesis is not accepted as factual by the scientific community at large at the current moment.<sup>59</sup>

## ORIENTING RESPONSE

The orienting response is another major hypothesis attempting to explain the voluntary eye movement mechanism in EMDR. This is described as an “innate response of interest that is elicited when attention is drawn to a new stimulus.”<sup>60</sup> Rooted in Pavlov’s theory of behaviorism, it is a “physiological reflex that occurs in response to sudden, potentially dangerous stimulation, and initially increases sympathetic tone.”<sup>61</sup> In the absence of danger, it is

<sup>57</sup> Shapiro, *EMDR*, 370. It seems that consensus won the day in her mind.

<sup>58</sup> Landin-Romero et al., “How Does Eye Movement Desensitization and Reprocessing Therapy Work?,” 17. The following is a summary of criticisms, “First, most studies are performed in non-clinical populations and therefore cannot address which additional mechanisms contribute to treatment effects in PTSD. Results are often not supported by concurrent neurobiological evidence and only offer partial explanations. Research on the working memory hypothesis has also relied on conditions that do not fully match those used in the standard EMDR protocol. At least two different studies have found no significant effects on memory following EMs in healthy participants. Further, the working memory hypothesis fails to explain some well-documented effects of EMDR. These include the state of relaxation most patients experience after a few sets of bilateral stimulation, the spontaneous generation of positive insight, the reports of increased recognition of accurate information, attentional flexibility and improved retrieval of episodic memory. Finally, most early psychological models ascribe to the EMs, and later to other forms of BLS, the underlying mechanism of action of EMDR, ignoring the potential additive effects of other components of the therapy.”

<sup>59</sup> Nor should it be. “The logical flaw here is the assumption that a phenomenon is demonstrated just because inferences from various studies can be linked together to suggest a mechanism whereby that phenomenon might occur.” Harrison Pope, *Psychology Astray: Fallacies in Studies of “Repressed Memory” and Childhood Trauma* (Boca Raton, FL: Upton Books, 1997) 20, <https://archive.org/search.php?query=external-identifier%3A%22urn%3Aalcp%3Apsychologyastray0000pope%3Aepub%3A7db33a10-ff5a-415b-9943-573020dd566e%22>

<sup>60</sup> Shapiro, *EMDR*, 370.

<sup>61</sup> Sarah J. Schubert, Christopher W. Lee, and Peter D. Drummond, “The Efficacy and Psychophysiological Correlates of Dual-Attention Tasks in Eye Movement Desensitization and Reprocessing (EMDR),” *Journal of Anxiety Disorders* 25, no. 1 (2011): 2. See also Andrew M. Leeds, *A Guide to the Standard EMDR Therapy Protocols for Clinicians, Supervisors, and Consultants*, 2nd ed. (New York, NY: Springer Publishing, 2016), 39, EBSCO Host, <https://search>.



theorized that the initial response is rapidly replaced with a feeling of relaxation with the potential to desensitize traumatic memories.<sup>62</sup> It is then proposed that eye movements trigger an orienting response.<sup>63</sup> The eye movements in EMDR are utilized to prevent avoidance, facilitate continued attention to the traumatic memory, activate emotional processing, facilitate incorporation of new trauma-relevant information, and reduce pain via the release of endorphins.<sup>64</sup> According to the theory of reciprocal inhibition, when a new stimulus appears, a natural response of interest is elicited.<sup>65</sup> Focus is then put on the new stimulus while the original stimulus has a gradual weakening effect that eventually leads to disappearance. However, two incongruent responses cannot coexist, and therefore, pairing eye movements with distressing memories that produce anxiety or some other felt symptoms helps desensitize and extinguish the feelings.<sup>66</sup>

This is the first and only mechanism that addresses incorporating new information into or combined with the original traumatic memory. Shapiro states that the body of research that examines the presence of an orienting response within EMDR is not extensive. Still, she states that the effects of eye movements have been described in various studies for years.<sup>67</sup> Shapiro gives credence to this theory by attributing the orienting response to the dual attention focus within her work.<sup>68</sup> While this theory is addressed

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ebscohost.com/login.aspx?direct=true&AuthType=sso&db=nlebk&AN=1165202&site=eds-live. Calancie, et. al, "Eye Movement Desensitization and Reprocessing as a Treatment for PTSD," 132. Michael S. Armstrong, and Kevin Vaughan, "An Orienting Response Model of Eye Movement Desensitization," *Journal of Behavioral Therapy and Experimental Psychiatry* 27, no. 1 (1996): 24.

<sup>62</sup> Landin-Romero et al., "How Does Eye Movement Desensitization and Reprocessing Therapy Work," 4.

<sup>63</sup> Ibid. The eye movements trigger an orienting response that "(1) facilitates access to the traumatic memory without avoidance and (2) causes subsequent rapid extinction after the determination of no immediate threat."

<sup>64</sup> Leeds, *A Guide to the Standard EMDR Therapy Protocols for Clinicians, Supervisors, and Consultants*, 39. "The orienting reflex manifests as an initial "freeze response" that is rapidly replaced with a feeling of relaxation. The relaxation response then acts to desensitize a traumatic memory. Raymond W. Gunter, and Glen E. Bodner, "EMDR Works...But How? Recent Progress in the Search for Treatment Mechanisms," *Journal of EMDR Practice and Research* 3, no. 3 (2009): 165.

<sup>65</sup> Shapiro, *EMDR*, 371. Pavlov described this as the "what-is-it" reflex.

<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

<sup>68</sup> Ibid., 23, 167, 357, and 369.

by Shapiro and other psychologists who have historically surveyed the neurobiological mechanism of eye movements, modern surveys have strayed away from incorporating it into the literature.<sup>69</sup> It is worth considering if the psychophysiological nature (as opposed to neurobiological) of this mechanism and the modern fascination with trauma stored in the body have caused some psychiatrists to pause on advocating this mechanism. In other words, the shift towards the belief that the body keeps the score of trauma has changed the dynamic of advocating for this theory. Regardless, the orienting response is not considered the sole explanation for eye movements but is “likely” one among several.<sup>70</sup> But currently, according to other published works, EMDR is not accepted as fact as it “is not consistent with an orienting response explanation.”<sup>71</sup>

## INTERHEMISPHERIC INTERACTION HYPOTHESIS

The interhemispheric interaction hypothesis focuses on retrieving episodic memories via saccadic eye movements.<sup>72</sup> Dysfunctional episodic memories are associated with PTSD patients, so the mechanism hypothesis is that saccadic eye movements in EMDR through left-right stimulation induce activity within the frontal lobe regions of memory processing and increase interaction via the

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<sup>69</sup> Ad de Jongh's article “State of the Science” (written in 2023) does not mention orienting response once throughout the article, while Landin-Romero's “How Does Eye Movement Desensitization and Reprocessing Therapy Work” (2018) does. This is significant because the modern surveys are starting to dismiss this explanation as fact.

<sup>70</sup> Sara Forster, “How Does Eye Movement Desensitization and Reprocessing (EMDR) Work? An Examination of the Potential Mechanisms of Action,” (PhD diss., Pepperdine University, 2020), 122.

<sup>71</sup> The quote comes from Gunter and Bodner, “EMDR Works...But How?,” 165. The following articles dismiss the orienting response in bringing explanatory power to the mechanism of action. In this journal, the authors found that the physiological changes did not completely match the orienting response hypothesis. See Hans Peter Sondergaard, and Ulf Elofsson, “Psychophysiological Studies of EMDR,” *Journal of EMDR Practice and Research* 2, no. 4 (2008): 282-88. Ulf O.E. Elofsson, et al., “Physiological Correlates of Eye Movement Desensitization and Reprocessing,” *Journal of Anxiety Disorders* 22 (2008): 622-34. Glen E. Bodner, and Raymond W. Gunter, “How Eye Movements Affect Unpleasant Memories: Support for a Working-Memory Account,” *Behavior Research and Therapy* 46 (2008): 913-31.

<sup>72</sup> Leeds, *A Guide to the Standard EMDR Therapy Protocols for Clinicians, Supervisors, and Consultants*, 37. Episodic memory is “a system that is assumed to underpin the capacity to remember specific events.” Baddeley, Eysenck, and Anderson, *Memory*, 14.

corpus callosum.<sup>73</sup> Advocates for this hypothesis initially proposed that eye movements enhanced episodic memory recall.<sup>74</sup> However, since then, there has been no consensus of scientific support for this hypothetical mechanism, as others have repeatedly disproved the initial findings by demonstrating that eye movements did not necessarily mediate change in interhemispheric interaction at the cortical level.<sup>75</sup> During clinical trials, due to vertical eye movements not enhancing hemispheric communication, it is stated that “hemispherical communication does not appear to be responsible for the phenomenological changes to traumatic recollections that are induced by a dual task.”<sup>76</sup> Shapiro does not give much space to this theory within her work but does reference it within her neurophysiological research.<sup>77</sup>

## SUMMARY AND ASSESSMENT

The question posed at the beginning of this section is whether these proposed EMDR eye movement mechanisms are considered scientific facts or conjectures/hypotheses. As defined by the National Center for Science Education, scientific fact is “an observation that has been repeatedly

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<sup>73</sup> Ruth E. Propper, and Stephen D. Christman, “Interhemispheric Interaction and Saccadic Horizontal Eye Movements: Implications for Episodic Memory, EMDR, and PTSD,” *Journal of EMDR Practice and Research* 2, no. 4 (2008): 270-71, 274. The root of this theory stems from the Hemispheric Encoding/Retrieval Asymmetry (HERA) model of episodic memory, which argues that the left versus right cerebral hemispheres are specialized for the encoding and retrieval of episodic memories. Propper and Christman, “Interhemispheric Interaction and Saccadic Horizontal Eye Movements,” 269.

<sup>74</sup> “As a whole, such superior episodic memory takes the form of improved recall and/or recognition for list words; increased identification of the spatial location of previously presented stimuli; increased identification of the color of previously presented information; increased accuracy for recall of paired associates; increased accuracy for recently experienced autobiographical information; an earlier age of first childhood memory; increased recollection for previously presented stimuli in the form of increased “remember” responses during recognition; and decreased false recall or recognition of previously presented information.” Propper and Christman, “Interhemispheric Interaction and Saccadic Horizontal Eye Movements,” 272-73.

<sup>75</sup> Samara et al., “Do Horizontal Saccadic Eye Movements Increase Interhemispheric Coherence? Investigation of a Hypothesized Neural Mechanism Underlying EMDR,” *Frontiers in Psychiatry* 2 (March 2011): 5. Sara Forster also lists four other studies that disagree with the interhemispheric hypothesis. Forster, “How Does Eye Movement Desensitization and Reprocessing (EMDR) Work,” 63-64.

<sup>76</sup> Gunter and Bodner, “EMDR Works...But How,” 164.

<sup>77</sup> Shapiro, *EMDR*, 366, 493, 496-97.

confirmed and for all practical purposes is accepted as ‘true.’”<sup>78</sup> The answer to this question is No. Each hypothesis desires to provide explanatory power to understanding the underpinnings of EMDR. Still, there is no scientific consensus or verifiable proof on how eye movements definitively work within this theory, nor is anyone able to state it as fact so that it is accepted as true. Even Shapiro states that “all information-processing models are inherently speculative,” yet she advocates for EMDR’s acceptance into the scientific community not based upon factual evidence but efficacy.<sup>79</sup> It seems that all hypothetical theories are accepted as “true” at some level but do not rise to scientific facts.

EMDR uses voluntary eye movements in the desensitization and installation phases. However, apart from the orienting response model, none of the other hypotheses clearly explain how eye movements are involved in reprocessing memories with adaptive emotions.<sup>80</sup> Instead, the majority of models focus on desensitization. If eye movements are involved in memory “reprocessing,” why are they not being studied in that capacity? The following statement is in the *Journal of EMDR Practice and Research*:

Although the exact locus in memory processing of these effects is still not clear, two things are apparent. First, the beneficial effects of eye movements are at the retrieval stage, not at other memory stages such as encoding or consolidation; in fact, there is evidence that saccadic horizontal eye movements immediately before

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<sup>78</sup> The definition goes on to say, “Truth in science, however, is never final and what is accepted as a fact today may be modified or even discarded tomorrow.” See National Center for Science Education (NCSE), “Definitions of Fact, Theory, and Law in Scientific Work,” NCSE.ngo, March 16, 2016, <https://ncse.ngo/definitions-fact-theory-and-law-scientific-work>.

<sup>79</sup> “It is particularly important to underscore that the efficacy of EMDR therapy is independent of the validity of the model being proposed. This is relevant because the physiology of the brain is not yet sufficiently understood to confirm the validity of this or any other psychotherapy model at that level. However, the model does not appear to contradict anything known to be true, is consonant with the current knowledge in cognitive neuroscience, is congruent with the observed treatment effects of EMDR therapy and serves as a clinical road map for treating a wide range of pathologies.” Shapiro, *EMDR*, 12, 26. This quote is restated here to remind the reader that Shapiro herself acknowledges her own theory as speculative at best.

<sup>80</sup> The literature barely mentions it as involved. Shapiro, *EMDR*, 370.

encoding impair subsequent memory performance.<sup>81</sup>

Is there scientific or medical consensus that eye movements are even necessary for the therapy process?<sup>82</sup> Or, is EMDR nothing more than exposure therapy with eye movements? While Shapiro advocates for the uniqueness of eye movements' role in EMDR, she quickly reminds readers that the therapy's efficacy results from following all protocols with eye movements.<sup>83</sup> To obtain the full benefit of "healing," the counselee does not simply move their eyes back and forth. Instead, they are to submit themselves to the full therapy protocol.<sup>84</sup> The reader will note that this quickly enters the sphere of scientism instead of scientific fact as subjective pseudoscience becomes "fact" as people utilize it to help themselves feel "better."<sup>85</sup> With this, it is time to return to Huie's claim that EMDR is "good neuroscience" and consider whether it should be utilized within biblical counseling methodology.

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<sup>81</sup> This is an alarming statement coming from the Journal of EMDR Practice and Research. The second is "the beneficial effects of eye movements at retrieval appear to be driven in large part by better source memory, as evidenced by the decreased false memory rate associated with such eye movements." Propper and Christman, "Interhemispheric Interaction and Saccadic Horizontal Eye Movements," 273.

<sup>82</sup> "The results of our study do not support the idea that during EMDR the induction of eye movements by following the therapist's moving hand offers an advantage compared to visually fixating on a nonmoving hand." Martin Sack et al., "A Comparison of Dual Attention, Eye Movements, and Exposure Only During Eye Movement Desensitization and Reprocessing for Posttraumatic Stress Disorder: Results from a Randomized Clinical Trial," *Psychotherapy and Psychosomatics* 86 (2016): 364.

<sup>83</sup> "Any assessment of the therapeutic effectiveness of EMDR therapy must take account of all of its procedural elements. Many of these elements are drawn from disparate traditions that collectively contain the aspects of effective psychotherapy." Shapiro, *EMDR*, 1-3, 22, 352.

<sup>84</sup> "However, if it were just about bilateral stimulation, every trauma survivor at a tennis match would be spontaneously healed. Or they could simply sit in their cars and watch their windshield wipers go back and forth. There are, in fact, many other elements to EMDR therapy. The therapist assists the client in choosing the best "target" to focus on and helps him fully "activate" that target—i.e., memory of a traumatic experience or trigger situation—before introducing bilateral stimulation. The therapist also actively helps the client remain attentive to whatever emerges: images, thoughts, emotions, physical sensations and impulses, and previously dissociated fragments of memory. It is the therapist's presence and careful attention to keeping her client within his window of tolerance—while confronting memories—that is key." Michael Baldwin, and Deborah Korn, *Every Memory Deserves Respect: EMDR, the Proven Trauma Therapy with the Power to Heal* (New York, NY: Workman Publishing, 2021) 138. Kindle.

<sup>85</sup> For a definition of scientism, see footnote 7.

## COMMON GRACE, SCIENTIFIC FACT, AND WHAT IS REALLY HAPPENING

It has been demonstrated that due to the lack of scientific consensus in the secular psychiatric world, the failure to meet the basic definition and standard of scientific fact, and the overall subjective explanation that EMDR provides regarding its mechanism of action, EMDR is more appropriately labeled “pseudoscience” than “good neuroscience.” Further, EMDR has no place in a biblical counseling methodology. EMDR seeks to reduce the problems people face down to biological dysregulation, for which a biological treatment is needed.

If the problem is dysregulated neurons resulting in anxiety, panic attacks, or depression, then the treatment needed is something that can “flush” the neuronal blockage out to regulate memories and feelings.<sup>86</sup> However, this “cure” cannot be verified and is therefore impossible to responsibly affirm. If a counselor is committed to believing and accepting that man’s problems are reduced to dysregulated neurons, then that person is adopting a non-biblical understanding of the problem and nature of man. This has become a major problem as biblical counselors have begun to adopt the trauma-informed framework.<sup>87</sup> Because defining and understanding what trauma is and how to address it is so subjective, many biblical counselors begin to feel inadequate or underprepared to address the problems as they come. Therefore, it is natural to look outside the Bible to provide explanatory power to the problems people face.<sup>88</sup>

The main explanation that is publicized, promoted, and accepted now in the secular and Christian counseling world is that trauma is stored within the

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<sup>86</sup> Shapiro, *EMDR*, 17-18.

<sup>87</sup> Trauma-informed is defined as “A program, organization, or system that is trauma-informed realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system; and responds by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively resist re-traumatization.” SAMHSA, *Practical Guide for Implementing a Trauma-Informed Approach*, VII. One example of Christians embracing trauma-informed therapy is <https://christiantraumahealingnetwork.org>.

<sup>88</sup> Heath Lambert, *A Theology of Biblical Counseling: The Doctrinal Foundations of Counseling Ministry* (Grand Rapids, MI: Zondervan, 2016) 51-53. Kindle.



body. This means that everything that someone has endured and the current symptoms or struggles they face is simply the “recalibration of the brain’s alarm system.”<sup>89</sup> Throughout her work, Shapiro relies upon van der Kolk’s understanding and explanation of how trauma is stored, and van der Kolk references EMDR as one of many therapies that treat embodied trauma.<sup>90</sup> Van der Kolk spends almost 300 pages in *The Body Keeps the Score* discussing the nature of trauma before getting to his solutions, which can leave the average reader confused and desperate for clarity.<sup>91</sup> Regardless, the emphasis of Shapiro and van der Kolk is on reframing trauma into the need to regulate one’s biological responses. Instead of defining trauma and suffering according to the biblical description, alluring explanations that seem full of wisdom and scientific backing are being adopted without considering the full ramifications of what is behind the theory.

The push to classify EMDR as “scientific” has another added benefit for some who understand trauma as biologically rooted. If understood as “science,” it is believed to fall under the domain of common grace and potentially be utilized in biblical counseling methodology. However, that is not the goal of common grace in the Bible nor in counseling.<sup>92</sup> Common grace is defined as

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<sup>89</sup> Van der Kolk, *The Body Keeps the Score*, 21-22. Van der Kolk goes on to state, “Research from these new disciplines has revealed that trauma produces actual physiological changes, including a recalibration of the brain’s alarm system, an increase in stress hormone activity, and alterations in the system that filters relevant information from irrelevant. We now know that trauma compromises the brain area that communicates the physical, embodied feeling of being alive. These changes explain why traumatized individuals become hypervigilant to threat at the expense of spontaneously engaging in their day-to-day lives. They also help us understand why traumatized people so often keep repeating the same problems and have such trouble learning from experience. We now know that their behaviors are not the result of moral failings or signs of lack of willpower or bad character—they are caused by actual changes in the brain.” Van der Kolk, *The Body Keeps the Score*, 21-22. In this quote, van der Kolk provides the rationale for Christians to adapt embodied trauma without seriously considering the epistemology behind that statement. This is alarming as it now excuses anything labeled “traumatic” and puts the responsibility on dysregulated neurons. A full critique of this theory is beyond the scope of this paper. Instead, the reader should reference Francine Tan, “A Critical Evaluation of Bessel van der Kolk’s *The Body Keeps the Score*,” *The Journal of Biblical Soul Care* 7, no. 2 (2023): 26-61.

<sup>90</sup> Shapiro, *EMDR*, 16, 17, 19, 23, 41, 45. Van der Kolk, *The Body Keeps the Score*, 363-83.

<sup>91</sup> Van der Kolk, *The Body Keeps the Score*, 19-298.

<sup>92</sup> “While common grace expresses the goodness and kindness of God to all humanity, it is in the overflowing blessings of his special grace that God’s character as Savior is fully displayed.” John MacArthur, and Richard Mayhue, *Biblical Doctrine: A Systematic Summary of Bible Truth* (Wheaton, IL: Crossway, 2017), 789, Kindle. The main purpose of common grace is not to see how much knowledge God allows us to use in counseling, but instead, it is meant to point

the “good kindness of God that he shows to all people regardless of whether they have experienced the salvation that comes through Jesus Christ alone.”<sup>93</sup> While God does grant unbelievers such as Francine Shapiro and Bessel van der Kolk the ability to make true observations about how the body may or may not process memories via eye movement, it does not necessitate acceptance because the noetic effect of sin leads to incorrect interpretations of that data.<sup>94</sup> Even if certain aspects of the observations of EMDR’s eye movement mechanism are true, that would still not necessitate acceptance by biblical counselors into counseling methodology. EMDR does not conform born-again believers into the image of Christ, which is the ultimate goal of biblical counseling.<sup>95</sup>

All scientific information obtained is meant only to serve the goal of biblical counseling: helping the counselee know and glorify God in their life.<sup>96</sup> However, the Bible is the sole authority in counseling by which the counselor and counselee submit their lives and methodology because the Scriptures are God’s inspired and sufficient words for those whom He created so that they may know how to live in a manner pleasing to Him.<sup>97</sup> Therefore, when counselees come into the church suffering from painful memories, what kind of care may biblical counselors offer? The following section will answer that question by helping counselees know God’s Words, according to God’s methods, and receive care from God’s family in God’s Church.

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unbelievers towards God’s kindness so that it leads them to repentance.

<sup>93</sup> Lambert, *A Theology of Biblical Counseling*, 67.

<sup>94</sup> *Ibid.*, 68-72. See also Romans 1:18-32; Ephesians 4:17-18; 1 Peter 1:18. Jay Adams defines the noetic effect of sin as “the effect of sin upon thought and thinking.” See fn. 2 of Jay Adams, *A Theology of Christian Counseling: More Than Redemption* (Grand Rapids, MI: Zondervan, 1979), 165. Kindle.

<sup>95</sup> The definition of Biblical Counseling affirmed by the author is: “Biblical counseling is the personal discipleship ministry of God’s people to others under the oversight of God’s church, dependent upon the authority and sufficiency of God’s Word through the work of the Holy Spirit. Biblical counseling seeks to reorient disordered desires, affections, thoughts, behaviors, and worship toward a God-designed anthropology in an effort to restore people to a right fellowship with God and others.” T. Dale Johnson Jr., *The Church as a Culture of Care: Finding Hope in Biblical Community* (Greensboro, NC: New Growth Press, 2021), 16, Kindle.

<sup>96</sup> John Babler, and Nicolas Ellen, eds., *Counseling By the Book: Revised and Expanded Edition* (Fort Worth, TX: CTW, 2014), 70, Kindle.

<sup>97</sup> 2 Corinthians 5:9; 2 Peter 1:3-4. See also Robert Jones, Kristin L. Kellen, and Rob Green, *The Gospel for Disordered Lives: An Introduction to Christ-Centered Biblical Counseling* (Nashville, TN: B&H Academic, 2021), 41-44.

# CARING FOR SUFFERERS OF PAINFUL MEMORIES

## God's Words

When counselees struggle with painful memories that lead to difficult thoughts and bodily responses, what is needed most at that moment is to be reminded of what is true so they may reset their frame of thinking on their Healer.<sup>98</sup> The Bible is God's very Word to satisfy all we need and provide true and lasting hope.<sup>99</sup> Hope in God's power is greater than anything someone is facing is what is needed by those who suffer because they often feel alone and isolated in those moments. Hope from the Bible reminds them that God has not abandoned them but is with them and will keep them until the end when Christ returns and makes all things new.<sup>100</sup> Knowing the Bible is sufficient to bring them through this difficult trial brings hope and steadfastness in God's care.<sup>101</sup>

Part of reorienting those suffering from painful memories is to remind them of who they are in Christ and why God created them, as stated in the Scriptures.<sup>102</sup> The fact of one's purpose in life reframes responses and pushes the counselee toward their relationship with Christ, which is the most important truth and reality at that moment.<sup>103</sup> Being truth-led instead of feelings-led helps the counselee not to get caught up in basing their feelings on believing that they have embodied trauma or trusting in pseudoscience.

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<sup>98</sup> Psalm 6:2; 30:2; 41:4; 103:3.

<sup>99</sup> Romans 8:28-29, 15:4; 2 Peter 1:3-4.

<sup>100</sup> Psalm 33:18, 43:5; 71:5; 119:81; Romans 5:4-5, 15:13; 2 Corinthians 1:10; Philippians 1:6; 1 Thessalonians 5:23-24; Revelation 21-22.

<sup>101</sup> Steve Viars lists several aspects of sufficiency that are important to counseling. They are 1) The Bible has all we need to draw us to Christ, 2) It has all we need to help us order our affections, 3) It has all we need to explain our Identity in Jesus, 4) It has all we need to reveal the motivations of our hearts, 5) It has all we need to change into the image of Christ, and 6) It has all we need to find our hope in eternity. Bob Kelleman, and Steve Viars, eds., *Christ-Centered Biblical Counseling: Changing Lives with God's Changeless Truth* (Eugene, OR: Harvest House Publishers, 2021), 90-96.

<sup>102</sup> 1 Corinthians 10:13; 2 Corinthians 5:9. Curtis Solomon, "Counseling Post-Traumatic Stress Disorder," *The Association of Certified Biblical Counselors Blog* (ACBC), Oct 24, 2019, <https://biblicalcounseling.com/resource-library/essays/counseling-post-traumatic-stress-disorder-plotting-the-course/>.

<sup>103</sup> John Babler, "PTSD, Memories, and Biblical Counseling," *The Association of Certified Biblical Counselors Blog* (ACBC), Oct 24, 2019, <https://biblicalcounseling.com/resource-library/essays/ptsd-memories-and-biblical-counseling/>.

Instead, they can look to the written Word of God for meaning.<sup>104</sup> Having a standard of truth to orient them toward their Maker helps keep sufferers from being sucked into faulty understandings of trauma and memory. Rather, looking to the Scriptures for a theology of suffering will help them endure and trust in their good King, who works through this event for their godliness.<sup>105</sup>

## God's Methods

In *Redeeming Memory*, Matt Rehrer states, “Human memory battles with the remnants of indwelling sin. To reiterate, you forget what you should remember and remember what you should forget, while doubting that God will forget what He promised and will remember what He promised to forget.”<sup>106</sup> Since the fallen human mind is prone to forget God, whether we suffer or sin, it is imperative to abide by God’s methods of sanctification and growth for care. Discipling the counselee through applicable truths in the Bible is imperative for their growth and reliance upon God. If change is needed, then adhering to Ephesians 4:22-24 is vital. If hope is needed, then take the counselee to the promises of God that speak to their situation. Reliance upon the Holy Spirit while orienting the counselee toward the spiritual disciplines will push them into a deeper trusting relationship with God.<sup>107</sup>

## God's Church

When a counselee feels alone and is struggling with difficult memories, a family resource is needed and available for care and support to help.<sup>108</sup> The needs of one person walking through trials are too great for just one counselor, and therefore, a community is needed for support, love, and care.<sup>109</sup> The best

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<sup>104</sup> Matt Rehrer, *Redeeming Memory: How God Transforms Memories From a Heavy Burden to a Blessed Hope*, (Wapwallopen, PA: Shepherd Press, 2022), 87-90.

<sup>105</sup> Greg E. Gifford, “Helping Marriages Through Post-Traumatic Stress Disorder,” *The Association of Certified Biblical Counselors Blog* (ACBC), Oct 23, 2019, <https://biblicalcounseling.com/resource-library/essays/helping-marriages-through-post-traumatic-stress-disorder/>. Romans 8:28-29.

<sup>106</sup> Rehrer, *Redeeming Memory*, 81.

<sup>107</sup> Ibid., 82-93. David Mathis, *Habits of Grace: Enjoying Jesus Through the Spiritual Disciplines* (Wheaton, IL: Crossway, 2016), Kindle.

<sup>108</sup> John 13:35; Acts 20:28; Ephesians 4:11-16; 1 Timothy 3:15; 1 Thessalonians 5:14. See Johnson, *The Church as a Culture of Care*, 28-42.

<sup>109</sup> For a good description of how this looks practically, see Stuart Scott, and Heath Lambert, *Counseling the Hard Cases: True Stories Illustrating the Sufficiency of God's Resources in Scripture* (Nashville, TN: B&H Academic, 2012), Kindle.

family and abundant resources available are within God's church, and many will be able to minister grace faithfully to the counselee as they walk through a season of trials.<sup>110</sup> It is important for the counselor to call upon the various comprehensive resources of care (i.e., brothers and sisters) within the church to further "encourage the fainthearted" and "help the weak."<sup>111</sup> Worship in and with the local church also provides visual, auditory, and haptic cues to how God is working through the church to sanctify, encourage, and sustain the counselee through painful memories.<sup>112</sup> The preaching of God's Word "enters the ear, deposits in the mind, quickens the affections, and matures the soul."<sup>113</sup> Singing in the worship of God reminds the mind and soul of deep theological truths so they may be reoriented toward God's care. In summary, God's church is the place where God's Words are expounded regarding how God's method of change and care happens in the lives of those struggling through painful memories.

## CONCLUSION

Walking with someone through bodily responses to painful memories is complicated and can be confusing as to what is the best kind of care for healing. For biblical counselors, healing the body is not the goal, rather, it is to help the image bearer grow in their sanctification. The argument made in this article is that counselees should avoid the pseudoscience and biological reductionistic view of suffering presented by EMDR in preference for the infallible, authoritative, and sufficient Word of God. By listening to God's Words, abiding by God's methods of change, and utilizing the resources in God's Church, care and support will be full-orbed and lasting for God's Glory.

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<sup>110</sup> 2 Corinthians 1:3-7.

<sup>111</sup> 1 Thessalonians 5:14. This is also reiterated in Bob Kelleman, and Kevin Carson, eds., *Biblical Counseling and the Church: God's Care Through God's People* (Grand Rapids, MI: Zondervan, 2015), 20-34, 89-152, Kindle.

<sup>112</sup> Rehrer, *Redeeming Memory*, 96-114.

<sup>113</sup> *Ibid.*, 105.