

THE JOURNAL OF BIBLICAL SOUL CARE

Advancing Scholarship *for the*
Biblical Care of Souls *within* Higher Education

Articles *by*
Matthew Rehrer
D. Erik Everhart

Michael Emlet
Robert J. Piertz
Edward T. Welch

Copyright ©2026 by the Association of Certified Biblical Counselors

Published by the Association of Certified Biblical Counselors

www.biblicalcounseling.com

5401 North Oak Trafficway

Kansas City, Missouri

64118, USA.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical, photocopy, recording, or otherwise, without the prior permission of the publisher, except as provided by USA copyright law.

Paperback ISBN: 978-1-967495-01-6

ISSN: 3069-3578



This journal provides a means for advancing scholarship within higher education in the historical, instructional, and practical areas of biblical soul care in an academic forum. We aim to facilitate profitable interaction among scholars through articles, critical book reviews, and reader responses. We stand on the shoulders of generations of men and women whose commitment to the Word of God and care of souls has laid the groundwork for a resurgence of biblical soul care. The *Journal of Biblical Soul Care* reflects our dedication to the sufficient Word of God and its ability to speak into the complexities of human nature and experience.

—In Truth and Love,
The Editorial Board

general editor

GREG E. GIFFORD

managing editors

EMILY STAHL

FRANCINE TAN

assistant editors

DALE JOHNSON, *content*

SAMUEL STEPHENS, *content*

ARTICLES

Editorial

THE COMMON GRACE RIPPLE EFFECT 1

Dr. Greg E. Gifford

BIBLICAL COUNSELING AND MEMORY 5

Dr. Matthew Rehrer

**EXAMINATION OF NEUROPSYCHOLOGICAL
MODELS AND INTERVENTIONS ASSOCIATED
WITH TRAUMA** 23

Dr. D. Erik Everhart

**A BIBLICAL RATIONALE FOR
EMBODIED SPIRITUAL PRACTICES** 45

Dr. Michael Emlet

**INTERPERSONAL NEUROBIOLOGY (IPNB)
THEORY AND APPLICATION** 71

Robert J. Piertz

RESPONSES

A RESPONSE TO FRANCINE TAN'S JBSC ARTICLE 97

Dr. Edward T. Welch

Editorial

THE COMMON GRACE RIPPLE EFFECT

Dr. Greg E. Gifford¹

During the Fall of 2024, I presented a paper at the Evangelical Theological Society (ETS) in San Diego, CA. It was part of a four-lecture session that was dedicated to biblical counseling and varying viewpoints within biblical counseling and viewpoints of biblical counseling were offered. Nate Brooks, Malcom Yarnell, Ken Keathley and I presented papers. It was an interesting time, much of which was a critique of biblical counseling and Heath Lambert to be exact. It demonstrated that there is a lack of clarity on the true nature of biblical counseling—and who represents biblical counseling.

It was also around that time that I was working on the Sufficiency Statement that has now been widely distributed. The Sufficiency Statement is a confession to help biblical counselors better understand common grace, special and general revelation, and natural knowledge. If you have not seen it yet, please visit the website: sufficiencystatement.com. There are hundreds of signatories who have decided to endorse this statement on biblical sufficiency. It really has become a definitive moment in the history of biblical counseling.

Both ETS and the Sufficiency Statement are a part of broader definitional trends occurring right now in biblical counseling. I'll call this the common grace ripple-effect. First of all, an ACBC Colloquium two years ago helped to initiate a conversation on common grace, Heath Lambert's book on common grace, and JBSC editions have all spoken to the nature of common grace. However, the issue is largely unsettled in the biblical counseling

¹ Dr. Greg E. Gifford is general editor of the *Journal of Biblical Soul Care* and Associate Professor of Biblical Counseling and Chair of the School of Biblical Studies at The Master's University in Santa Clarita, CA. He can be reached at ggifford@masters.edu.

movement. The ripple-effect is not that we have greater clarity on common grace but have formed camps around the use of common grace in biblical counseling. Meaning, some organizations shoe-horn all pragmatic methods with a common grace license, while others are protectionist against anything potentially secular. The emergence of different camps in this climate is helpful in many ways because different approaches to counseling are being articulated and practiced.

The formation of these biblical counseling camps regarding common grace are not wrong, either. To have a difference of conviction on the place of common grace is not an absolute of the Christian faith but will obviously have doctrinal and methodological implications for biblical counseling. In this way, the neo-integrationist is not my enemy, just someone with whom I share differing convictions. In a world of biblical counseling in higher education, my convictions are quite settled, but I still see them as *convictions*.

It may be that in this time we see clearly identified camps of “unlimited common grace” and “limited common grace.” It seems many positions are settled, and it is better to create new categories of “clinically informed biblical counseling” or “holistic biblical counseling” rather than “biblical counseling.” Perhaps that is the results of the common grace ripple effect? We aren’t moving positions closer to each other but actually clarifying the positions that exist in biblical counseling.

Where to next?

This JBSC edition is fascinating, in part, because Dr. Ed Welch has written to respond to Francine Tan’s critique of his colloquium article. Welch has done much good for the BC movement, and Tan has raised concerns on his paper from the Spring 2024 edition of the JBSC. It really is a healthy dialogue, and I tremendously appreciate Ed taking the time to clarify his position. It was Ed’s article critiquing Jay Adams that really captivated my younger self in learning how Ed clarified helpful statements that Jay was not as precise as he could be. (If you haven’t read the article, see Ed’s article, “How Theology Shapes Ministry: Jay Adams’ View of the Flesh and An Alternative”). Good critiques and dialogue make us sharper, *if* we actually take the time to listen to them.

Dr. Matt Rehrer is quickly becoming the expert on issues that seem to bridge our physiology with our inner person. As pastor, medical doctor, and biblical counselor we are learning much from him and I trust his article on memory will be of help to you.

Dr. Erik Everhart has provided more of an overview of models that are used in counseling trauma. Dr. Everhart provides twelve principles for allowing us to think through these methods of care for trauma. Dr. Michael Emlet has also provided us with a case for using your body to better worship God and facilitate change in his article, which he presented at the 2024 ACBC Colloquium and then published originally in *The Journal of Biblical Counseling*. Robert Piertz spends time introducing Interpersonal Neurobiology (IPNB) then providing you, as the reader, an opportunity to see if it truly is compatible with the Bible. Piertz helps provide the upstream information for you to engage this ideology well, then address it in the counseling room.

As always, remember that the JBSC is attempting to address the upstream issues facing biblical counseling and soul care. If you have an article that fits the scope of the JBSC, please send it our way.

May God give us grace to honor His sufficient word for His glory and the good of our counselees!

BIBLICAL COUNSELING AND MEMORY

Dr. Matthew Rehrer²

INTRODUCTION

Biblical counseling utilizes God's gift of human memory on a regular basis with recollection of events, responses, counsel from God's Word and homework. With the frequent dependence on memory in counseling, this overview will seek to shed light on the fundamental importance of memory and fallibility with a specific application to trauma sufferers.

What is Memory?

When asked, most would define memory by its capability. Some examples of extreme capability include recalling 70,000 digits of pi or playing 30,000 notes of a Rachmaninoff piece, but memory goes beyond just capability to include the emotions and will. In truth, memory remains a mystery to science but is an integral part of the ontology of God's image-bearers.

Why is Memory Important?

To understand the importance of memory, consider a life without it. In "The Lost Mariner," Dr. Oliver Sacks, a British neurologist, described his patient Jimmie who suffered from an inability to form new memories³. Dr. Sacks described Jimmie's life devoid of relationship and filled with loneliness and fear. Jimmie lacked the ability to recognize himself in the mirror. Everyone

² Dr. Matthew Rehrer is an emergency medicine physician in the Bay Area and serves on staff and as an elder at his church, North Creek Church in Walnut Creek, CA. Please contact jbsc@biblicalcounseling.com with questions for the author.

³ Oliver Sacks, *The Man Who Mistook His Wife for a Hat and Other Clinical Tales*. Harper and Row, 1987, 23-42.

was a stranger, and everything was unfamiliar. Jimmie missed the moorings of memory that form identity, relationship, place, and purpose.

The origins of memory transport back to the Garden where God made Adam and Eve in His image (Genesis 1:26). Human memory reflects God and His attributes such as His omniscience. God gave man the gift of memory for one primary reason: to glorify and worship Him. Worship “is inconceivable without knowing (remembering) who God is and what He has done on behalf of His people.”⁴ Secondly, memory also reflects God in work, planning, obedience, imagination, creativity, and organization.

How Does Memory Work?

In many regards, memory remains a mystery because of the limitations in human observation of the inner workings of the material brain but also the spiritual nature of the immaterial mind that God has created. As can best be determined then through observation of the physical world, science discusses memory in relationship to observable functions. Memory involves multiple processes that include encoding, consolidating, storing as well as retrieval. Neurons in the brain connect and communicate by releasing chemicals called neurotransmitters across synapses. These neurotransmitters signal to the brain to encode and store vast amounts of information in ways that are still poorly understood. The hippocampus is the part of the brain that plays an integral role in weaving new memories together. A patient named Henry Molaison had his hippocampus removed in 1953 to relieve him from seizures.⁵ The seizures almost completely stopped, but it came at a cost. Henry was no longer able to form memories for new events in his life (episodic memory) despite the preservation of his intelligence, language, sensory and motor functions. New episodic memory formation requires the hippocampus to function properly; but once a memory is consolidated, storage occurs outside the hippocampus throughout the brain in complex patterns across multiple areas where neural activity occurred when the event took place.

⁴ Eugene Merrill, “Remembering: A central theme in Biblical worship,” *JETS* vol. 43 1 (March 2000), 30.

⁵ Suzanne Corkin, “What’s New with Amnesic Patient HM?” *Nature Reviews Neuroscience* 3 (2002), 153-160.

How Does Memory Prioritize Meaning?

To form a memory, meaning matters. A study showed that chess grandmasters who looked at a board with twenty-six to thirty-two pieces for only five seconds placed on average sixteen pieces on an empty board if the pieces were arranged in realistic game positions.⁶ Novices only placed on average three pieces. When the test was repeated with the chess pieces arranged randomly and unplayable, the grandmasters only could place three pieces on average. Grandmasters remembered meaningful chess positions. Meaning captures attention and signals importance. Intentionality helps direct your attention by taking special notice of things. Meaning and intentionality is reflected in Deuteronomy 6 when God commands the Israelites to teach their children the important commandments “when you sit in your house and when you walk by the way and when you lie down and when you rise up” (Deuteronomy 6:7). Be intentional to remember what is meaningful to God.

How Does Memory Prioritize Emotion?

Closely tied to meaning, emotion also signals prioritization. The amygdala, an almond-shaped area of your brain, sits right in front of the hippocampus and appears to play a role in the episodic memory. People with a rare disease called Urbach-Wiethe syndrome, which selectively damages the amygdala with progressive calcifications, remember the past but show impairment of episodic memory attached to intense emotional responses. In a study of ten Urbach-Wiethe patients, memorization of emotionally arousing material was highly impaired compared to controls.⁷ When functioning, the amygdala and hippocampus seem to closely communicate with neuromodulating signals that indicate prioritization in memory. The surprise factor of an event enhances memory formation with an intense emotional response.⁸ These surprise factors are postulated to also improve recall with the likelihood of retelling to self and others.

⁶ Simon HA, et al. “Skill in chess.” *American Scientist* 61 (1973), 394–403.

⁷ Siebert, M., et al. “Amydala, affect and cognition: evidence from 10 patients with Urbach-Wiethe disease.” *Brain*, Vol. 126 (2003), 2627-2637.

⁸ Antony, JW, et al. “Long-term, multi-event surprise correlates with enhanced autobiographical memory.” *Nature Human Behavior* Vol. 7 (2023), 2152-2168.

These episodic memories are formed under emotional stress with complex relationships postulated to involve certain neurotransmitters such as epinephrine (adrenaline), norepinephrine, and cortisol. To test one of these, cortisol, researchers injected test subjects with cortisol or saline and showed emotionally evocative photos.⁹ Subjects injected with cortisol performed better one week later in recall of these photos. However, it is unclear if these conditions match true trauma. In Cushing disease, where cortisol levels are abnormally high, one of the effects beyond high blood pressure, obesity, and stretch marks is memory impairment. Of note, when Cushing's disease is treated, the memory deficits improve.¹⁰

Scientists have proposed an inverted U-shaped curve to explain the relationship between stress and memory, called the Yerkes-Dodson Curve. Too little stress with minimal arousal correlates with poor memory performance. Too much stress with overwhelming arousal also correlates with poor memory performance. Peak memory performance occurs with an intermediate level of stress. In addition to these complex relationships between stress and memory, not everyone responds to stress in the same way. Observational studies do not capture the wide array of unique ways human memory performs under stress.

Noetic Effects of Sin on Memory

Memory is fallible. No matter how intelligent you are, you forget things like what you ate last week for breakfast, where you placed your car keys or the name of your second-grade art teacher. Memory is fallible not just in omissions (things you forget) but also in distortions, additions and exaggerations. Why is this the case? The original sin of Adam in the garden of Eden impacts memory today both in “natural weakness which arises from the constitution of the body and a moral forgetfulness.”¹¹

⁹ Buchanan, Tony, et al. “Enhanced memory for emotional material following stress-level cortisol treatment in humans,” *Psychoneuroendocrinology* Vol. 26, no. 3. 2001, pp. 307-317.

¹⁰ Bourdeau, Isabelle, et al., “Loss of Brain Volume in Endogenous Cushing's Syndrome and Its Reversibility after Correction of Hypercortisolism,” *The Journal of Clinical Endocrinology & Metabolism* 87, 5 (May 2002), pp. 1949–54.

¹¹ Anthony Burgess, *The Extent of Original Sin in Every Faculty of the Soul*, Web. 27 March, 2024, monergism.com, 82.

Natural Decay of Memory

Memory erodes from a natural decay witnessed over time in aging called transience. The Father of Memory, Herman Ebbinghaus, developed a forgetting curve to quantify the rate of information lost. He memorized a list of sixty-four trigrams (three letter groupings) like DAX, REN, and VAB in forty-five minutes and recorded his rate of forgetfulness: half in twenty minutes and about two-thirds by the next day.¹² Time erodes memory. The human mind also has limits to the amount it can hold at any one time in working memory, somewhere between three and seven pieces of information.¹³ The brain chunks digital information into consumable pieces, which is how you remember important data like your social security number. Different diseases also manifest with memory decay. Many suffer the damaging effects of dementia that ravages memory or certain strokes that impact recall. As part of a fallen world, sickness invades every region of the body including the mind.

Moral Decay of Memory Formation: Self-assessment

Memory also suffers from not just physical decay but also moral distortion. Memory's original created purpose, to bring glory to God and enjoy Him, has been distorted to replace God with self at the center. The Bible makes it clear that the heart is deceptive (Jeremiah 17:9), and scientific observation unsurprisingly follows these ancient Biblical truths. For example, researchers asked participants to pick an original photo of themselves or one of the digitally enhanced versions that most closely resembled them.¹⁴ The participants selected the digitally altered photo that made them younger and more attractive. This study shows a fundamental flaw in self-assessment, a biased perception of self. Man walks away from the mirror, and "he has immediately forgotten what kind of person he was" (James 1:24). As James indicates, this poor self-assessment does not just include the outer appearance but the inner heart.

¹² Hermann Ebbinghaus, 1964. *Memory: A Contribution to Experimental Psychology*. Translate by H. A. Ruger and C. E. Bussenius. New York: Dover. Original work published in 1885.

¹³ Luck, Steve, et al. "Visual Working Capacity Memory Capacity from Psychophysics and Neurobiology to Individual Differences." *Trends in Cognitive Sciences*, 17 (8), pp. 391-400

¹⁴ National Portrait Gallery (2014). *The Curated Ego: What Makes a Good Selfie?* 3, March 2014, Web 27, March 2024.

Moral Decay of Memory Formation: Misappropriation

With this corruption of memory, dysfunction influences what is valued and thus remembered. “You forget what you should remember and remember what you should forget while doubting God will forget what He promised and will remember what He promised to forget.”¹⁵ Pervasive fallenness of a sin nature misappropriates importance such that memory “treasures up the refuse of the past and permits priceless treasures to lie neglected.”⁸ ¹⁶The compass of the mind has turned from an orientation of true North toward God to South toward self, and the results are deceptive and damaging. Forgetfulness can spring up in areas of spiritual concern like forgetting who God is (Jeremiah 2:32) and what He has done (Psalm 106:13-14). In essence, sin traces back to a forgetfulness of God’s commands (Jeremiah 23:36). A corrupt memory directly corresponds with disobedience.

In juxtaposition to forgetfulness of the important things, useless memories persistently clutter in the mind and reduce the retention of the useful. The mind returns to the “worthless and elemental things” (Galatians 4:9) and bogs down with thoughts that compete and crowd out memories of the important things of the Lord. This persistence feeds anxiety and spinning as the mind ruminates on the trivial and not the eternal.

Moral Decay of Memory Formation: Distraction

As noted earlier, meaning matters in memory as meaning grabs your attention. “If you have no attention, you have no retention.”¹⁷ Even with constant and repeated exposure, you will not remember something without giving it true attention. For example, the Apple logo is one of the most recognized global images seen by many every day. In a study of eighty-five participants, only one accurately drew the Apple logo and less than half identified it from a group of choices.¹⁸ For memory formation, you need to

¹⁵ Matthew Rehrer, *Redeeming Memory*. Shepherd Press, 2022, p. 40.

¹⁶ Charles Spurgeon, *The Treasury of David*, vol 2, “Psalm 103.” Thomas Nelson Publishers, 1984, p. 276.

¹⁷ Kevin Horsley, *Unlimited Memory*, TCK Publishing, 2013, p.98

¹⁸ Blake, A. B. et al., “The Apple of the Mind’s Eye: Everyday Attention, Metamemory, and Reconstructive Memory of the Apple Logo.” *Quarterly Journal of Experimental Psychology*, 2015, p. 858-865

purposefully give attention to what is important. The Apple logo is not a high priority, but attention to your spiritual condition is.

Distraction then is one of the greatest foes of memory as it inhibits consolidation and formation of new memories. Distraction glows in every corner and in every hand in the form of technology. The design of the Internet is to bounce you from one site to the next with maximal information and minimal retention. Competing flows of information that include the webpage content, advertising, and notifications from other applications create an overload of one distraction that begets another. On top of the distraction, technology can also quickly plunge the mind away from the important into the trivial. This external instrument appeals to the internal sin nature on many levels.

Decay of Memory Reconstruction: Mutability

With episodic memory, no one remembers every detail of an event, only parts of what happened. The memory of an event is then reconstructed over time in its subsequent retrieval with contributions from imagination, opinion, and suggestion. Every time a memory is retrieved, it has the potential to be trimmed or expanded and then stored again for future retrieval. This new version is now the memory that is stored and available for future recall, not the original version. Memory is not like an old VHS tape that you can pull out and play at any time. It is mutable and dynamic.

In one study, researchers asked Emory college students a series of five questions twenty-four hours after the Challenger shuttle exploded in 1986 and recorded the results about where they were, who was with them, how they felt, what time of day it was, and what they were doing.¹⁹ Over two years later, they asked these students the same set of questions. Not one student had answers that completely matched their original. Fifty percent only matched one answer while twenty-five percent were incorrect on every answer. When shown their original answers, the students were confounded and stuck by their most recent answers. Confidence in memory does not equate to accuracy.

¹⁹ Winograd, E., et. al. *Affect and Accuracy in Recall: Studies of "Flashbulb" Memories*. Emory Symposia in Cognition. New York: Cambridge University Press, 1992.

Decay of Memory Reconstruction: Suggestion

Studies show the power of suggestion in the reconstruction of episodic memories. Words matter in the forming of future recollection. In one study, researchers showed participants a video of a car accident.²⁰ The participants were asked either, “How fast were the cars going when they *smashed* into one another?” or “How fast were the cars going when they *hit* one another?” or not asked either question. One week later, these groups were asked if they saw any broken glass in the video. The group who was asked if the cars had smashed into one another reported 32% while the group asked if the cars hit one another only reported broken glass 14% similar the group not asked any question. There was not any broken glass in the video.

Decay of Memory Reconstruction: Misinformation

The power of suggestion extends to the power of misinformation that can get incorporated into memory. This concerning flaw was first demonstrated in an experiment where participants read four stories about events from their childhood from either a sibling or parent.²¹ One of the four stories was false that described a time when the participant was lost in a shopping mall. Participants returned one to two weeks later and wrote down what they recalled from all four events. At the end, they were told one of the four stories was false. Five out of twenty-four picked a real event as the fabricated story. Misinformation, especially from a trusted source, has been shown to influence recall in other studies in about one in three people on average.²²

Decay of Memory Reconstruction: Confirmation Bias

Confirmation bias also contributes to the construction and reconstruction of memories. Since a memory is incomplete, there is a predilection to fill

²⁰ Loftus, E. L., et al. “Reconstruction of Automobile Destruction: An Example of the Interaction Between Language and Memory.” *Journal of Verbal Learning and Verbal Behavior*, Vol 13. 1974, pp. 585-589.

²¹ Loftus, E. L., et al. “Planting Misinformation in the Human Mind: A 30-Year Investigation of the Malleability of Memory.” *Learning and Memory* Vol 12 (4), 2005, pp. 361-366.

²² Arce, M. M., et al. “Implanting Rich Autobiographical False Memories: Meta-analysis for Forensic Practice and Judicial Judgment Making.” *International Journal of Clinical and Health Psychology*, Vol 23 (4): 100386.

gaps with information that bolsters the viewpoint of the event. Gap filling can occur to try to explain something that happened. For example, a study at Harvard surveyed around one hundred women who had children with birth defects and one hundred who had children without birth defects.²³ The survey asked the participants to recall whether they had been exposed to different things during their pregnancy including hormonal birth control. These results were compared to the medical record and known medications taken. Despite a similar rate of birth control use between the two groups, the women who had babies with birth defects were much more likely to believe they had taken birth control when they indeed had not. Memory acts like a detective trying to piece together a story of what might have happened, not necessarily what did happen. When searching for answers, memory's reliability is questionable.

Memory is Fallen

The noetic effects extend from memory formation to memory reconstruction. The purpose here is not to invalidate and undermine all memories but simply recognize the need for humble consideration of memory's fallibility. Only until memory is understood in this light will redemption be seen as necessary and vital.

THE REDEMPTION OF MEMORY

Only one has ever walked on this earth with a perfect memory unstained by sin, Jesus Christ. He lived a perfect life of obedience and did not "forget" one of His Father's commands (Hebrews 5:8-9). The Son of God willingly offered up His life on the cross to satisfy God's justice. Jesus was "a man of sorrows and acquainted with grief" (Isaiah 53:3b). Every Christian's sin had to be remembered and nailed to the cross to be pardoned and satisfy the wrath of God (Colossians 2:13-14). Otherwise, Satan would have grounds to bring an accusation of unpaid sin (Romans 8:31-34). But "God not only remembers every single sin in his perfect justice, but also forgets every sin

²³ Werler, Martha, et al. "Reporting Accuracy Among Mothers of Malformed and Non-malformed Infants," *American Journal of Epidemiology* 129 no. 2. 1989, pp. 415-421

in His perfect mercy.”²⁴ Because of the Son’s work on the cross, the Father will “remember their sins no more” (Jeremiah 31:34). The cross sits at the center of a transaction of memory where justice and mercy kiss (Psalm 85:10-11). Christ was forsaken (forgotten) at the cross, but He was remembered in resurrection. God’s redemptive plan redeemed man from sin and death. Victory has been accomplished through Jesus Christ (1 Corinthians 15:55-57). This glorious redemption will be revisited over and over as the center point for memory. Why? Because God loves and remembers His people. “The Lord is near to the brokenhearted and saves those who are crushed in spirit” (Psalm 34:18).

THE APPLICATION OF REDEPTIVE MEMORY IN TRAUMA

The Definition of Trauma

Memory plays a significant role for those who experience trauma. The definition of trauma has greatly expanded in recent years. For purposes of this application, trauma involves the categories of physical violence, sexual violence, organized violence (kidnapping, refugee, combat, etc.), life-threatening illness or injury, or unexpected death. Trauma is the result of fallen people living in a fallen world and is not new to this generation. It goes back to the beginning of humanity when Cain, in unchecked anger, killed his brother Abel (Genesis 4:8). The pages of the Bible are filled with trauma, and trauma sits at the pinnacle of the gospel where the son of God died a most violent and heinous death on a Roman cross. The Bible will serve as the guide to address trauma sufferers.

The Definition of PTSD

Many people experience life-threatening trauma (including the author) or a potentially traumatic event (around 70%),²⁵ and some trauma-sufferers will develop symptoms that correspond with post-traumatic stress disorder

²⁴ Matthew Rehrer, *Redeeming Memory*. Shepherd Press, 2022, p. 71.

²⁵ Benjet C., et al. The epidemiology of traumatic event exposure worldwide: Results from the World Mental Health Survey Consortium. *Psychol. Med.* 2016;46:327-343.

(PTSD). The diagnosis of PTSD unfortunately includes the term “disorder.” “Disorder” falsely communicates to a trauma-sufferer that they are disordered in some way and falsely implies this is a medical disease without a known cure.²⁶ These are false implications from a misleading label. PTSD symptoms are grouped into four categories: intrusive (nightmares or flashbacks), avoidance, cognition/mood alterations (irritability, difficulty concentrating, etc), and altered arousal reactivity (exaggerated startle response, hypervigilance). PTSD lifetime prevalence in the US is around 6%²⁷, which is much higher than other countries of 1-2%.²⁸ Regardless, PTSD is not inevitable or insignificant, but it is complicated. No two people experience or respond to trauma in the same way.

The Role of Stress: Inner and Outer Man

How does stress from trauma influence the body (outer man) and soul (inner man)? Stress impacts the inner man with visible effects seen in the outer man. However, Bessel van der Kolk would propose, “The body keeps the score: If the memory of trauma is encoded in the viscera, in heartbreaking and gut-wrenching emotions, in autoimmune disorders and skeletal/muscular problems, and if mind/brain/visceral communication is the royal road to emotion regulation, this demands a radical shift in our therapeutic assumptions.”²⁹ This theory of neurobiological damage from trauma creates not only an environment of hopeless inevitability but a misguided search for the solutions in the outer man. The Bible clearly points to the inner man as the focus for recovery and resilience in the face of suffering. “Though our outer man is decaying, our inner man is being renewed day by day” (2 Corinthians 4:16). This emphasis on the inner man is not a denial of the physiologic manifestations of trauma sufferers as “a crushed spirit dries up the bones” (Proverbs 17:22b). Rather, it is an acknowledgement that every person is

²⁶ Curtis Solomon, *I Have PTSD*. New Growth Press, 2023, p. 22.

²⁷ Goldstein, R. B., et al. “The epidemiology of DSM-5 post-traumatic stress disorder in the United States: results from the National Epidemiological Survey on Alcohol and Related Conditions” *Social psychiatry and psychiatric epidemiology*, 51(8), pp. 1137-1148.

²⁸ Koenen, K. C., et al. “Post-traumatic stress disorder in the World Mental Health Surveys.” *Psychol Medicine*. 2017, 47 (13), pp. 2260-2274

²⁹ Van der Kolk, Bessel A. *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma*. New York: Viking, 2014, pp. 12-1

more than just a body but a unique embodied soul. Instead of then looking to external techniques to suppress somatic symptoms of the body, the road to redemption is through a reorientation of the soul.

PTSD: Over-remembrance

Trauma sufferers are not frustrated by an inability to remember, but an ability to remember too well through things like flashbacks and nightmares. One PTSD sufferer exclaimed, “I don’t want to remember, but I can’t seem to forget.”³⁰ Memory can be troublesome in its distortion of events, but this does not mean events did not happen. For example, many survivors of verified childhood sexual abuse remember the traumatic events. They do not need to recover “lost (or repressed)” memories but rather recover from the “true” memories.³¹ Where help is needed is in the processing and response to these traumatic events and subsequent recollections.

Reorientation of Memory: The Holy Spirit and Prayer

In understanding the distortion of memory, reorientation requires the help of the Holy Spirit. The Holy Spirit’s work is “to bring the promises of Christ to our minds and hearts, to give us comfort of them, the joy and sweetness of them.”³² In concert with the Holy Spirit, prayer is also an essential tool as a first step to reorient memory as “the Spirit Himself intercedes for us with groaning too deep for words” (Romans 8:26).

Reorientation of Memory: Listening

In this place of prayerful dependence, a Biblical counselor walks side by side with the sufferer. When someone has suffered from trauma, trust needs to be established by listening compassionately. By listening to someone hurting, the counselor is imitating God who actively listens to the cries of His people.

³⁰ Glenn Schiraldi. *The Post-Traumatic Stress Disorder Sourcebook: A Guide to Healing, Recovery and Growth*. New York, McGraw-Hill, 2000, p. 147

³¹ Charan Ranganath. *Why We Remember*. Doubleday, 2024, p. 152

³² John Owen, *The Works of John Owen*, ed. William H. Gould, vol. 2 (Johnstone & Hunter, 1850-1855; reprint, Edinburgh: Banner of Truth, 1965-1991), p. 237.

The psalms provide numerous examples of a cry to be heard (Psalm 3, 4, 5, 13, 22, 42, 55, 61, 64, 71, 77, 86, 130, 141, 142, etc.). Lament voices the tension between our pain and God's goodness.³³ Listening is remembering; it is giving the counselee undivided attention to then mourn with those who mourn.

Reorientation of Memory: Upward toward God

Reorientation of memory progresses around God and His Word. The goal is not to erase a memory but rather to reframe the memory from a redemptive perspective, move from an inward focus to an upward and outward focus. The renewal of the mind starts with remembering God. "When I remember You on my bed, I meditate on You in the night watches, for You have been my help, and in the shadow of Your wings I sing for joy. My soul clings to you; Your right hand upholds me" (Psalm 63:6-8). David remembers God and worships. Together with the counselee, remember what God has done forgetting none of His benefits "who redeems your life from the pit" (Psalm 103:4). Here is where memory truly reorients, at the cross. "Remember Jesus Christ, risen from the dead" (2 Timothy 2:8a) which spurred Paul on to "suffer hardship even to imprisonment" (2 Timothy 2:9a) and to "endure all things for the sake of those who are chosen" (2 Timothy 2:10a). The cross serves as the hinge to turn from an inward orientation on self to an upward mindset toward God (Isaiah 26:3).

Reorientation of Memory: Into God's Grand Narrative

Personal suffering benefits from placement into the grand narrative of God's history. As an example, Joseph endured significant trauma in his life when he was sold into slavery by his brothers. He is later wrongfully accused by Potiphar's wife and forgotten in jail by the cupbearer. God raised him up to the second highest position in Egypt, and Joseph named his son Manasseh which means "God has made me forget all my trouble and all my father's household" (Genesis 41:51). But Joseph's brothers sought food in Egypt. Joseph recognized them and spoke harshly (Genesis 42:7), wept (Genesis 42:24), tested them, wept over Benjamin (Genesis 43:30), and tested them again. Joseph provided insight into how to reorient his suffering when he told

³³ Mark Vroegop, *Dark Clouds, Deep Mercy*. Crossway, 2019, p. 44.

his brothers, “As for you, you meant evil against me, but God meant it for good in order to bring about this present result, to preserve many people alive” (Genesis 50:20). Joseph reoriented his memory into the larger redemptive narrative of God and His plan. The Christian does not only reflect on the triumph of the resurrection but on the suffering of the cross.³⁴

Reorientation into the grand narrative relies on the understanding that God sees and accounts for suffering. “For the needy will not always be forgotten, nor the hope of the afflicted perish forever” (Psalm 9:18). Tears do not fall unnoticed to the ground but are collected by God in His bottle (Psalm 56:8). The sufferer confidently then states, “God is for me” (Psalm 56:9b). The proof is that the Father did not spare His Son (Romans 8:31-32). Nothing then can separate us from the love of Christ including tribulation, distress, persecution or any other trauma (Romans 8:35).

Reorientation of Memory: Forward

Reorientation of memory transforms the sufferer from one who looks back over the shoulder to the past to one who gazes forward to the future. Future orientation helps balance the momentary misery of the past with the eternal mercy of the future. The future “eternal weight of glory” that is unseen far outweighs the temporal afflictions (2 Corinthians 4:17-18). Misery is bound up by time with a limit while mercy extends into eternity without limits. These scales do not minimize misery as “we groan longing” for heaven (2 Corinthians 5:2). Rather, the groaning for the future emboldens a courageous walk by faith in the present with an ambition to please Him (2 Corinthians 5:6-9).

Reorientation of Memory: Slowly

To reorient the mind requires patient practice. When panic assails, first sit or lie down for physical safety. Hyperventilation and fast heart rate can lead to the sensation of syncope. Slow down breathing by filling the mind with simple truths. Do not just listen but talk to yourself³⁵ exemplified by King David

³⁴ Matthew Rehner, *Redeeming Memory*. Shepherd Press, 2022, p. 125.

³⁵ Martyn Lloyd-Jones, *Spiritual Depression: Its Causes and Cures*. Eerdmans Publishing Company, 1995, p. 20.

when he asks, “Why are you in despair, O my soul? And why have you become disturbed within me? Hope in God, for I shall again praise Him for the help of His presence” (Psalm 42:5). David actively speaks truth to himself to quiet his soul. The apostle Paul also points to the spiritual battle that is waging in the mind. He implores the believer to pick up the weapons of warfare and “take every thought captive to obey Christ” (2 Corinthians 10:5). Take a deep breath and slow down the spinning thoughts with these truths.

Reorientation of Memory: Methodically and Meditatively

How do you practice these things so that the God of peace will be with you (Philippians 4:9)? First, memorize Scripture. With a PTSD-sufferer, memorization might prove challenging, but treasured truths renew the mind and soul (Psalm 119:11). Use visual aids in key spaces around the home like the bathroom, kitchen sink, or car dash to engage memory. Keep notecards with verses physically in pockets.

Utilize the spacing effect to improve retention of these truths. Research demonstrates that memory benefits from gaps in between times of learning.³⁶ Also, repetition is not as helpful as consistent testing to pull back up different verses. By testing, the brain will struggle to pull up the verse but expose weaknesses that eventually strengthen the memory.³⁷ Testing produces perseverance in character and in memory (James 1:2-4).

Beyond testing, meditation moves Scripture from intellect into the affections. “Meditation cements divine truths not the mind. It brings God and soul together. Meditation is the bellows of the affections. It gives sight and taste to invisible glory.”³⁸ Meditation indicates meaning and prioritization.

³⁶ Carpetner, S. K., et al. “Using Spacing to Enhance Diverse Forms of Learning: Review of Recent Research and Implications for Instruction.” *Educational Psychology Review*, 24, pp. 369-378.

³⁷ Liu, X. L., et al. “Effects of Retrieval Practice on Tested and Untested Information: Cortico-hippocampal Interactions and Error-Driven Learning.” *Psychology of Learning and Motivation*, 75, pp. 125-155.

³⁸ Thomas Watson, “Time’s Shortness,” accessed 22 April 2024, [gracegems.org](https://www.gracegems.org).

Reorientation of Memory: Through Creation

God not only uses His Word but also His creation to reorient memory. Creation declares God's glory. The stars highlight His greatness (Psalm 8:3) while the sparrows remind of His care (Matthew 10:31). These cues from creation get blocked by technology, buildings, and bright lights. And yet, the roofless cathedral of creation makes visible the attributes of the Creator (Romans 1:20). Soaking in the glories of a sunrise or the glow of fireflies refreshes the mind in engagement on God and His majestic work.

Reorientation of Memory: Through Music

Music is another tool to facilitate the reorientation of memory. Music is a unique gift from God that reflects Him (Zephaniah 3:17). It is intimately tied to memory with the storage of musical memory outside the hippocampus.³⁹ In Alzheimer's patients, many will lose the ability to remember faces but can still remember favorite tunes from decades ago. God used songs throughout history to remind His people of truth from Moses at the Red Sea (Exodus 15:1-18) to the future throne room in heaven (Revelation 15:3-4). Biblical music reminds of truth and lifts the countenance. Music not only is a private form of worship but also can be communal. Singing truths unify the church, "Speaking to one another in psalms and hymns and spiritual songs, singing and making melody with your heart to the Lord" (Ephesians 5:19).

Reorientation of Memory: With Others

Congregational singing points to the significant role that community plays for trauma sufferers. For many reasons, trauma appeals to isolation and barricades from community. The desire to minimize triggers, hide from thoughts of shame or avoid potential harm draws the sufferer away from others. Spatial memory though can be an assistance. Spatial memory draws from the location and relation of space with objects. In Psalm 73, Asaph wrestles with the past memories of the violent evildoers until he "came into the sanctuary of God" (Psalm 73:17). As the psalmist struggled with the prosperity of the wicked, the place of worship grabbed onto the future orientation of their

³⁹ Esfahani-Bayerl, N., et al. "Musical Memory and Hippocampus Revisited: Evidence from a Musical Layperson with Highly Selective Hippocampal Damage." 119, pp. 519-527.

future destruction. In the place of worship, Biblical preaching is an act of reminding.⁴⁰ Not only does the spatial context assist but also the preached words. The church though goes beyond the place and the preacher to the family of believers. It is here that the family encourages, teaches, admonishes, and sings with one another (Colossians 3:16). Counseling and support happen in the church formally but many times informally. Do not forsake assembling but find encouragement and hope in the body of Christ (Hebrews 10:23-25). Support networks may grow inside the church but also may be accessed outside the church through a variety of Christian programs.

Reorientation of Memory: To Others

Reorientation toward others also involves the complexities of guilt and shame. Steve Viars provides a helpful tool to help identify innocence or guilt in what occurred and how the person responded.⁴¹ Guilt and shame need to be addressed as trauma sufferers may falsely bear these memory burdens that weigh down with whispers of worthlessness and punishment. These malignant memory cycles disrupt relationships with God and others.

Intertwined with shame and guilt sits forgiveness. Forgiveness is closely connected to memory. It is not achieved by forgetfulness; but rather when you recall the past offense without a response of bitterness. Forgiveness does not condone the past offense or give future permissiveness to repeat or continue in the offense. This heart attitude is only made possible through the remembrance of Christ's forgiveness (Ephesians 4:32). The one who is forgiven much is then able to forgive much through the power of the Spirit (Luke 7:47). Forgiveness provides freedom. Within these parameters, forgiveness does not require repentance of the offender. As an example, while being stoned to death, Stephen cried out, "Do not hold this sin against them" (Acts 7:60). This attitude to forgive those who persecute you arises from the one who trusts that God will remember and repay the unrepentant (Romans 12:14-21). In contrast, reconciliation with restoration of relationship does require repentance of the offender and is a complex journey that requires wisdom, especially in trauma and abuse.

⁴⁰ Jeffrey Arthurs, *Preaching as Reminding*, Intervarsity Press, 2017, pp. 48.

⁴¹ Steve Viars, *Putting Your Past in Its Place*, Harvest House Publishers, 2011.

Redemption of Memory: Comfort and Hope

As God reorients the sufferer from the painful past, the sorrow of yesterday becomes the comfort for others today. “The God of all comfort, who comforts us in all our affliction so that we will be able to comfort those who are in any affliction with the comfort with which we ourselves are comforted by God” (2 Corinthians 1:4). The reorientation of memory moves from self and onto others. Suffering transforms from a burden to a blessing to others.

Biblical counseling utilizes God’s Word to reorient memory off self and upward to God and outward to others. This reorientation removes the disorder from PTSD and replaces it with a hopeful reordering. Memory is the handmaiden of hope as “that same recollection, which may in its left hand, bring so many dark and gloomy omens, may be trained to bear in its right hand a wealth of hopeful signs.”⁴² The prophet Jeremiah wept in the ashes of Israel’s affliction with his head bowed down. Then, he recalled to mind the lovingkindness and unfailing compassion of God that is new every morning (Lamentations 3:21-24). Therefore, Jeremiah had hope in God. Hope, a fruit of redeemed memory, is only found through a healing of the soul.

CONCLUSION

Memory is an integral part of Biblical counseling and applies to trauma sufferers. Trauma and its subsequent recollections impact the inner man with manifestations in the outer man. A compassionate counselor will compassionately address the painful past and reorient the sufferer to a hope-filled future with Christ, the sympathetic high priest.

⁴² Charles Spurgeon, “Memory: The Handmaiden of Hope,” 15 October, 1865, Web 22 April, 2024, spurgeon.org.

EXAMINATION OF NEUROPSYCHOLOGICAL MODELS AND INTERVENTIONS ASSOCIATED WITH TRAUMA

Dr. D. Erik Everhart, ABPP⁴³

INTRODUCTION AND QUALIFICATION

I am a Christ follower who happens to be a clinical neuropsychologist with research interests in electrophysiology, emotion regulation, decision making, and sleep. The personal context for this article stems from my training background and current clinical activities. It is important to qualify the framework of my perspective and I have provided some details about my background for the sole purpose of providing context for my evaluation and recommendations throughout the article. This provision of these details should not be taken as a proclamation of superiority in comparison to any others who provide counsel or guidance to the population of interest in this manuscript.

My training background includes initial broad training as a clinical psychologist with subsequent specialty training and board certification in clinical neuropsychology by the American Board of Professional Psychology. I am also board certified in behavioral sleep medicine by the Board of Behavioral Sleep Medicine. My clinical training and current clinical practice encompasses diagnostic and intervention services for a wide range of conditions including psychological and physiological trauma for inpatients and outpatients. I provide inpatient consultation services for a large regional hospital. These services are provided within emergency room, ICU, rehabilitation, neurology and general surgery as well as behavioral health settings. Though not an exhaustive list,

⁴³ Dr. D. Erik Everhart is a professor and Director of the Cognitive Neuroscience Laboratory at East Carolina University. He is board certified in clinical neuropsychology and is a licensed psychologist. Please contact jbsc@biblicalcounseling.com with questions for the author.

these services include evaluation and short-term management of a wide variety of conditions including gunshot wounds, mutilation injuries, traumatic brain injury, spinal cord injuries, physical and sexual assault, other trauma-related conditions, delirium, and neurodegenerative diseases. My outpatient services include diagnostic evaluation of various psychological and neuropsychological conditions such as traumatic brain injury, neurodegenerative diseases, and differential diagnosis of TBI versus PTSD.

I do not consider myself a biblical counselor and do not possess the expertise required for biblical counseling. However, I am informed about principles of biblical counseling as well as the interface between neuroscience and biblical counselors among individuals who seek counsel. The counseling fields are now inundated with neuropsychological and neurophysiological models that purport to explain behavior, emotion, and thought. These models can provide some utility of explanation and conceptualization. However, they are often overly mechanistic and fail to account for the complexity of human behavior as well as surrounding environmental context. The purpose of this paper is to describe two relevant and popular models that are associated with trauma research in general: the dual pathway model and Polyvagal Theory. This list is not meant to be exhaustive, as there are many relevant models to choose from. Likewise, the discussion is primarily limited to neuroanatomical systems (one could also focus on neurochemistry, detailed neurophysiology or other aspects of neuroscience). Within these descriptions, utility and appropriate cautions are provided.

Trauma-related interventions are now abundant and stem in part from the described models. There are now many trauma-related interventions available for clinicians to select from, some of which stem from neuroscience and psychological research. Two of these interventions, with associated strengths and weaknesses, are discussed. A series of guidelines for evaluation of the literature is provided. Last, suggestions for how to conceptualize the neuropsychological literature as an aide in counseling are provided. This paper is qualified in the sense that it is not meant to be a formal research manuscript and is also not meant to serve as a systematic review paper or meta-analysis. If knowledge of neuroscience as applied to human behavior is desired, I encourage readers to seek out original source articles as well as completion of relevant coursework.

THE CORE ISSUE WHEN UTILIZING MODELS IN NEUROSCIENCE

There is not a week that goes by without receiving literature in the mail or email that makes sensationalized claims of remarkable results following various intervention techniques that are implemented among individuals who have sustained trauma or stress. Inherent within such claims is the utilization of such phrases as “rewire your brain,” or “reclaim your brain.” The providers of such techniques often link these claims to neuropsychological models (or anatomical structures and systems described therein)⁴⁴ with the intimation that such models are causal or somehow “responsible” for the various symptoms that are connected to trauma or excessive stress. Such claims are inherently attractive and popular. Likewise, some of the intervention techniques have clinical utility, while others may not. What then are we to think about these connections between neuroscience and intervention, as applied to trauma and stress?

Within the context of this paper, the purpose of neuropsychological and neurophysiological models is to provide explanatory and predictive power as applied to individual differences in human behavior, with the additional hope of informing interventions when human behavior is maligned. These models provide a scientific framework for understanding, and the goal is to explain as much of the variance in behavior as possible. For the sake of simplicity, suppose we are trying to explain the behavior of a patient who experiences extreme fear every time the home doorbell rings. Let us also suppose that we could have a real time continuous recording of amygdala activity of this person. We observe that the increase of amygdala activity is proportional to the severity of the fear response of this individual and conclude that the amygdala activity is somehow related to the severity of the fear response. Thus, we could presumably predict that the fear response originates with amygdala activity alone, as they seemingly map in a one-to-one relationship. However, what if we then observe that the fear response doesn't appear with other doorbells at other homes? This would suggest that the relationship is more complicated than first assumed, and that there are other variables involved. Such is the relationship between neuropsychological models and other variables that we

⁴⁴ Anatomical structures and systems refer to parts of the brain and how the parts are interconnected.

are attempting to explain. To date, within the field of neuropsychology and broader aspects of neuroscience, there is no single model that can account for 100% of human behavior.

The science behind such models is based on empirical study and experimental design but scientists must also attempt to define theories, laws, and universal principles which are then tested with additional empirical study.⁴⁵ Within science, the assertions made must also be falsifiable, and better research typically offers alternative explanations as well as limitations of study. Good research is typically humble, and within this context, scientists freely offer the limitations and may sacrifice quantity and scope of explanation in favor of the quality of narrow scope.

Dual Pathway Model

It is generally understood that the amygdala, which is a small group of nuclei (represented bilaterally), is an important brain region for rapid detection of emotional information. One example that I typically use in the classroom is my experience in hiking on the Appalachian Trail. I distinctly recall taking a switchback trail early in the morning and instinctively froze when I almost stepped on a rattlesnake. Upon further examination, I realized that this was not a snake, but a circular stick that resembled a coiled and venomous threat. This type of processing is also known as “bottom-up processing” in the sense that it is not overly evaluative or dependent on cortical processing (which is considered more in depth). However, it does happen rapidly, which is likely beneficial in this case as it serves as a protective mechanism. Earlier research observations among monkeys where the amygdala was removed noted that the monkeys no longer displayed fear responses to things that they were previously afraid of.⁴⁶ Likewise, case studies among humans with damage to the amygdaloid complex have difficulty detecting aversive cues, and it is generally understood that the amygdala is associated with fear conditioning

⁴⁵ B. R. Hergenhahn, *An Introduction to the History of Psychology* (Belmont, CA: Wadsworth Publishing, 2004).

⁴⁶ Olga Dal Monte, Vincent D. Costa, Pamela L. Noble, Elisabeth A. Murray, and Bruno B. Averbeck, “Amygdala Lesions in Rhesus Macaques Decrease Attention to Threat,” *Nature Communications* 6, no. 1 (December 14, 2015). <https://doi.org/10.1038/ncomms10161>.

as well as extinction.⁴⁷ Numerous functional imaging (and related techniques) support a relationship between the amygdala and emotion processing, with a particular focus on fear. However, a meta-analysis of human neuroimaging studies found that the magnitude of the response of the amygdala to positive emotional stimuli is comparable to that observed with negative stimuli.⁴⁸

The amygdala pathway receives information from the thalamus, which is an important relay center for incoming visual, auditory, and tactile information. It is generally understood that there are two pathways associated with this system. The first pathway was described above and serves as an alert system (often referred to as the “fast pathway”). A second pathway connects sensory areas of the cortex to the amygdala and is more deliberate in analysis of information (known as the “slow pathway”). This pathway provides an in-depth analysis of incoming sensory information and is sometimes considered a part of “top-down processing.” This cortical-amygdala pathway provides rich analysis of incoming information that takes into account context and details. For instance, using my Appalachian Trail example, after the initial freeze response, the slow pathway provided additional information and detail that resulted in understanding that there was no threat.

The amygdala is also intertwined with a very important structure for encoding new memories, the hippocampus. It is, in general, thought that the amygdala serves to impart emotional significance of a stimulus, which in turn influences hippocampal encoding. It is generally accepted that the amygdala may enhance learning through the imparting of emotional significance. Anecdotally, humans tend to remember events with high emotional value as compared to events without the same intensity of emotion. Likewise, some studies indicated that the amygdala (along with other brain regions) plays a role in the resistance of emotional memories to extinction.⁴⁹

⁴⁷ Joseph E. LeDoux, “Coming to Terms with Fear,” *Proceedings of the National Academy of Sciences* 111, no. 8 (February 5, 2014): 2871–78. <https://doi.org/10.1073/pnas.1400335111>.

⁴⁸ Karine Sergerie, Caroline Chochol, and Jorge L. Armony, “The Role of the Amygdala in Emotional Processing: A Quantitative Meta-Analysis of Functional Neuroimaging Studies,” *Neuroscience & Biobehavioral Reviews* 32, no. 4 (January 2008): 811–30. <https://doi.org/10.1016/j.neubiorev.2007.12.002>.

⁴⁹ Olena Bukalo, Courtney R. Pinard, Shana Silverstein, Christina Brehm, Nolan D. Hartley, Nigel Whittle, Giovanni Colacicco, et al, “Prefrontal Inputs to the Amygdala Instruct Fear Extinction Memory Formation,” *Science Advances* 1, no. 6 (July 3, 2015). <https://doi.org/10.1126/sciadv.1500251>.

Our current understanding of the function of the amygdala also has broad application to a variety of mental health concerns including anxiety, phobias, and various trauma-related responses. In fact, many of these responses can be considered typical human behavior (though obviously contextually dependent). It is when such behaviors interfere with various facets of daily function that consideration of psychopathology is entertained. It is also easy to see how such phrases as the “amygdala has been hijacked” are rapidly adopted among those in the counseling profession as well as those who are being counseled. This attempt to simplify information sacrifices accuracy and is reminiscent of a phrase that was adopted many years ago (“I have a chemical imbalance that....”). Such phrases also suggest causal mechanisms that have *not* actually been tested empirically. In reality, the amygdala is not an isolated structure, as there are numerous cortical and subcortical connections that are dynamic and work in parallel. These structures, along with associated electrochemical properties, are constantly in flux and are important components of emotion processing.

Polyvagal Theory (PVT)

A second popular theory that is often applied to trauma is the Polyvagal Theory (PVT). First described by Stephen Porges,⁵⁰ it is an evolutionary theory that depicts the response and contribution of the autonomic nervous system as applied to behavior. Broadly speaking, the theory contains three components including the ventral vagal complex, the dorsal vagal complex, and the sympathetic-adrenal system.⁵¹ It is theorized that “phylogenetically newer” higher neural circuits inhibit the lower circuits (which are putatively phylogenetically older), and that if the higher circuits cease to function then the lower circuits become more active. According to Porges, “The Polyvagal Theory links the evolution of the autonomic nervous system to affective experience, emotional expression, facial gestures, vocal communication and contingent social behavior. Thus, the theory provides a plausible explanation of several social, emotional and communication behaviors and

⁵⁰ Stephen W. Porges, “Orienting in a Defensive World: Mammalian Modifications of Our Evolutionary Heritage. A Polyvagal Theory,” *Psychophysiology* 32, no. 4 (July 1995): 301–18. <https://doi.org/10.1111/j.1469-8986.1995.tb01213.x>.

⁵¹ Porges, “The Polyvagal Perspective,” *Biological Psychology* 74, no. 2 (February 2007): 116–43. <https://doi.org/10.1016/j.biopsycho.2006.06.009>.

disorders.”⁵² Appropriately, Porges also cautions that “Polyvagal Theory does not propose that the vagus is the ultimate cause of individual differences in social engagement behaviors or emotional regulation.”⁵³

According to the theory, the “lowest” of the anatomical circuits is the dorsal vagal complex, which is associated with immobilization or “freezing,” “death feigning,” or passive avoidance. The next circuit is sympathetic-adrenal system, associated with mobilization or active avoidance. The “most recent” component is the ventral vagus complex, which is associated with “social communication and calming, and inhibits arousal.” Comprehensive review of the neuroanatomical circuits associated with PVT is beyond the scope of this paper, as these circuits are primarily subcortical and involve brainstem and cranial nerves (i.e., the Vagus nerve) that lead to target organs such as the heart. However, it is also thought that there are reciprocal connections from subcortical to cortical circuits, which in effect provides some inhibitory control or modulation of behavioral responses. As per Porges, it is the ventral vagal complex that forms the neuroanatomical foundation of the social engagement system (and presumably of most interest to those who provide counseling).⁵⁴ Within this system, there is a somatomotor component that is associated with regulation of the muscles of face and head and a visceromotor component that regulate the heart and bronchi. The model has been criticized within the literature (with rebuttal from Porges). In brief, some suggest that PVT may have heuristic value but that the concept of social engagement system through a “new ventral vagus” should be avoided.⁵⁵ Likewise, Paul Grossman suggested that the premises and assumptions of the five tenets of PVT are untenable, “based on past and present evidence.”⁵⁶ Nevertheless, this model is applied to multiple facets of clinical intervention and there are numerous workshops

⁵² Porges, “Emotion: An Evolutionary By-product of the Neural Regulation of the Autonomic Nervous System,” *Annals of the New York Academy of Sciences* 807, no. 1 (January 1997): 62–77. <https://doi.org/10.1111/j.1749-6632.1997.tb51913.x>.

⁵³ Porges, “The Polyvagal Perspective,” 132.

⁵⁴ Porges, “The Vagal Paradox: A Polyvagal Solution,” *Comprehensive Psychoneuroendocrinology* 16 (November 2023): 100200. <https://doi.org/10.1016/j.cpnec.2023.100200>.

⁵⁵ W. Neuhuber and H.R. Berthoud, “Functional anatomy of the vagus system: How does the polyvagal theory comply?”, *Biological Psychology* 174 (2022): 108425. <https://doi.org/10.1016/j.biopsycho.2022.108425>.

⁵⁶ Paul Grossman, “Fundamental Challenges and Likely Refutations of the Five Basic Premises of the Polyvagal Theory,” *Biological Psychology* 180 (2023): 108589. <https://doi.org/10.1016/j.biopsycho.2023.108589>.

and books on this topic. An important issue to note is that the model core is evolutionary in nature, which means the basic premises and assumptions are not truly testable or falsifiable.

Heart rate variability (HRV) is a key component of the Polyvagal Theory. In essence, HRV is reflective of variance in time between heartbeats. It is thought of as an indicator of activity in response to threats or social engagement. Overall, “more” variability is typically seen as better than “less” variability, as fluctuations in time between beats are thought of as adaptive. In contrast, less fluctuation is often associated with maladaptive regulation. When examining HRV, there are two main components. One component is a low-frequency component (LF, 0.04-0.15Hz) while the other is a high-frequency component (HF, 0.15-0.4 Hz). It is generally accepted among researchers that the high-frequency component is reflective of parasympathetic (vagal) nerve activity, which is typically of most interest when examining HRV. Heart rate variability is a useful research tool and also has clinical implications for heart health.

I have used this technique in my own research to examine individual differences in levels of hostility during emotional task performance.⁵⁷ Differences in HRV are observed as a function of hostility levels and task performance even among individuals that presumably do not have a psychiatric diagnosis (i.e., overall healthy young adults). In this sense, the individual differences noted in HRV are not diagnostic, but reflect physiological differences that are correlated with behavior. While in general, “more” HRV is thought of as adaptive and possibly reflective of better health, it is important to note that not all studies support this notion. For instance, Hill and Thayer have noted that despite elevated risk factors for stress and cardiovascular disease, African-Americans compared to European-Americans have increased HRV.⁵⁸ Likewise, as applied to neuroimaging, ethnic-related differences for the association between HRV and regional cerebral blood flow have been

⁵⁷ H.A. Demaree and D.E. Everhart, “Healthy high-hostiles: Reduced parasympathetic activity and decreased sympathovagal flexibility during negative emotional processing,” *Personality and Individual Differences*, 36 (2004): 457-469. [https://doi.org/10.1016/S0191-8869\(03\)00109-0](https://doi.org/10.1016/S0191-8869(03)00109-0).

⁵⁸ LaBarron K., Hill and Julian F. Thayer, “The Autonomic Nervous System and Hypertension: Ethnic Differences and Psychosocial Factors,” *Current Cardiology Reports* 21, no. 3 (February 28, 2019). <https://doi.org/10.1007/s11886-019-1100-5>.

noted.⁵⁹ The implication here is that caution is warranted with application of theory to clinical practice, particularly if HRV is utilized as a marker of change or improvement.

Normalizing Stress and Response

Our world has changed dramatically with technology. There is now rapid access to a variety of information as popular media and social media provide communication platforms that convey a wide range of information. I can offer anecdotal information about the number of referrals for evaluation for ADHD and autism among teens and young adults, which have increased dramatically over the past 10 years. When I ask these patients why they want to be evaluated, they frequently make reference to seeing something on a social media platform that made them believe they meet the diagnostic criteria. I believe that similar principles apply to trauma. That is, we are inundated with information (with much of it being inaccurate) about what happens to the brains of individuals who have been traumatized. This belief is often perpetuated by pop psychology books and pseudoscience. In contrast, however, the majority of individuals who are exposed to stress (acute and long-term) continue to function at a healthy neuropsychological level.

One recent example of this is the work of a doctoral student of mine, Anya Savransky. In her master's thesis, she examined lifetime cumulative stress among young adults ages 18-25 and found no relationship between stress and neurocognitive function.⁶⁰ This study utilized a state-of-the-art assessment instrument for stress (The STRAIN) as well as standardized neuropsychological test batteries that were individually administered. Cumulative stress was not related to performance on standardized testing, suggesting no adverse neuropsychological effects at the time of evaluation. Of course, this study is limited in that it is reflective of a population of young adults in eastern North Carolina. One could easily argue that the results are not generalizable outside. However, all of the participants endured some stressors, with the most notably being COVID.

⁵⁹ Julian F. Thayer and Julian Koenig, "Resting Cerebral Blood Flow and Ethnic Differences in Heart Rate Variability: Links to Self-Reports of Affect and Affect Regulation," *NeuroImage* 202 (November 2019): 116154. <https://doi.org/10.1016/j.neuroimage.2019.116154>.

⁶⁰ A. Savransky, *Association between cumulative lifetime stress, cognitive function and sleep: The moderating effects of resilience*. Unpublished master's thesis, East Carolina University, 2023.

The fact that most individuals who endure stress remain healthy points toward the construct of *resilience*. One definition of resilience is “the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress.”⁶¹ However, as articulated by Anya Savransky, resilience is complex, and is associated with “individual genetic, biological, psychological, social and cultural factors.”⁶² It is thought that these factors influence how individuals respond to stress.⁶³ It is also intuitive (though perhaps not adequately tested at this time) that some exposure to stress early on may result in healthy adaptation to stress later on in life.

A similar facet is observed in a separate line of research noted as post traumatic growth (PTG). The theory holds that some who endure stress and adversity see positive growth afterward. This theory was developed by Richard Tedeschi and Lawrence Calhoun in the mid-1990s.⁶⁴ While there is an overlap with the concept of resilience, it is noted that PTG occurs after adverse effects of trauma where a person may find growth and change. While well beyond the scope of this paper, there is some research that links neuropsychological theory and anatomy to growth mindsets and intrinsic motivation.⁶⁵ Likewise, it is interesting to note that some holocaust survivors experience post traumatic growth though it is also acknowledged that the prevalence of a variety of psychological symptoms is higher in this population when compared to controls.⁶⁶

⁶¹ American Psychological Association, “The road to resilience,” Washington, DC: American Psychological Association, 2014, <http://www.apa.org/helpcenter/road-resilience.aspx>

⁶² Savransky, “Association between cumulative lifetime stress.”

⁶³ Steven M. Southwick, George A. Bonanno, Ann S. Masten, Catherine Panter-Brick, and Rachel Yehuda, “Resilience Definitions, Theory, and Challenges: Interdisciplinary Perspectives,” *European Journal of Psychotraumatology* 5, no. 1 (October 1, 2014). <https://doi.org/10.3402/ejpt.v5.25338>.

⁶⁴ Richard G. Tedeschi, and Lawrence G. Calhoun, “The Posttraumatic Growth Inventory: Measuring the Positive Legacy of Trauma,” *Journal of Traumatic Stress* 9, no. 3 (January 1996): 455–71. <https://doi.org/10.1002/jts.2490090305>.

⁶⁵ Betsy Ng, “The Neuroscience of Growth Mindset and Intrinsic Motivation,” *Brain Sciences* 8, no. 2 (January 26, 2018): 20. <https://doi.org/10.3390/brainsci8020020>.

⁶⁶ Monika Fňášková, Pavel Říha, Marek Preiss, Petr Bob, Markéta Nečasová, Eva Koritáková, and Ivan Rektor, “Lifelong Impact of Extreme Stress on the Human Brain: Holocaust Survivors Study,” *Neurobiology of Stress* 14 (May 2021): 100318. <https://doi.org/10.1016/j.ynstr.2021.100318>.

While stress and related responses may reflect normal experiences of most humans, it is important to note that I am not making light of or minimizing the severe consequences that can occur among individuals who have been on the receiving end of trauma and associated sequelae. While numerous individual differences exist, effects of trauma and stress can be severe and hold long-term implications.

APPLICATION TO INTERVENTION

With such neuropsychological models, application to clinical populations is inevitable, appropriate and very important. One such well known work is the book *The Body Keeps the Score* by van der Kolk.⁶⁷ The content of this book attempts to integrate a mass amount of information including anecdotal, pseudoscience, and science into a coherent and understandable framework for understanding trauma (mostly PTSD) as well as provide recommendations for intervention that are mapped onto neuropsychological and neurophysiological theory and current understanding. The second part of this book describes relevant neuroanatomy and neurophysiology (including the work of LeDoux and Porges), and then subsequently utilizes this material to describe trauma-informed intervention in the last sections. The book is very engaging and provides an in-depth discussion of van der Kolk's personal experiences and his own clinical work and research. There is undoubtedly useful information within this book. However, as this book is not peer-reviewed, it is not surprising that there is also controversy and questions have surfaced regarding the legitimacy of some of the claims. In particular, there are questions about the lack of scientific evidence for some claims as well as errors with citations and misrepresentation of research. One recent book by Scheeringa provides an analysis of statements within *The Body That Keeps the Score* and suggests numerous errors in cited research that in some cases are irrelevant to the book material or inaccurate.⁶⁸ Detailed

⁶⁷ Bessel A Van der Kolk, *The Body Keeps the Score: Brain, Mind, and Body in the Transformation of Trauma* (New York: Viking, 2014).

⁶⁸ Michael Scheeringa, *Analysis of The Body Keeps the Score: The Science That Trauma Activists Don't Want You to Know* (Coppell, TX: Self-published, 2023).

analysis of all the claims is beyond the scope of this article, just as is analysis of Scheeringa's book. However, I would encourage readers to examine the source articles cited in van der Kolk's book and arrive at independent conclusions. If the claims of Scheeringa are indeed accurate, then the theory that is used to guide interventions (and potentially the actual interventions) becomes questionable. Proponents of The Polyvagal Theory as well as the content in van der Kolk's book point toward interventions that have existed in isolation of such theories. Two of these interventions are described below.

Neurofeedback

Neurofeedback (or neurotherapy) is derived from the encephalogram (EEG). The EEG has been used in clinical fashion for many years, and is useful in examination of seizure disorder, sleep disorders, and various encephalopathic conditions.⁶⁹ Recordings from scalp electrodes are amplified and then converted to digital technology where they are further processed. With the development of technology, the previous use of pens and ink to record on paper were abandoned, as computers can process the quantified data with efficiency and little error. With improved signal processing, the EEG can be separated into various frequency components as recorded in cycles per second. Thus, clinicians and researchers can examine the various frequencies known as delta, theta, alpha and beta. Researchers can examine the relative strength of each bandwidth (compared to other bandwidths, also known as power spectral analysis) as a function of time or task (such as performing mental math or stress inducing tasks). Individual differences can also be examined, and there are numerous potential applications. The various bandwidths are correlated with differing types of cognitive activity (such as attention and working memory) as a function of region (scalp electrode location) as well as emotional states. The premise of neurofeedback as a therapy is to "train" the brain through alteration of the power spectrum and resultantly improved mental or emotional state. It is similar in nature to biofeedback, where electrodes may be placed in specific muscles so that a patient can receive feedback as to when the muscle is relaxed. Patients purportedly learn to "train"

⁶⁹ "The Ten Twenty Electrode System: International Federation of Societies for Electroencephalography and Clinical Neurophysiology," *American Journal of EEG Technology* 10, no. 1 (March 1958): 371-75. <https://doi.org/10.1080/00029238.1961.11080571>.

their brain by viewing real-time recordings of brain waves, typically while playing a videogame that is controlled by brain waves.

Neurofeedback has been criticized due to lack of rigor in study. That is, there is historically a lack of double-blind procedures and sham controls.⁷⁰ However, studies have improved over time, and now, due to advancement in technology, changes in fMRI regional brain activity (and associated connections) as a function of intervention can be accordingly monitored. One such study examined changes in fMRI that was recorded pre and post treatment with neurofeedback.⁷¹ This study utilized a PTSD sample and also included a sham control group as well as healthy controls. Changes in reported PTSD symptom severity were noted in the experimental group, which persisted with three month follow up. In addition, regional changes in connectivity (as measures by fMRI) were observed for the experimental group only (not the sham group or healthy controls). Due to the advancement of technology, it is now possible to perform neurofeedback while recording fMRI. One such study by Zotev and colleagues examined neurofeedback and fMRI changes among a group of PTSD combat veterans using a sham control procedure.⁷² In brief, functional connectivity of the left amygdala, orbitofrontal cortex and dorsolateral prefrontal cortex was observed, with simultaneous reductions in PTSD symptom severity. Both of the papers described above also have significant limitations, which are appropriately described by the authors. For instance, Nicholson indicates that there were no differences in symptoms reported by PTSD patients in the experimental groups vs PTSD patients in the sham group post neurofeedback or at 3 months. This may point toward other mechanisms of change and as such caution is warranted.

⁷⁰ A. Nagappan, L. Kalokairinou, A. Wexler, "Ethical and Legal Considerations of Alternative Neurotherapies," *AJOB Neuroscience* 12, no. 4 (Oct-Dec 2021):257-269. doi: 10.1080/21507740.2021.1896601. Epub 2021 Mar 24. PMID: 33759705; PMCID: PMC8460707.

⁷¹ A. A. Nicholson, T. Ros, M. Densmore, P. A. Frewen, R. W. J. Neufeld, J. Théberge, R. Jetly, R. A. Lanius, "A randomized, controlled trial of alpha-rhythm EEG neurofeedback in posttraumatic stress disorder: A preliminary investigation showing evidence of decreased PTSD symptoms and restored default mode and salience network connectivity using fMRI." *Neuroimage: Clinical* 28 (2020): 102490. doi: 10.1016/j.nicl.2020.102490. Epub 2020 Nov 5. PMID: 33395981; PMCID: PMC7708928.

⁷² Vadim Zotev, Raquel Phillips, Masaya Misaki, Chung Ki Wong, Brent E. Wurfel, Frank Krueger, Matthew Feldner, and Jerzy Bodurka, "Real-Time fMRI Neurofeedback Training of the Amygdala Activity with Simultaneous EEG in Veterans with Combat-Related PTSD," *NeuroImage: Clinical* 19 (2018): 106–21. <https://doi.org/10.1016/j.nicl.2018.04.010>.

There are legitimate concerns regarding the use of neurofeedback as clinical intervention. These concerns have been discussed by Naggapan et al⁷³ and Wexler et al⁷⁴ through systematic study. In essence, it was observed that the majority of providers offering this service did not have doctoral degrees and questions of competency have surfaced. As intervention using this modality may cost \$3,000 - \$10,000, it is important to scrutinize the claims of efficacy among individual providers. Likewise, Naggapan et al provides a more in-depth review of some of the current limitations of this technique.

More recently, there are emerging systematic reviews that pertain to the efficacy of neurofeedback; some of which hold promise. For instance, one such review by Askovic et al suggests that neurofeedback is efficacious for managing symptoms of PTSD compared to controls.⁷⁵ Similar conclusions are drawn by Choi and colleagues who indicated that neurofeedback improves a range of symptoms associated with PTSD.⁷⁶ There are two additional points associated with these reviews. First, each of these contains a relatively small number of reviewed papers. For the interested reader, consider examination of the individual studies (source articles) that comprise these reviews, as they differ in methodology in various ways. Second, while neurofeedback may hold promise, at present there is little research that examines (within the same study) efficacy of neurofeedback versus well established forms of intervention such as exposure therapy or cognitive-behavioral therapy. Future studies that consider these issues will be important and informative.

⁷³ A. Nagappan, L. Kalokairinou, A. Wexler, (2021) "Ethical and Legal Considerations of Alternative Neurotherapies," *AJOB Neuroscience* 12, no. 4 (Oct-Dec 2021):257-269. doi: 10.1080/21507740.2021.1896601. Epub 2021 Mar 24. PMID: 33759705; PMCID: PMC8460707.

⁷⁴ A. Wexler, A. Nagappan, D. Kopyto, and R. Choi, "Neuroenhancement for sale: Assessing the website claims of neurofeedback providers in the USA," *Journal of Cognitive Enhancement* 4, no. 4 (2020): 379-88. doi: 10.1007/s41465-020-00170-8.

⁷⁵ Mirjana Askovic, Nerissa Soh, James Elhindi, and Anthony Harris, "Neurofeedback for Post-Traumatic Stress Disorder: Systematic Review and Meta-Analysis of Clinical and Neurophysiological Outcomes," *European Journal of Psychotraumatology* 14, no. 2 (2023). <https://doi.org/10.1080/20008066.2023.2257435>.

⁷⁶ Yun-Jung Choi, Eun-Joo Choi, and Eunjung Ko, "Neurofeedback Effect on Symptoms of Posttraumatic Stress Disorder: A Systematic Review and Meta-Analysis," *Applied Psychophysiology and Biofeedback* 48, no. 3 (2023): 259-74. <https://doi.org/10.1007/s10484-023-09593-3>.

Eye Movement Desensitization and Reprocessing (EMDR)

Eye Movement Desensitization and Reprocessing (EMDR), initially developed by Francine Shapiro, has been used to treat patients with PTSD.⁷⁷ While the intervention has multiple stages, an important component entails focus on aspects of traumatic memory or events while tracking the finger of the therapist as it moves back and forth. In simple fashion, it is thought that the eye movements allow for integration and processing of the traumatic memories.

Comprehensive review of the proposed neuropsychological systems associated with EMDR is beyond the scope of this manuscript. However, Rousseau et al examined neuroanatomical correlates via fMRI recorded during a negative face processing task in patients with PTSD compared to healthy controls.⁷⁸ Patients were imaged prior and after treatment with EMDR and it was found that during the task, there were significant decreases in subcortical structures such as the amygdala, thalamus, and caudate) as well as cortical structures including the ventromedial and dorsolateral prefrontal cortex. In addition, increased right thalamic activity was positively associated with symptom reduction. The authors discuss appropriate limitations for this study in that the retest effect of the task (before and after therapy) was counterbalanced by the retest effect in healthy controls. These authors also indicate appropriate caution and suggest that the utilized statistical thresholds for functional brain activity do “not rule out that the structures identified are not activated by chance.” They suggest additional research is warranted in order to replicate and confirm results.

It is important to note that the observed changes in functional activity map onto some of the neuroanatomical structures described by Le Doux (i.e., amygdala and thalamus as well as portions of the cortex). Thus, this study provides some support (as with numerous others) that the amygdala and thalamus are related to emotion processing and the functional activity of these regions is sensitive to interventions and behavioral changes.

⁷⁷ Francine Shapiro, *Eye Movement Desensitization and Reprocessing (EMDR): Basic Principles, Protocols, and Procedures*, 2nd ed. (New York: Guilford Press, 2011).

⁷⁸ Pierre-François Rousseau, Myriam El Khoury-Malhame, Emmanuelle Reynaud, Sarah Boukezzi, Aïda Cancel, Xavier Zendjidian, Valérie Guyon, et al., “Fear Extinction Learning Improvement in PTSD after EMDR Therapy: An FMRI Study,” *European Journal of Psychotraumatology* 10, no. 1 (2019): 1568132. <https://doi.org/10.1080/20008198.2019.1568132>

For years, there has been controversy with EMDR, as the mechanism(s) of the eye movements as they pertain to trauma are not understood. This intervention also contains additional pre-existing forms of intervention such as “exposure therapy.” In addition, some have purported that the efficacy of treatment using EMDR is no better than another efficacious form of treatment, Cognitive Behavior Therapy, as both components contain exposure. At present, the American Psychological Association (APA) considers this intervention as “conditionally recommended.”⁷⁹ In contrast, Cognitive Behavior Therapy is “strongly recommended.”⁸⁰ The difference is in part associated with relatively less evidence supportive of EMDR, as well as the controversy associated with mechanism of action in EMDR. However, the American Psychiatric Association (APA) recommends both CBT and EMDR as efficacious interventions.⁸¹

Early meta-analyses of EMDR found no difference in efficacy when compared to other exposure-based therapies.⁸² Seidler and Wagner found similar results.⁸³ Interestingly, a more recent meta-analysis that also examined PTSD and additional mental health problems beyond found that “EMDR may be effective in the treatment of PTSD in the short term, but the quality of studies is too low to draw definite conclusions. There is not enough evidence to advise it for the use in other mental health problems.”⁸⁴ Within this analysis, the authors comment that the number of studies available was small and

⁷⁹ American Psychological Association, “Eye Movement Desensitization and Reprocessing (EMDR) Therapy,” July 31, 2017. <https://www.apa.org/ptsd-guideline/treatments/eye-movement-reprocessing>.

⁸⁰ American Psychological Association, “Cognitive Behavioral Therapy (CBT) for Treatment of PTSD,” 2017, <https://www.apa.org/ptsd-guideline/treatments/cognitive-behavioral-therapy>.

⁸¹ American Psychiatric Association, “Practice Guideline for the Treatment of Patients with Acute Stress Disorder and Posttraumatic Stress Disorder,” 2004. <https://www.cstsonline.org/assets/media/documents/workplacepreparedness/APAPracticeGuidelines.pdf>.

⁸² Paul R Davidson and Kevin C. H. Parker, “Eye Movement Desensitization and Reprocessing (EMDR): A Meta-Analysis,” *Journal of Consulting and Clinical Psychology* 69, no. 2 (2001): 305–16. <https://doi.org/10.1037/0022-006x.69.2.305>.

⁸³ Guenter H. Seidler and Frank E. Wagner, “Comparing the Efficacy of EMDR and Trauma-Focused Cognitive-Behavioral Therapy in the Treatment of PTSD: A Meta-Analytic Study,” *Psychological Medicine* 36, no. 11 (2006): 1515. <https://doi.org/10.1017/s0033291706007963>.

⁸⁴ Pim Cuijpers, Suzanne C. van Veen, Marit Sijbrandij, Whitney Yoder, and Ioana A. Cristea, “Eye Movement Desensitization and Reprocessing for Mental Health Problems: A Systematic Review and Meta-Analysis,” *Cognitive Behaviour Therapy* 49, no. 3 (2020): 1–16. <https://doi.org/10.1080/16506073.2019.170380>

the risk of bias was high. Within this context, bias refers to sources of bias in randomized controlled trials. Specifically, bias in clinical trials may occur in aspects of trial design, conduct, and reporting. High risk bias diminishes confidence in finding and application of those findings accordingly.

Considerations For Evaluation of Research and Applied Interventions

There are a variety of important issues to consider when reading relevant research associated with trauma. While not exhaustive, it is hopeful that this list is useful in decision making with regard to explanatory models and interventions when working with individuals who report trauma.

1. Book authors (of science) are often faced with the difficult task of synthesizing and integrating vast amounts of research that is supportive (or non-supportive) of the theories that they desire to promote. As a result, many of the relevant details are not covered in depth or are excluded. The overall effect is sacrificing accuracy for simplicity.
2. Books that promote a scientific theory as well as interventions are often not peer-reviewed in the manner that research articles are. During the submission of research articles, manuscripts are often critically evaluated by at least three experts in the field and the editor ultimately makes a decision to accept, accept with revisions, revise and resubmit or reject. For books, the opportunity for professional criticism and evaluation of the potential weaknesses happens post-publication. However, many readers assume that the statements and assertions made within such books have been thoroughly investigated and have support among other researchers. In essence, a book that hasn't been peer reviewed is one of the lowest on the list of places to look for credible and thoroughly tested research.
3. Books are profit driven (while most of the time research journal articles are not), which means that there are attempts to highlight and market to target audiences. While not inherently bad, due caution is recommended.
4. In order to illustrate points and make the work interesting, authors may use anecdotal information. It is important to remember that this is not

science, but may indeed provide interesting information that leads to theoretical development.

5. Some books also include pseudoscience in an attempt to influence readers. Pseudoscience comes in many forms but may include faulty premises, flawed research, spurious findings and sensationalized claims about research findings. Such work is not falsifiable and alternate explanations and hypotheses are almost never provided.
6. For trauma research, and in particular related to neurophysiology, almost all of the studies are cross-sectional. As a result, causality cannot be determined, though it is often inferred. In reality, it is very difficult to do longitudinal studies in neuroimaging and trauma, as researchers would have to follow large numbers of individuals and frequently examine for the presence of trauma versus no trauma.
7. Functional neuroimaging is an exciting and continuously developing area of research, particularly as it involves trauma research. However, as indicated, almost all of the fMRI studies are cross-sectional, which again leaves causality undetermined. Another relevant and extremely important issue is difficulty with replication. As indicated by Elliott et al, a meta-analysis of fMRI studies suggests poor intra-class correlations among replication studies.⁸⁵ The authors conclude: “Collectively, these findings demonstrate that common task-fMRI measures are not currently suitable for brain biomarker discovery or for individual-differences research.”⁸⁶ The implications for the current state of this research are extraordinary.
8. Studies of neurophysiology, neuroimaging, and related fields frequently examine individual differences within discrete points in time (or brief intervals) within a laboratory setting. It is important to remember that human interactions are dynamic and not discrete. Related, unlike such clinical measurements as heart rate or blood pressure, to date (to the

⁸⁵ Maxwell L. Elliott, Annchen R. Knodt, David Ireland, Meriwether L. Morris, Richie Poulton, Sandhya Ramrakha, Maria L. Sison, Terrie E. Moffitt, Avshalom Caspi, and Ahmad R. Hariri, “What Is the Test-Retest Reliability of Common Task-Functional MRI Measures? New Empirical Evidence and a Meta-Analysis,” *Psychological Science* 31, no. 7 (2020): 792–806. <https://doi.org/10.1177/0956797620916786>.

⁸⁶ Ibid.

knowledge of this author) there is no accepted index or range for HRV or fMRI activity that is diagnostic. To this extent, one cannot go to the local pharmacy and take an HRV reading (and resultantly follow up with a physician due to aberrant HRV).

9. When evaluating clinical research and in particular efficacy (and recommendations) for intervention, many societies use a tiered system evidence-based approach. There are multiple frameworks for this, but the stronger evidence for utilization tends to come from randomized controlled trials, systematic reviews, and meta-analysis. For an initial review of how this research is conceptualized, consider Burns et al as a starting point.⁸⁷ Within the behavioral sciences, similar strategies are utilized. For instance, the American Academy of Sleep Medicine (AASM) utilizes a similar grading approach when recommending evidence-based interventions (such as for treatment of insomnia). So if there is consideration of adopting a particular intervention, consult with major professionally related societies and look for the rigor that is used when recommending an approach.
10. Many researchers understand the complexity of human dynamics and most do not attempt to reduce to isolated neuroanatomical structures. In 2010, Research Domain Criteria (RDoC) was introduced as a way to examine these complicated systems.⁸⁸ Though RDoC focuses primarily on biological mechanisms for explaining behavior (and in this author's opinion produces additional shortcomings through not recognizing environmental contributions), it moves away from utilization of a certain "number" or "types" of symptoms required to meet diagnostic criteria.
11. I strongly encourage readers to consult the original source articles when evaluating the efficacy of research.

⁸⁷ Patricia Burns, Kevin Chung, and Rod Rohrich, "The Levels of Evidence and Their Role in Evidence-Based Medicine," *Plastic and Reconstructive Surgery* 128, no. 1 (2011): 305–10. <https://doi.org/10.1097/PRS.0b013e318219c171>.

⁸⁸ Thomas Insel, Bruce Cuthbert, Marjorie Garvey, Robert Heinssen, Daniel S. Pine, Kevin Quinn, Charles Sanislow, and Philip Wang, "Research Domain Criteria (RDoC): Toward a New Classification Framework for Research on Mental Disorders," *American Journal of Psychiatry* 167, no. 7 (2010): 748–51. <https://doi.org/10.1176/appi.ajp.2010.09091379>.

12. Related to point #11, caution is urged when using search engines for materials. Messeri and Crockett have commented on the emergence of artificial intelligence (AI) in science.⁸⁹ Your search may produce AI results that are inherently non-factual. For example, I recently had a colleague (RC) tell me that he did a search on his scholarly activities and an article was produced with his name inserted as the author. The article was fabricated through AI.

CONCLUSIONS AND FINAL RECOMMENDATIONS

The controversy and research limitations previously described may present as disheartening to some of the readers of this article. However, this is not the purpose of this essay. Rather, the purpose is to encourage biblical counselors to critically evaluate available research and make informed decisions regarding utilization (or recommendation thereof) of interventions. Biblical counselors inherently have to make a choice on whether to utilize popular theory (in some cases, theories that are based on evolution, for instance) and whether such theory is consistent with their biblical worldview (as well as whether or not they want to expose their clients to such theory). Likewise, biblical counselors must evaluate whether the proposed intervention flows from science and efficacy and is consistent with the biblical view.

In cases where a biblical counselor may not have the background to evaluate such research and outcome, in absence of further training and study, my advice is to exercise extreme caution and avoid. However, I would have enthusiastic hope that most biblical counselors are interested in further training in neuroscience and would encourage all to seek knowledge that applies to understanding research studies about intervention. Within my own field and among my clinical psychology colleagues in my department, it is interesting to note that most (yes, anecdotal) are deliberately cautious about attaching themselves to interventions that do not have strong empirical support. This may reflect philosophical differences between professions and/or how science is utilized.

⁸⁹ Lisa Messeri and M. J. Crockett, "Artificial Intelligence and Illusions of Understanding in Scientific Research," *Nature* 627 (2024): 49–58. <https://doi.org/10.1038/s41586-024-07146-0>.

Last, I would encourage biblical counselors interested in research to pursue randomized controlled trials RCTs related to biblical counseling. I suspect that further examination via this method would produce some interesting and fruitful results for the field. One such recent example exists with Knabb and colleagues who evaluated the effects of Christian meditation.⁹⁰ As indicated in the beginning of this manuscript, I am not an expert in biblical counseling and not necessarily qualified to review related research and in particular the utility of the aforementioned study. However, I am hopeful for the future of biblical counseling and look forward to reading more studies in this area.

⁹⁰ Joshua J. Knabb, Veola E. Vazquez, Fernando L. Garzon, Kristy M. Ford, Kenneth T. Wang, Kevin W. Conner, Steve E. Warren, and Donna M. Weston, "Christian Meditation for Repetitive Negative Thinking: A Multisite Randomized Trial Examining the Effects of a 4-Week Preventative Program," *Spirituality in Clinical Practice* 7, no. 1 (2020): 34–50. <https://doi.org/10.1037/scp0000206>.

A BIBLICAL RATIONALE FOR EMBODIED SPIRITUAL PRACTICES⁹¹

Dr. Michael Emlet⁹²

Why should biblical counselors—as followers of Christ and as helpers— be concerned with the body?

We should be concerned with the body because the way God designed our normal human existence is that our spiritual lives are not a disembodied affair. Body and soul are intertwined as we relate to God. Growing in Christ is a whole-person experience.

How self-conscious are we about the way we use our bodies? I would guess we are much more aware of the times when we use our bodies in clearly sinful ways: slamming a door in anger, raising our voice in conflict, looking at pornography, using an illicit substance, overeating, etc. But the fact is that *all* of life is done in a “bodily” way, for good or for ill.

To be “spiritual” is not some otherworldly, disembodied experience of God, but a real flesh-and-blood existence lived in concrete ways of obedience before him. We see this throughout Scripture. In this article, I will show the biblical basis for such attentiveness to our bodies as we live as image-bearing worshippers of God. I will explore the central role that bodily existence and bodily practices have from creation to consummation. Then, more briefly, I will consider some implications for our lives as both followers of Christ and as counselors.

⁹¹This article originally appeared in *The Journal of Biblical Counseling* 38, no. 2 (2024): 6-30 and has been reprinted with permission of CCEF.

⁹²Michael Emlet (MDiv, MD) is a faculty member and counselor at CCEF. His most recent book is *Saints, Sufferers, and Sinners: Loving Others as God Loves Us*.

Created Bodies

Our bodies are part of God's good creation, but at times, the church has downplayed the importance of the body compared to the soul. Yet diminishing the role of the body is not biblical. Reformed theologian John Murray reminds us, "Man is bodily, and therefore, the scriptural way of expressing this truth is not that man has a body but that man *is* body."⁹³ Consider that. You don't just *have* a body; you *are* a body. Your body is not an appendage. It is part of the essential you.⁹⁴

Job 10:11 says, "You clothed me with skin and flesh, and knit me together with bones and sinews." Perhaps even more familiar is David's acclamation in Psalm 139:13–14: "for you formed my inward parts; you knitted me together in my mother's womb. I praise you, for I am fearfully and wonderfully made."

We are flesh-and-blood beings, bodies personally knit together by our sovereign and loving God. This is our starting point for understanding the biblical view of the body. Christians may not think along these lines. Too often, we view our bodies only through a post-fall lens (the suffering and sinful acts experienced in a bodily context) and fail to remember their original created goodness. "No dishonor belongs to man because of the material aspect of his person," concludes Murray.⁹⁵

Humans, created in the image of God, are material beings. Physicality is good. To be human is to partake of *both* the physical and the spiritual. And that's the plan for eternity. Of course, we are not only bodies. Such a view skews our anthropology in a different but equally damaging way that an overemphasis on the soul does.

⁹³ John Murray, "The Nature of Man," in *Collected Writings of John Murray*, vol. 2 (Edinburgh: Banner of Truth Trust, 1977), 14.

⁹⁴ This article's focus on the body is not meant to displace the primacy of the heart in relation to God. The ultimate (resurrection) hope for a decaying body is a heart renewed in Jesus Christ. The heart (spirit) is the wellspring of life (Proverbs 4:23). Without Christ our hearts are desperately wicked (Jeremiah 17:9; Romans 3:23). Through the Holy Spirit our hearts are made new (Ezekiel 36:26–27; Titus 3:4–7), we turn to Christ in repentance and faith, our sins are forgiven, and we are freed to serve Christ. But life in Christ transpires in a bodily context (Galatians 2:20); it is that context that occupies our focus for this article.

⁹⁵ Murray, "The Nature of Man," 14.

What we see at creation is body and soul united in worship of the Creator, carrying out his kingdom-building purposes. Our bodies are a part of God's pronouncement at creation: "This is very good!" Human beings are indeed finite, dependent, limited, and differing in bodily capacities. We are not God. But finitude and limitations are not sinful; they're built into the goodness of creation and particularly into the good-ness of our bodies.⁹⁶

But it doesn't take long before this all goes terribly wrong.

Broken and Fallen Bodies

Though the body was created "good," the impacts of the fall are holistic in scope and consequences (Genesis 3). John Murray notes that the body "becomes depraved."⁹⁷ This does not mean that our physical selves are a source of sin or are sinful in and of themselves. Rather the ravages of the fall extend to every aspect of our being, including our bodies.

We see these effects of the fall in two main ways—bodily suffering and bodily sin. Illness, disease, injury, and ultimately death are impacts of the fall. It's not just that our hearts are rebellious because of sin; our bodies are decaying and wasting away, from the nuisance of the common cold to the terror of cancer run amok, every human experiences bodily suffering.

Every human also experiences bodily sin. Our bodies are experienced as a liability as they become willing participants that direct our hearts away from God. Murray says something striking here:

We are too ready to underestimate the gravity of the sensuous manifestations of sin. This tendency is frequently bound up with the notion that the body does not belong to the integrity of personality, and is something alien to it, and incompatible with the highest attainments of spirituality. Thus sensuous lust is shrugged off as some- thing that belongs to what is not intrinsic to our true nature. Since man is body, he is, as respects responsibility and guilt, as

⁹⁶ See Kelly M. Kapic, *You're Only Human: How Your Limits Reflect God's Design and Why That's Good News* (Grand Rapids, MI: Brazos Press, 2022).

⁹⁷ Murray, "The Nature of Man," 15.

closely identified with the depravity of the body as he is with that of his spirit.⁹⁸

Again, we are not used to speaking of the body in this way. This is not meant to be a deprecation of the body but a recognition that our human constitution, body and soul, is directed against God apart from the grace of Christ.

Even redeemed sinners are called to steward their bodies unto God. Consider a few directives in the New Testament:

Let not sin therefore reign in your mortal body, to make you obey its passions. Do not present your members to sin as instruments for unrighteousness, but present yourselves to God as those who have been brought from death to life, and your members to God as instruments for righteousness. (Romans 6:12–13).

This passage, along with verse 19, highlights that we can use our “members” (that is, our bodies) as instruments of righteousness or unrighteousness, for good or for evil.

In 1 Corinthians 6, Paul tells the Corinthians that sexual sin is a sin against one’s own body. He writes, “Do you not know that your body is a temple of the Holy Spirit within you, whom you have from God? You are not your own, for you were bought with a price. So glorify God in your body” (v.19–20). Those who have been redeemed through Jesus Christ honor him by stewarding their bodies in holiness.

Finally, in Matthew 5:29–30 we read,

“If your right eye causes you to sin, tear it out and throw it away. for it is better that you lose one of your members than that your whole body be thrown into hell. And if your right hand causes you to sin, cut it off and throw it away. for it is better that you lose one of your members than that your whole body go into hell.”

While Jesus is speaking hyperbolically (i.e., he is not advocating self-maiming in the wake of bodily sin), we don’t want to miss how serious he is about the holy use of our bodies.

⁹⁸ Murray, 15–16.

While Scripture clearly teaches the critical role of our bodies in obeying God, Jesus also says that both words and actions ultimately flow from the heart (Matthew 15:18). What is in the heart comes out in bodily practices. If I honk my car horn repeatedly in frustration amid slow-moving traffic, that bodily action is an overflow of my angry, impatient heart. However, we might also say that there is a bidirectional relationship between our hearts and bodies. Certainly, our loves, desires, and wants influence what we do with our bodies. But the reverse is also true. Our repeated practices of righteousness or unrighteousness—concrete acts of love or hate—shape the dispositions of our hearts.⁹⁹

Clearly, many struggles in life—suffering or sin—bring our bodily constitution to the forefront. The body now becomes a focal point, the tip of the spear, where we experience the brokenness of the fall. This happens throughout our lives but comes to its climax at our death.

But is the gradual breakdown of our bodies leading to death the end of the story (2 Corinthians 4:16)? Where does our hope lie? How do God’s good purposes for our bodies—now and in the future—connect with the whole-person redemption that Jesus Christ brings?

Redeemed Bodies

The Christian hope is not to escape the body but to use our bodies as vessels of worship and service, both in this life and in the life to come. This is seen clearly in Romans 12:1: “I appeal to you therefore, brothers, by the mercies of God, to present your bodies as a living sacrifice, holy and acceptable to God, which is your spiritual worship.” Paul exhorts us to use our bodies for the goal, the endpoint, of worshipping God.

In his plan of redemption, God doesn’t jettison the body as though the purest worship is only “soulish.” God’s people have always been invited to

⁹⁹ For more on how regular practices shape the dispositions of our hearts, see Michael R. Emlet, “Practice Makes Perfect? Exploring the Relationship between Knowledge, Desire, and Habit,” *Journal of Biblical Counseling* 27:1 (2013): 26–48; James K. A. Smith, *You Are What You Love* (Brazos Press, 2016); Dru Johnson, *Human Rites: The Power of Rituals, Habits, and Sacraments* (Eerdmans, 2019); and also Dru Johnson *Knowledge by Ritual* (Eisenbrauns, 2016).

bring their entire selves into his presence. It's striking to consider in Scripture just how much of what God prescribed for his people in their worship involved bodily practices. In fact, what we see throughout Scripture is a pattern of what I'll call "multi-sensory discipleship." These embodied practices are embedded in the covenant God makes with us and help us to taste and see that he is good (Psalm 34:8). Our relationship with God is earthy and fleshy in the best sense of these words! Let's look more closely at the embodied practices that God prescribes both in the Old Testament and New Testament that are formative in knowing him.

Old Testament Practices

There are at least seven practices in the Old Testament that underscore the importance of the body in relation to God.

1. *Circumcision.*

In his covenant with Abraham, God prescribed circumcision as the en-fleshed sign of the covenant (Genesis 17:9–14). This distinguished Jews from non-Jews. If you were a man, you wore on your body the unalterable reality that you belonged to the God of the universe.

2. *Passover.*

This practice marked God's "passing over" the people of Israel when he judged the Egyptians.¹⁰⁰ Every year when the Jews prepared and ate the Passover, it was a tangible reminder of God's rescue from slavery in Egypt and claiming them as his own people (Exodus 12:14–20; Leviticus 23:4–8). It's a meal that marks identity—and continues to be central in the practice of Judaism. It's significant that the Israelites failed to carry out this practice consistently. Consider 2 Kings 23, which describes King Josiah's restoration of the Passover:

And the king commanded all the people, "Keep the Passover to the Lord your God, as it is written in this Book of the Covenant."
for no such Passover had been kept since the days of the judges

¹⁰⁰ The original Passover involved the sacrifice of a lamb without blemish whose blood was placed on the doorposts and lintel of the Israelite's house. The blood served as a sign that averted God's wrath as he judged the Egyptians.

who judged Israel, or during all the days of the kings of Israel or of the kings of Judah. But in the eighteenth year of King Josiah this Passover was kept to the Lord in Jerusalem. (v.21–23)

This is astounding! Apparently, Passover was not kept even during the reign of King David. Further, the loss of this embodied practice of worship was associated with a loss of purity in God's people over time.

3. Memorials.

In Joshua 3, for example, we read of the Israelites crossing the Jordan on dry land, as God cut off the waters from flowing downstream. This was purposely reminiscent of the miracle God performed to allow the first generation of Israelites to cross the Red Sea. To memorialize this event, the Lord commanded that twelve men, one from each tribe of Israel, gather twelve stones from the dry riverbed, and place them on the far side of the river where the people lodged that night (Joshua 4:1–7). This very visible pile of stones was to be a “memo- rial forever.”

4. Sacrificial system.

Confessing sin and experiencing the blessing of forgiveness was a lengthy and multi-sensory process. Consider Leviticus 4:27–31:

“If anyone of the common people sins unintentionally . . . he shall bring for his offering a goat, a female without blemish, for his sin which he has committed. And he shall lay his hand on the head of the sin offering and kill the sin offering in the place of burnt offering. And the priest shall take some of its blood with his finger and put it on the horns of the altar of burnt offering and pour out all the rest of its blood at the base of the altar. And all its fat he shall remove, as the fat is removed from the peace offerings, and the priest shall burn it on the altar for a pleasing aroma to the Lord. And the priest shall make atonement for him, and he shall be forgiven.”

Worshippers experienced forgiveness viscerally through their senses. Sight, hearing, touch, and smell were all engaged as a person participated in the

bloody sacrifice of their sin substitute—as they grasped the hairy head of the animal, felt its warmth, heard its fearful bleating, wielded the knife, and saw and smelled the blood.¹⁰¹

5. *Festivals and feasts.*

I have already described the Passover, which was also known as the first day of the feast of Unleavened Bread. God also instituted several other major feasts including the feast of Weeks (Leviticus 23:15–22) and the feast of Booths (Sukkoth) (Leviticus 23:33–43). Each festival was an embodied celebration of God’s mercy, generosity, and redemption. In the feast of Booths, the Jews lived outdoors for seven days in booths as a tangible reminder of how their ancestors lived when God brought them out of Egypt. Could God have told them simply to pass down that story from generation to generation? Yes, but the embodied practices drove home the reality more pointedly.

6. *Music.*

God used many genres in his self-revelation to his people. One of these is poetry, specifically the poetry of the Psalms, Israel’s prayer book set to music. While we no longer have the original tunes to the Psalms, we should not forget that they were meant to be sung, not simply read. By definition, our bodies are more involved when singing.¹⁰²

7. *Tabernacle and temple.*

The latter chapters of Exodus are devoted to the pattern and construction of the tabernacle. Chapters 25–30 contain the particular commands of God for construction of the tabernacle and its furnishings, as well as instructions for the priestly garments and ordination ceremony. Chapters 36–40 describe the actual construction of the tabernacle and culminate with God’s glory filling the structure. This physical space was to be the very dwelling place of God,

¹⁰¹ For an excellent resource, see L. Michael Morales’s book *Who Shall Ascend the Mountain of the Lord? A Biblical Theology of the Book of Leviticus*, New Studies in Biblical Theology 37 (Downers Grove, IL: InterVarsity Press, 2015).

¹⁰² Interestingly, MIT researchers have recently discovered a population of neurons in the auditory portion of our brains that are activated with singing but not with speech or other types of music. See Sam V. Norman-Haignere, et al., “A Neural Population Selective for Song in Human Auditory Cortex,” *Current Biology* 32, no. 7 (April 2022):1470–84, <https://doi.org/10.1016/j.cub.2022.01.069>.

and his presence was visible to all, twenty-four hours a day (Exodus 40:38).¹⁰³

The tabernacle (and subsequently the temple) was the place where heaven and earth met. Every detail communicated something important about the Lord, the king of his people. Senses were engaged: the smoke of incense was always rising, the lamps were always burning, and a continual parade of animals was being slaughtered. Many Old Testament scholars view the tabernacle as a new Eden.¹⁰⁴ The apostle John picks up the imagery of God dwelling with us when he speaks of Jesus dwelling, or tabernacling, among us (John 1:14).

What we should see by all of this is that worship of the living God was not an armchair, passive experience. Circumcising newborns, eating a symbolic meal, stacking up stones, smelling the burning fat of a sacrifice, living outdoors for a week, singing, and worshipping at a structure designed by God but built by people—it all involved the body. It was an active posture of body and soul.

New Testament Practices

Does this change when we get to the New Testament? Definitely not. While the ceremonial law (and in particular, the sacrificial system) was no longer necessary to make worshippers right with God because of Jesus's final sacrifice on the cross, we see that New Testament worship practices involving the body continue. We will focus on the importance of the sacraments of baptism and the Lord's Supper, although I will also mention briefly the practice of fasting, which we see in both the Old and New Testaments.

1. Sacraments.

Our risen Savior has given us his Spirit to indwell us. He can't be any closer to us than he already is. But he also instituted two practices we call sacraments, as part of our worship in the here and now: baptism and the Lord's Supper.

¹⁰³ It's remarkable to consider that sandwiched between the instructions for building the tabernacle and its actual construction is the account of Israel's sin with the golden calf (Exodus 32). We see here, in the narrative flow of Scripture, that an embodied practice of disobedience (the creation and worship of the golden calf) was followed by an embodied practice of redemption (the building of the tabernacle).

¹⁰⁴ For example, the east-facing entrance, the presence of cherubim, and the lampstand symbolizing the Tree of Life.

They are means of grace—tangible, concrete practices where we commune with Jesus Christ.

What is a sacrament? The Westminster Confession of Faith 27.1 says, “sacraments are holy signs and seals of the covenant of grace, immediately instituted by God, to represent Christ, and his benefits; and to confirm our interest in him.” Church historian Chad Van Dixhoorn observes,

In biblical usage a sign is a distinguishing mark that points to something [else] and a seal confirms or authenticates the genuineness of something. Sacraments signify or point to our relationship with Jesus. And they seal or confirm that we belong to him by God’s great grace.¹⁰⁵

Sacraments employ ordinary physical elements for extraordinary spiritual purposes.

First, we have *baptism*. In the *Westminster Confession of Faith* 28.1 we read,

Baptism is a sacrament of the new testament, ordained by Jesus Christ, not only for the solemn admission of the party baptized into the visible church; but also, to be unto him a sign and seal of the covenant of grace, of his ingrafting into Christ, of regeneration, of remission of sins, and of his giving up unto God, through Jesus Christ, to walk in newness of life.

Baptism marks you as part of the new covenant people of God. It succeeds the Old Testament practice of circumcision. In the New Testament, a person’s inclusion in the people of God is marked by baptism in the name of the father, Son, and Holy Spirit (Matthew 28:19). Consider this passage that describes the significance of baptism:

Do you not know that all of us who have been baptized into Christ Jesus were baptized into his death? We were buried therefore with him by baptism into death, in order that, just as Christ was raised from the dead by the glory of the father, we too might walk in newness of life. (Romans 6:3–4)

¹⁰⁵ Chad Van Dixhoorn, *Confessing the Faith: A Reader’s Guide to the Westminster Confession of Faith* (Edinburgh: Banner of Truth Trust, 2014), 358–59.

The water used in baptism—whether it’s sprinkled, poured, or used for immersion—points to the gift of the Holy Spirit (Matthew 3:11; John 1:33) and the once-for-all cleansing of the Spirit (Titus 3:5). Van Dixhoorn describes it this way: “Baptism’s washing with water symbolizes the removal of our sin by Christ, who was completely covered by our sin and then cleansed in his resurrection: he was buried and raised again to new life.”¹⁰⁶

While baptism is a means of grace for the one being baptized, all Christians have the opportunity to grow as they witness the baptisms of others. This is part of what the Westminster divines called “improving our baptism.”¹⁰⁷ Johannes Vos notes,

The more fully we appreciate the real meaning of our baptism, the farther will spiritual complacency be from our hearts. As baptism stands for salvation from sin, improving our baptism involves taking salvation from sin seriously, in actual living experience.¹⁰⁸

Second, we have the sacrament of the *Lord’s Supper*. Both the old and new covenants are centered on a meal—Passover and the Lord’s Supper, respectively. The two most significant moments in redemptive history (the exodus and the crucifixion) are preceded by a family meal instituted by God himself. Both meals point to and are intimately connected with God’s mighty act of redemption. And both of these meals point toward a final feast, the marriage supper of the Lamb which God’s people will enjoy in his presence.

Jesus is the true Passover Lamb whose blood shed on the cross is a new covenant that brings once-for-all cleansing, forgiveness, and protection from the wrath of God. In him, the Passover feast and the sacrificial system are brought to complete fulfillment.

This meal involves remembrance (looking back), participation (in the present moment), and anticipation (looking forward). Past, present, and

¹⁰⁶ Van Dixhoorn, 367.

¹⁰⁷ *Westminster Larger Catechism*, Question 167. See also Matt Ryman, “Observing Baptism as a Means of Grace,” Ligonier (blog), January 25, 2017, <https://www.ligonier.org/learn/articles/observing-baptism-means-grace>.

¹⁰⁸ Johannes G. Vos, *The Westminster Larger Catechism: A Commentary*, ed. G. I. Williamson (Phillipsburg, NJ: P&R Publishing, 2002), 481.

future unite as we come to the Lord's Supper. It causes us to remember Jesus's sacrifice on our behalf. It whets our appetite for our certain and glorious future. And as we partake of the bread and wine, the benefits of Christ's redemption are sealed to our hearts and we commune with him afresh.

In the Lord's Supper, we are taking Jesus at his word when he says in Revelation 3:20, "Behold, I stand at the door and knock. If anyone hears my voice and opens the door, I will come in to him and eat with him, and he with me." Jesus invites us to this meal, and the main course is himself! Does that sound too strong? It's certainly no stronger than what Jesus himself said in John 6:56: "Whoever feeds on my flesh and drinks my blood abides in me, and I in him."

But why a tangible meal, why food and drink? Jesus didn't just say, "remember what I did for you when you gather together." He instituted a meal. As with baptism, God links his grace to the believer in tangible ways. Sinclair Ferguson puts it this way:

We do not get a different or better Christ in the sacraments than we do in the Word. But we may get the same Christ better, with a firmer grasp of his grace through seeing, touching, feeling, and tasting as well as hearing.¹⁰⁹

Tim Chester says something similar: "All our senses are thus engaged so that our frail faith might be matured."¹¹⁰ How kind of God, in keeping with our materiality, to engage our senses as part of our worship.¹¹¹

Sometimes we overvalue the cognitive aspects of our faith. The sacraments level the playing field. Amos Yong tells the story of a young woman with Down

¹⁰⁹ Sinclair B. Ferguson, *The Whole Christ: Legalism, Antinomianism, and Gospel Assurance—Why the Marrow Controversy Still Matters* (Wheaton, IL: Crossway, 2016), 233.

¹¹⁰ Tim Chester, *Truth We Can Touch: How Baptism and Communion Shape Our Lives* (Wheaton, IL: Crossway, 2020), 35.

¹¹¹ Ligon Duncan notes that Jesus's words at the Last Supper—"take and eat"—contrast with what happens in Genesis 3 when Eve "took and ate." The meal stolen by our first parents brought condemnation and death; the meal instituted and gifted by the second Adam signifies forgiveness and life. "'Take and Eat'—Ligon Duncan (T4G18)," YouTube(video), 1:19, <https://www.youtube.com/watch?v=UJgL5IcFbL0>.

syndrome who approached communion with such anticipation and joy:

“I can’t wait until I can eat Jesus bread and drink Jesus juice. People who love Jesus are the ones who eat Jesus bread . . . and I want to eat it and drink with all the other Christians at church ’cause I love him so.”¹¹²

There’s a whole lot of theology and a whole lot of experience packed into that dear woman’s testimony.

2. Fasting.

Though not a sacrament, the practice of fasting appears throughout Scripture.¹¹³ God instituted fasting from food and drink as a spiritual practice long before anyone was talking about the health benefits of it! It was a regular part of individual and communal life for God’s people in the Old Testament, often associated with prayer or mourning over sin. For example, consider that, in 2 Samuel 12, David fasted for his son’s life; in 2 Chronicles 20, Jehoshaphat proclaimed a fast throughout Judah when faced with a great enemy army; and in Joel 2:12 the Lord called Judah to “return to me with all your heart, with fasting, with weeping, and with mourning.”

The New Testament assumes the regular practice of fasting, and Jesus gives the only instructions related to it:

“And when you fast, do not look gloomy like the hypocrites, for they disfigure their faces that their fasting may be seen by others. Truly, I say to you, they have received their reward. But when you fast, anoint your head and wash your face, that your fasting may not be seen by others but by your father who is in secret. And your father who sees in secret will reward you.” (Matthew 6:16–18)

We see examples of the early church fasting before important decisions, such as the appointing of Paul and Barnabas for missionary work (Acts 13:2–3) or the appointing of elders in the new churches (Acts 14:23). Why is the

¹¹² Amos Yong, *Theology and Down Syndrome: Re-imagining Disability in Late Modernity* (Waco, TX: Baylor University Press, 2007), 193.

¹¹³ It’s important to note that both eating and refraining from eating throughout Scripture are to be done with God in mind (1 Corinthians 10:31).

physical practice of fasting helpful spiritually? There are several reasons. first, the time you would have spent preparing and consuming food is spent in prayer or reading of Scripture.

Second, physical hunger serves as a reminder of our spiritual hunger (or lack thereof). Do we have the attitude of David in Psalm 63:1: “O God, you are my God; earnestly I seek you; my soul thirsts for you; my flesh faints for you, as in a dry and weary land where there is no water”? Too often, when I fast, I am reminded that I *don’t* hunger and thirst after righteousness. An empty stomach reminds me of what I try to fill my life with apart from God. My physical experience makes me more attuned to my spiritual state.

Third, experiencing the absence of food points toward the generous provision of our heavenly father. Much of the time in the affluent West, fasting is a chosen discipline, and not one forced upon us by food insecurity. Our temporary, freely chosen abstention especially prompts thankfulness for God’s care and bountiful provision and reminds us to pray for others who lack basic food and nutrition.

Fourth, put another way, fasting reminds us of our creatureliness. Psalm 104 is a song to God the Creator and Sustainer of life. Addressing God, the psalmist says in verses 27–28, “These [that is, all your creatures] look to you, to give them their food in due season. When you give it to them, they gather it up; when you open your hand, they are filled with good things.”

Fifth, practicing this form of physical self-denial and restraint helps set a pattern wherein bodily appetites (for food, entertainment, sex, etc.) are submitted to God.

These somatic aspects of life in Christ are important to recognize because they have been neglected at times. But nothing I have written here bypasses the soul, as if our bodies allow unmediated access to our father in heaven or bodily practices automatically result in sanctification. New life in Christ comes through the renewal and cleansing of our hearts by the blood of Jesus Christ. We are new creatures because we have new hearts through the work of the Holy Spirit. We live by faith, not by sight (2 Corinthians 5:7). And

yet, engaging the bodily context in which we live is critical for our spiritual formation even as we trust that God the Holy Spirit is working in us “both to will and to work for his good pleasure” (Philippians 2:13).

What should we conclude from this biblical survey of embodied practices associated with worship? Both the Old and New Testaments provide biblical warrant and directives for the use of our bodies in relationship with God in everyday discipleship. Discipleship is sensual, linking the mind with eyes, ears, nose, mouth, and hands. Regular bodily practices tutor the hearts of God’s people toward him and his kingdom. Through our bodies, we literally “taste and see” that he is good.

The Word Became Flesh

John 1:14 says, “And the Word became flesh and dwelt among us.” This is the foundation for everything I’ve said so far. Jesus Christ, our Redeemer, is himself an embodied soul. He is fully human. And he is fully God. He is God incarnate. “The incarnation means that the life of the world began all over again in Jesus, and no part of our existence is left out of his redemption.”¹¹⁴ Jesus Christ is the second Adam (Romans 5:12–21). The second person of the Trinity becomes like us—he assumes a human nature—that we might become like him. Through union with the one who died and rose again, we “become partakers of the divine nature” (2 Peter 1:4). Jesus ascended into heaven in bodily form and will return in bodily form.¹¹⁵ The God of the universe is not embarrassed by our materiality. In his loving rescue plan, he partakes of it. The Apostles’ Creed rehearses our core beliefs about the reality of Jesus’s embodiment. I have italicized the verbs for emphasis.

[He was] *born* of the Virgin Mary, [he] *suffered* under Pontius Pilate, was *crucified*, *died* and was *buried*...On the third day he *rose* again. He *ascended* into heaven and is *seated* at the right hand of the father.

The Apostles’ Creed emphasizes that Jesus was truly “the Word made flesh.”

¹¹⁴ Sarah Clarkson, *This Beautiful Truth: How God’s Goodness Breaks into Our Darkness* (Grand Rapids, MI: Baker Books, 2021), 122.

¹¹⁵ Jesus ascended in bodily form: Luke 24:50–53; Acts 1:6–11. Jesus will return in bodily form: Acts 1:11; 1 Thessalonians 4:13–18.

He has fully experienced embodied human life (Hebrews 2:14–15).

The embodied practices of the Old Testament—Passover, sacrifices, tabernacle and temple worship, and festivals—prepared God’s people for the person of Jesus Christ. In Jesus, these old covenant institutions find their fullest expression and fulfillment, even as he initiates a new covenant with new practices (the Lord’s Supper and baptism) for the church.

This is the strongest apologetic for highlighting the continuing importance of the body—Jesus Christ, the Son of God, had a body and has one still. Through his life, death, and resurrection, Jesus brings renewal to our spirits even as we face our inevitable death and await the resurrection of our bodies. We have been gifted with the Spirit— a promissory note of future perfection (Ephesians 1:14). But meanwhile, we groan, longing for the mortal to be swallowed up by the immortal (2 Corinthians 5:4).

Glorified Bodies

We are destined to die, and our bodies will return to the dust. But for believers in Christ, this is not our final condition. Jesus’s resurrection was a first fruit of our own resurrection to come. Our ultimate hope is resurrection, not a disembodied state.¹¹⁶ This also proves the created goodness of bodies. We get to keep them, but as they were meant to be in all their splendor!

Paul speaks of the wonder of this in 1 Corinthians 15:50–55:

I tell you this, brothers: flesh and blood cannot inherit the kingdom of God, nor does the perishable inherit the imperishable. Behold! I tell you a mystery. We shall not all sleep, but we shall all be changed, in a moment, in the twinkling of an eye, at the last trumpet. For the trumpet will sound, and the dead will be raised imperishable, and we shall be changed. For this perishable body must put on the imperishable, and this mortal body must put on

¹¹⁶ Scripture does support the existence of an intermediate state between death and resurrection where human beings exist temporarily as souls without bodies (Ecclesiastes 12:7; Luke 16:19–31; 23:43; 2 Corinthians 5:8; Philippians 1:23). But this is not our final state nor is it our ultimate hope. See *Westminster Confession of Faith* 32 for more details.

immortality. When the perishable puts on the imperishable, and the mortal puts on immortality, then shall come to pass the saying that is written:

“Death is swallowed up in victory.”

“O death, where is your victory? O death, where is your sting?”

The *Westminster Confession of Faith* 32.2 notes,

At the last day, such as are found alive shall not die, but be changed: and, all the dead shall be raised up, with the self-same bodies, and none other, although with different qualities, which shall be united again to their souls forever.

There is mystery here, no doubt. What will it actually look like to dwell with God as perfectly restored embodied souls in the new creation? Louis Berkhof suggests, “We should not think of the joys of heaven . . . as exclusively spiritual. There will be something corresponding to the body. There will be recognition and social intercourse on an elevated plane.”¹¹⁷ Putting it differently, life in the new creation will be an earthy, sensual experience. We will get our hands dirty in the garden, but there will be no weeds. We will be as we were meant to be—embodied souls living in perfect communion with our God and our brothers and sisters in Christ.

We eagerly await this time when the suffering and sin associated with our bodies is no more. How wonderful it will be when disease, disability, and dysfunctions in our bodies will cease to exist. Further, this eschatological mindset motivates us to steward our bodies in the present. If our “self-same” body created by God will experience resurrection, we want to treat our bodies with care and dignity now, knowing of their participation in the glory to come. We want to use our bodies now in ways that reflect a love for Jesus that will one day be perfected.

Implications for Daily Discipleship

While the thrust of this article has been to develop a biblical rationale for

¹¹⁷ Louis Berkhof, *Systematic Theology, Expanded Edition* (Edinburgh: Banner of Truth Trust, 2021), 773.

the intentional use of our bodies, both individually and corporately, I want to suggest a few practical steps to consider. Although I won't discuss the need to steward our bodies in obedience to God in those areas where bodily sin is evident (e.g., pornography, overeating, substance abuse), this fight against sin is a critical place of growth in Christ (1 Corinthians 9:24–27). Instead, I will focus the rest of the article on proactive practices for using the body in God-honoring ways that are in line with the multi-sensory discipleship I outlined earlier. In other words, I'm not focusing so much on the problems with our bodies in relation to God, but on our opportunities.

Individual practices that self-consciously involve the body.

First, I want to give a short preface here regarding regular, personal times of prayer and Bible reading or study. There's no place in Scripture that explicitly commands a daily devotional time. However, the psalmists speak about praying at regular points during a given day (Psalm 55:17; 119:164) and it was Daniel's practice to pray three times a day (Daniel 6:10). The apostle Paul says that we should "pray without ceasing" (1 Thessalonians 5:17). And Jesus said, "Man shall not live by bread alone, but by every word that comes from the mouth of God" (Matthew 4:4).¹¹⁸ Scripture, whether encountered in private or in corporate settings, is meant to be as nourishing and as necessary to us as daily food. Of course, our season of life and circumstances play into the timing and frequency of personal devotions (parenting young children, illness, care giving responsibilities, etc.).

Having said that, here are a few things to keep in mind related to sleep, timing, and space. Adequate physical rest is an important precursor for a focused time before the Lord. I find it hard to concentrate if I haven't been a good steward of my sleep, at least as far as it depends on me. I also think it's helpful to try to have a discernible pattern to your day—awakening at the same time each morning and doing devotions at the same time each day. In addition, having a defined space or place where you generally meet with God is conducive to concentration. It could be a particular armchair (not too cozy!) or at a desk or the kitchen table. It might be a space that you use exclusively for your time with the Lord. Consider your physical environment—is it calming or is it unsettling? This is part of acknowledging that we are physical creatures.

¹¹⁸ Matthew 4:4 quotes Deuteronomy 8:3.

The physical aspects of your devotional practices are up to you, but consider including the following:

- Change your posture for prayer (standing, walking, kneeling, raising hands, etc.)
- Light candles
- Sing or listen to music
- Write down portions of Scripture or journal a prayerful response to what you have read (this is further bodily engagement than simply reading)
- Mark or highlight your Bible
- Use a devotional that pairs Bible reading and prayer with poetry or artwork¹¹⁹
- Take a prayer walk outdoors
- Spend a day fasting and pay particular attention to the way your bodily response (stomach growling, hunger, etc.) points to your spiritual need as well

These are just a few of the many potential ways to use your body as you meet with God.¹²⁰

Corporate practices that self-consciously involve the body.

Having been disciplined in a parachurch collegiate ministry that emphasized personal devotional times, for many years I had a low view of the role of corporate worship in promoting spiritual growth. Of course, I believed it

¹¹⁹ Some examples are (1) the Daily Prayer Project's "Living Prayer Periodicals" which are published for each season of the church year as a ministry of Grace Mosaic church (PCA) in Washington, DC, <https://www.dailyprayerproject.com/>; (2) Biola University's Center for Christianity, Culture, and the Arts has free Advent and Lenten devotionals that are sent out each year. Previous years' devotionals are available at <https://ccca.biola.edu/resources/collection/Devotions/>; (3) I also use Malcolm Guite's collection of sonnets for the church year, especially during Advent and Lent, titled *Sounding the Seasons: Seventy Sonnets for the Christian Year* (Canterbury Press, 2012).

¹²⁰ Some brothers and sisters have bodily limitations and disabilities by birth, disease, injury, or aging. They may experience the body more often as an impediment than as an opportunity. At the same time, a broken body is not a barrier to the Spirit's inward renewal (2 Corinthians 4:16).

was right to gather weekly, but apart from what I learned from the sermon, didn't the real engine of spiritual transformation hum during my individual devotional times during the week? That was my Western individualism speaking!

I want to examine how the embodied practices of worship shape us, and how worship stokes the imagination through its earthy, bodily practices. We've already looked at the sacraments in depth, which are means of grace God has instituted in the context of the corporate gathering of God's people, so here I'll focus on some other aspects.

For many of us, the pandemic revealed the stark contrast between on-site and online church. Normally, when we gather for worship, there is a sanctuary filled with living, breathing people who create various opportunities for engagement. In contrast, the online experience allows disciples to be passive, distracted, and disconnected. You're a spectator rather than a participant. It was too easy to be finishing breakfast in the kitchen in your pajamas while the call to worship was happening on the family room's large TV. Worship in the Bible is an in-person, face-to-face, embodied experience.

The order of worship itself tutors our hearts and bodies, forming us as disciples.¹²¹ Consider the following five major movements of the worship service followed by a local Philadelphia church, with additional comments from me.¹²²

Movement 1: "God **summons** us as his people—*calling*." Here we find the call to worship, praise in song, a responsive reading of a psalm, and the prayer of adoration. Already we're engaged bodily: standing (for those who are able) for the initial elements of worship, using our voices to read responsively or sing, and bowing our heads for prayer.

¹²¹ See James K. A. Smith, *Desiring the Kingdom: Worship, Worldview, and Cultural Formation* (Grand Rapids, MI: Baker Academic, 2009), especially pages 155–214; also Emler, "Practice Makes Perfect?"

¹²² Resurrection Philadelphia, "Guide to Our Worship," <https://static1.squarespace.com/static/57d994956a4963d203edd4ac/t/583d78866b8f5b152d4af7a6/1480423579451/City+Church+Worship+Guide.pdf>. (Note: City Church Philadelphia and Liberti Church: Center City merged to form Resurrection Philadelphia.)

Movement 2: “God **sanctifies** us to himself—*cleansing*.” Here we find confession of sin and an assurance of pardon, followed by a congregational response in songs of thanksgiving and praise and then the passing of the peace as we greet one another in the Lord as forgiven, cleansed people in union with Jesus and with one another. Again, notice the embodied actions included in this portion of the worship service: heads bowed or kneeling for confession of sin; standing and using our voices for singing; handshakes, hugs, or waves during the passing of the peace.

Movement 3: “God **speaks** to us in his Word—*counseling*.” In this portion of the service, we hear Scripture being read and the Word preached. In my current church, we stand for the reading of Scripture. Often I will take notes during the sermon to keep me focused and engaged. We respond to God’s Word through the offer- tory. We also respond by standing and reciting together the Apostles’ (or Nicene) Creed. This is followed by the prayers of the people, led by one of the pastors or officers of the church. After each petition the one praying says, “for this O Lord we pray,” and the congregation responds, “Hear our prayer.”

Movement 4: “God **strengthens** us at his table—*communing*.” This refers to the Lord’s Supper. I’ve already spoken about the importance of the tangible elements that comprise the sacraments and what they signify. But even the way the Supper is administered can involve our physical selves to a greater or lesser degree. Prior to the pandemic, many congregations served the Lord’s Supper from the front of the church and people came forward to receive it. In others, the people remained seated and the elements were passed down the pews. I prefer the former as I think it best captures coming to Jesus, together with his people, to receive the spiritual nourishment he provides in his Supper. In the post-COVID era, many churches use individually packaged wafers and juice that parishioners pick up on the way into the sanctuary. No doubt it is more hygienic to do it this way, but there is loss in the overall participatory experience.

Movement 5: “God **sends** us into the world—*commissioning*.” This involves the pastoral benediction and dismissal. The benediction is literally the “good word” that is pronounced by the minister over God’s people. The last word you hear is a word of grace and mercy to you in Jesus Christ. Over the

past few years, I have started raising my hands during the benediction as a tangible, physical act of receiving the father's word of blessing to me. The pastor closes with the words, "Let us go forth as those who love the Lord," and the congregation responds, "Thanks be to God." And then the congregation departs. Notice the entire service involves a physical gathering and then a physical dispersal into the world. We are not simply moving out into our world in our minds but with all we are, body and soul.

Some churches have special services that emphasize our creaturely status even more. During an Ash Wednesday service, for example, congregants are marked using ashes with the sign of the cross on their foreheads while the pastor speaks these words: "Remember that you are dust and to dust you shall return." This is a sobering reminder of our mortality and frailty that prompts us to lean dependently upon Jesus for life itself and all that we need for a given day. A *Tenebrae* ("shadows") service on Good Friday pairs the reading of the passion narratives from Scripture with the gradual extinguishing of candles. As the sanctuary descends into darkness and silence, we literally experience the Light of the World moving inexorably to death.

The next time you gather for worship, pay particular attention to how you use your body and consider how different that is from being a passive observer or spectator, and embrace it. Bodily engagement is for all God's people to experience and enjoy.

Let's now turn our focus more specifically toward how to keep the embodied nature of our counselees in mind as we minister to them.

Implications for Counseling

While our focus as biblical counselors is to bring the truth and perspective of God's Word to bear on the particulars of our counselees' lives, we must remember they are embodied people! When you encourage your counselee in practices that engage the body, you help them become more fully human; it reminds them that they are indeed bodily creatures. You are helping them "taste and see" that the Lord is good. Not just telling them true things that you want them to think harder about but helping them engage their five senses as they relate to God.

So how do we remain attentive to the body even as we bring timely words from Scripture to them? Here are several suggestions.

1. Notice how they use their bodies during a counseling session. The term body language is apropos. Physicality “speaks” a message in addition to the particular words a counselee might use. Are we attentive to those messages?
2. Pay particular attention to your own body as you counsel. What is your posture? Too casual? forward leaning? How is your eye contact? The expression on your face? I had one counselee who became upset with me because she thought I was irritated with her. I was completely at a loss to know what she meant—until she pointed to my furrowed brow. To her it communicated displeasure; for me it was simply a mark of thoughtful, serious engagement with her weighty words. I was more aware of my facial expression after that!
3. Ask about sleep, schedule, diet, and exercise. I find there is a correlation between lack of consistency in physical disciplines and lack of consistency in spiritual ones. In 1 Timothy 4:8, Paul does say that physical training is of some value!
4. Ask about their experience of corporate worship. Are they going to church regularly? What portion of the worship service is most personally engaging? Where do they struggle? Do they feel like active participants or passive spectators?
5. Discuss their personal devotional times. Do they have a rhythm or a plan? Do they engage their bodies in self-conscious ways?
6. Consider giving homework that encourages counselees to get outside and use the beauty of creation as a springboard for praise and prayer. Calvin considered the natural world a “theater of God’s glory.” Belden Lane notes something similar about Jonathan Edwards.

[He] perceived the physical world, when appreciated with the new spiritual sense that regeneration brings, as offering direct

training in the multidimensional way of knowing that is necessary for meeting God. This is a knowing that involves tasting and delighting—not just an apprehension of the mind, but an intimate engagement of all the senses as well.¹²³

Once again we hear the value of using our bodily senses to deepen our relationship with God.

7. Ask about bodily symptoms that can be associated with anxiety, depression, or trauma such as distractibility, fidgeting, crying, dissociation, etc. Consider concrete ways to respond to these physical manifestations of distress. What bodily practices can you use to orient them toward God while you are with them and when they leave your office? I'll mention two that may calm anxious hearts and bodies: deep breathing and grounding.

Slow, deep breathing activates the parasympathetic nervous system, which slows a racing heartbeat and rapid breathing. So, when we use our bodies in this way, we are aligned with how God created us. We don't do slow, deep breathing as an activity unto itself. We are seeking to remember that it is *in God* we live and move and have our being. Our very breath is given by him. As we breathe, we remember that we are in God's presence and under his watchful, caring eyes. Todd Stryd wrote an in-depth article on how this might look.¹²⁴

Grounding helps a person who is experiencing anxiety or other bodily symptoms, such as dissociation, to focus on the here and now. How do you harness the body for good in that moment? Typical approaches have a person notice things around them that they can see, touch, hear, or smell. Sometimes it's as simple as having someone concentrate on the wood or fabric of the chair they are sitting on, or the feel of their feet on the floor. Grounding can help bring a person who's panicked or distracted into the present moment. We are grateful for this. But as Christians, we want to do even more in the moment. We want to assist in slowing down the person's runaway body and orient them to the Lord's presence.

¹²³ Belden C. Lane, *Ravished by Beauty: The Surprising Legacy of Reformed Spirituality* (Oxford: Oxford University Press, 2011), 179.

¹²⁴ Todd Stryd, "'Take a Deep Breath'—How Counseling Ministry Addresses the Body," *Journal of Biblical Counseling* 32:3 (2018): 62–74.

We want what is seen, touched, heard, smelled, or tasted to draw the person into God's care, not simply to come to the conclusion (as helpful as it is) that "I'm safe in my body as I'm sitting in my counselor's office." While it is important to feel safe, what we are hoping for is that the present moment becomes a moment of engagement with Jesus. We want to help the person experience what Psalm 16:8 describes: "I know the Lord is always with me. I will not be shaken, for he is right beside me." for example, you could say, "Look around the room for a concrete reminder of God's power and love." Let's say they pick a stone or pebble from the windowsill. (I have a collection of stones and rocks gathered over the years from the coast of Maine.) You might then invite the person to touch and hold the rock, leading to a conversation about how God is like that rock, which is exactly what David calls God in Psalm 18:2. He's strong and immovable. I can hide behind him for protection. He will not break. And so on.

In doing this, we're highlighting that *God* is alive, present, and powerful in this moment. God is the one keeping your counselee, right here, right now. We want to help them fight fire with fire, to tame an unruly body by reorienting their bodily senses toward the Lord.

Using Our Bodies to Draw Near to God

I will end where I began, with John Murray's reminder. You don't simply *have* a body; you *are* a body. In light of that reality, are you marshaling your materiality as you seek to grow in Christ? Are you inviting your counselees to do the same? We must avoid treating fellow image bearers as souls without bodies (or bodies without souls for that matter)! If we are only souls, Christ died and rose in vain because the incarnation is a mirage. If we are only bodies, Christ died and rose in vain because the idea of resurrection is insanity in a universe that is purely material. Our salvation only makes sense in a world where embodied humans populate God's creation and where Jesus of Nazareth did the same. Through union with our embodied Savior, Jesus Christ, the God-man, we will one day image him gloriously as body-soul worshippers. Let's practice for that reality today by using our bodies to draw near to him.

INTERPERSONAL NEUROBIOLOGY (IPNB) THEORY AND APPLICATION

Robert J. Piertz¹²⁵

Introduction

In his books *The Anatomy of the Soul* and *The Soul of Shame*, Curt Thompson praises Daniel J. Siegel's Interpersonal Neurobiology (IPNB) as the source of understanding reality, thus encroaching upon the realms of theology proper, anthropology, hamartiology, and soteriology.¹²⁶ His counseling system answers crucial questions such as: Who is God? Who is mankind? What went wrong with mankind? What is the remedy? In answering these fundamental questions, Thompson's counseling system integrates IPNB with Scripture out of a commendable intention to help people. Yet, his methodology and underlying theory are arrived at primarily through the various aspects of IPNB, and only secondarily through an IPNB-informed interpretation of Scripture. There is nothing uniquely Christian about IPNB practices in pursuit of personal change. Thus, Siegel's IPNB is a deficient framework for biblical counseling and Thompson's theory and methodology based upon it fall short of the bountiful wisdom of the sufficient Scripture. I will critique Thompson's IPNB integrated counseling system below.

In this article, my thesis rests on three main arguments. First, IPNB utilizes the findings of neuroscience as a basis of explanatory power in its eclectic

¹²⁵ Robert J. Piertz is an ACBC-certified biblical counselor pursuing a PhD in Applied Theology-Biblical Counseling at Midwestern Baptist Theological Seminary. He lives in Tehachapi, CA with his wife, Irina, and their two daughters. Please contact jbsc@biblicalcounseling.com with questions for the author.

¹²⁶ Curt Thompson "is a board-certified psychiatrist and the founder of the Center for Being Known, LLC, an organization that develops resources to educate and train leaders on the intersection between interpersonal neurobiology and Christian spiritual formation." (Curt Thompson, *The Soul of Shame: Retelling the Stories We Believe about Ourselves* (Downers Grove, IL: IVP Books, 2015), 292, Kindle).

and unbiblical approach to human flourishing. Second, the neurobiological underpinnings of IPNB are scientism, thus IPNB is primarily a multifaceted philosophy that is contradictory to Scripture.¹²⁷ Third, based on these two arguments, IPNB should not be utilized by Christians to counsel those experiencing shame or any other problem of life and godliness (2 Peter 1:3).¹²⁸

Core Principles of Interpersonal Neurobiology Defined, Described, and Critiqued

Interpersonal Neurobiology, conceived by Siegel, emerged in the early 1990s as a term describing a multidisciplinary approach utilizing the common ground “across disparate scientific disciplines and building a conceptual framework from their usually independent ways of studying, measuring, conceiving, and describing the nature of reality.”¹²⁹ Rather than being a discrete therapy itself, IPNB is “a consilient framework for understanding reality that can inform therapy, as well as a broad range of human endeavors that support mental health, education, parenting, public policy, and planetary

¹²⁷ The present author has adopted T. Dale Johnson’s definition of scientism: “philosophy couched in scientific terms” (Ernie Baker, T. Dale Johnson, Heath Lambert, and Jenn Chen, “Can Jesus Heal Our Trauma? - Biblical Counseling Panel Discussion,” First Baptist Church of Jacksonville, September 22, 2023, <https://www.youtube.com/watch?v=Lbarv1HDnxw&t=2495s>).

¹²⁸ Unless otherwise specific, all Bible references in this paper are to the New American Standard Bible, (NASB1995) (La Habra, CA: The Lockman Foundation, 1995).

¹²⁹ Daniel J. Siegel, Allan N. Schore, and Louis J. Cozolino, eds., *Interpersonal Neurobiology and Clinical Practice*, The Norton Series on Interpersonal Neurobiology (New York: W.W. Norton & Company, 2021), 1, Kindle. Siegel writes, “Mind, body, and relationships function as ‘three aspects of one reality.’ Reality is energy and information flow” (Daniel J. Siegel, *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are*, 2nd ed. (New York: Guilford Press, 2012), 8). According to his publisher, “Noted neuropsychiatrist Daniel J. Siegel, MD, is clinical professor of psychiatry at the University of California Los Angeles School of Medicine, and executive director of the Mindsight Institute in LA. He is the founding editor-in-chief of the Norton Series on Interpersonal Neurobiology” (“Daniel J. Siegel,” wwnorton.com, March 16, 2024, <https://wwnorton.com/author/SIEGELDANIEL>). At the time this writing, the Norton Series on Interpersonal Neurobiology has over one-hundred published titles accessible at <https://wwnorton.com/catalog/nonfiction/mental-health/interpersonal-neurobiology>. Thus, a comprehensive evaluation of IPNB is beyond the scope of this paper and instead, an examination of key aspects of IPNB within the domain of counseling will be defined, described, and critiqued. Siegel is the primary creator of IPNB which informs Thompson’s counseling and biblical exegesis.

well-being.”¹³⁰ These endeavors seek “to understand and improve the world [through] contemplative practice, art, music, literature, history, political movements, public policy, environmental protection, social justice, parenting, education, and many other fundamental aspects of being a human member of life on this planet.”¹³¹ Thus, there is virtually no aspect of life untouched by the far-reaching description of reality according to the IPNB framework.

Siegel is not beholden to the popularity of exclusively materialist biogenetic approaches to psychiatry that were first proposed in the nineteenth century and reemerged in the 1970s and 1980s but instead, he seeks to bring science and subjectivism into conversation.¹³² The construction of IPNB was catalyzed in response to the absence of a definition of the mind and the lack of a standard definition of health or normalcy for the mind within mental health education globally.¹³³ Siegel seeks to build IPNB as an “interdisciplinary view of mind,

¹³⁰ Ibid., 2. Consilience is “the discovery of common findings from independent disciplines... popularized by E.O. Wilson... [and is] the intellectual approach to the field of IPNB” (Siegel, *The Developing Mind*, 391). It appears that Siegel et al. are aiming for a grand unifying theory of reality as demonstrated by the breadth of what the framework of IPNB seeks to address. Wilson saw the natural sciences as “the key to unification” of knowledge across disciplines and as the answer to the “chaos” of philosophy and the social sciences (Edward O. Wilson, *Consilience: The Unity of Knowledge, A Borzoi Book* (New York: Knopf, 1998), 8. Wilson’s view of consilience is based on William Whewell’s “Consilience of Inductions,” “a common groundwork of explanation” was made possible by “jumping together” “facts and fact-based theory across disciplines” (Ibid.; William Whewell, *The Philosophy of the Inductive Sciences, Founded upon Their History* (London: JW. Parker, 1840), 230.

¹³¹ Siegel, Schore, and Cozolino, 3. There appears to be no hierarchy between the disciplines relied upon for IPNB because it is built on consilient concepts between them regardless of the subjectivity or objectivity of their beliefs.

¹³² Daniel J. Siegel, *Pocket Guide to Interpersonal Neurobiology: An Integrative Handbook of the Mind* (New York: W.W. Norton, 2012), XI; Andrew Scull, *Desperate Remedies: Psychiatry’s Turbulent Quest to Cure Mental Illness* (Cambridge, MA: The Belknap Press of Harvard University Press, 2022), 339-343, 379-380, Kindle.

¹³³ Siegel, Schore, and Cozolino, 2. The authors characterize the condition of the mental health field prior to IPNB, writing, “We do not have a common curriculum, nor a common grounding in science, that joins our fields in the professional effort to understand the mind and to heal mental suffering. Amazingly, surveying over 100,000 mental health professionals in person from around the globe... reveals that over 95%...indicated that in their formal educational programs... they were not given any definition of what the mind actually is, nor what a healthy mind might be” (Ibid.). The lack of a definition of the mind implies one cannot “say what the ‘health’ is referencing” (Daniel J. Siegel and Chloe Drulis, “An Interpersonal Neurobiology Perspective on the Mind and Mental Health: Personal, Public, and Planetary Well-Being,” *Annals of General Psychiatry* 22, no. 1 (February 3, 2023), 3. Mental health is a construct traceable to Benjamin Rush (Thomas Szasz, *The Manufacture of Madness: A Comparative Study of the Inquisition and the Mental Health Movement* (New York; London: Harper & Row, 1977), 137-59.

brain, and relationships [that attempts] to create new ways to define the mind and bring well-being into the world.”¹³⁴ Thus, IPNB is philosophical rather than purely scientific because it contains subjective elements and concerns theories of the immaterial mind, which is not empirically observable.

There are five fundamental principles of IPNB with the first two being the most foundational.¹³⁵ The first principle states that IPNB joins “empirical research from a range of fields published in peer-reviewed journals to the practice of psychotherapy and the understanding of mental health and mental suffering”¹³⁶ The second principle builds on the first, focusing on the impact of relationships as central to mental soundness, or as Siegel expresses it, “Relationships are not icing on the cake of a life well-lived; they are not even dessert—they instead can be seen as the main course.”¹³⁷ The third principle of IPNB states that the ‘inter,’ or what happens in one’s relationships is directly related to what happens in the ‘inner,’ meaning the human body.¹³⁸ The fourth principle of IPNB incorporates the second half of the term and thus refers to

¹³⁴ Siegel, *Pocket Guide to Interpersonal Neurobiology*, XII.

¹³⁵ Siegel, Schore, and Cozolino, 2.

¹³⁶ Siegel, Schore, and Cozolino, 2. “Empirical” and “peer-reviewed” are employed as a basis for authority but “rationalist philosophy has revived with a powerful critique of the assumed objectivity of science” (David Powlison, “Which Presuppositions: Secular Psychology and the Categories of Biblical Thought: *Journal of Psychology & Theology*,” *Journal of Psychology & Theology* 12, no. 4 (1984): 271). Powlison argues, based on the authority of Scripture, that there is no objectivity apart from a receptivity and commitment to the theistic view which exposes the weakness of empiricism (*Ibid.*, 271, 273). If Powlison is correct, as is the view of the present author, then one cannot assume science is objective in addressing the subject matter revealed in Scripture such as theology proper, anthropology, hamartiology, and soteriology—subjects breached by all counseling systems.

¹³⁷ Siegel, Schore, and Cozolino, 2. The centrality of interpersonal relationships to IPNB is not a novel concept but it is a descendant of Carl Rogers’ humanistic theory, stating, “If I can provide a certain kind of relationship, the other person will discover within himself the capacity to use that relationship for growth, and change and personal development will occur” (Siegel, Schore, and Cozolino, 42; Carl R. Rogers, *On Becoming a Person: A Therapist’s View of Psychotherapy* (Boston: Houghton Mifflin Company, 1995), 33). IPNB’s integration bears striking resemblance to Rogerian reorganization, although it is far more developed (Rogers, 33-36; Siegel, *Pocket Guide to Interpersonal Neurobiology*; 43-9). However, contra Rogers, IPNB advocates some gentle direction in mindfulness practices (Rogers, 226; Siegel, Schore, and Cozolino, 230).

¹³⁸ Siegel, Schore, and Cozolino, 2. In interpersonal neurobiology the ‘inter’ refers to relationship and the ‘personal’ refers to the “inner” aspect of the person (*Ibid.*, 3). Siegel, Schore, and Cozolino write, “When the term IPNB was created, the feeling, the intention, the motivation of the words was to being with this inner-inter focus” (*Ibid.*).

the undergirding “processes of mind and mental health” explored through neurobiology as a starting point that was inspired by “the 1990s [as] the Decade of the Brain.”¹³⁹ The fifth principle of IPNB is that, as a framework of understanding, it is not a specific methodology but an “invitation to individuals to explore the tenets of its consilient approach and then extend them in their own specific and unique ways.”¹⁴⁰

The aforementioned five principles of IPNB form a single approach from which it draws on its source disciplines to form the following twelve integrative principles:

- (1) The mind is broader than the brain and bigger than the body,
- (2) Energy and information flow is fundamental to mind,
- (3) Energy and information flow occurs within an individual, between individuals, and between individuals and the planet—the world of nature,
- (4) ‘mind’ involves at least four facets: subjective experience, consciousness, information processing, and self-organization,
- (5) One facet of mind can be defined [as]: an emergent, self-organizing, embodied, and relational process that regulates the flow of energy and information,
- (6) A healthy mind is one that cultivates integration, within [itself] and between [itself and other minds],
- (7) Mental unhealth emerges with impaired integration,
- (8) Relational and neural integration are mutually reinforcing,
- (9) Where attention goes, neural firing flows, and neural connection grows,
- (10) Mind in its regulator role both monitors and modifies energy and information flow, and these are learnable mindsight skills,
- (11) The term ‘mindsight’ can refer to the capacity to have insight into one’s own inner state of energy

¹³⁹ Ibid., 3. The authors have come to regret the limitations inherent in neurobiology and, thus, would choose a more accurate second word for the framework such as ‘science,’ or ‘knowing’ to be more inclusive of ‘all the ways of studying the nature of reality beyond merely a branch of biology” (Ibid.). Once the door is opened to other avenues to gaining knowledge beyond science, IPNB shows itself to be primarily philosophical with some apparently scientific aspects integrated into it. Neurobiology does not address metaphysics, so it is limited in accomplishing the goals of Siegel et al.

¹⁴⁰ Siegel, Schore, and Cozolino, 3. IPNB provides initial common ground but practitioners are free to “offer differentiated strategies of cultivating health” toward “the infinite capacity to expand ...[their] knowledge” (Ibid.).

flow, to sense that in others as empathy, and to modify that flow within and between toward integration, and (12) There are nine domains of integration: consciousness, vertical, bilateral, memory, narrative, state, interpersonal, temporal, and identity.¹⁴¹

The twelve integrative principles constitute a philosophical “consilient approach to reality,” that is rooted in the social sciences, “biology, chemistry, physics, and mathematics.”¹⁴²

IPNB’s concept of the mind encapsulates several of its twelve integrative principles. Siegel connects two qualities of the mind, namely, it is both embodied and relational with the imperative to know information about the nervous system’s structure and interaction throughout the body, which he refers to as ‘the brain.’¹⁴³ The fifth integrative principle above implies that “the mind is a verb, not a noun,” and it is an emergent process arising from the system composed of the body and global interactions such as those formed

¹⁴¹ Siegel, Schore, and Cozolino, 3-12; Daniel J. Siegel, *Mindsight: The New Science of Personal Transformation*, 1st ed. (New York: Bantam Books, 2010), 71-75; Curt Thompson, *The Soul of Shame: Retelling the Stories We Believe about Ourselves* (Downers Grove, IL: IVP Books, 2015), 36-40, Kindle. Siegel coined the term “mindsight” for how one perceives and respects one’s own mind and those of others by embracing the three capabilities including: the capacity to cultivate insight—awareness of one’s own inner life, empathy—sensing the inner life of another, and integration—“linking differentiated elements into a coherent whole” (Daniel J. Siegel, *Mind: A Journey to the Heart of Being Human* (New York: W. W. Norton & Company, 2016), 108, Kindle). Two types of integration are articulated by Siegel, see 6n16 of the present paper. The tenth integrative principle appears incoherent because the mind cannot be ontologically regulating but simultaneously rely on the capacity for introspection and the learned skills of insight, and empathy—mindsight (Ibid.).

¹⁴² Siegel, Schore, and Cozolino, 3. Philosophy speculates upon unobservable phenomena and theories of reality (<https://www.merriam-webster.com/dictionary/philosophy>). The body is directly observable, whereas the mind is not.

¹⁴³ Siegel, *Pocket Guide to Interpersonal Neurobiology*, 1-5. There are two types of integration: (1) State integration is “The embodied brain—the head’s brain and its connections to the gut’s brain and the heart’s brain—is a parallel distributed set of networks that function in the dynamic unfolding of states of neural activity. The subjective sense of these dynamic ever-changing states is called a state of mind,” and (2) “Individuals are born into the world and establish connections with attachment figures early in life as the first way their differentiated self is connected with other selves—the core of linking differentiated persons in interpersonal integration” (Siegel, Schore, and Cozolino, 6). Siegel et al. see the early childhood experience as determinative, writing, “In developmental and relational terms, when our self is obliterated early in life, we can feel shame when our subjective experience and perspective are denied, and humiliation when our agency is destroyed. The sense of self that then arises is directly altered by these self-shaping experiences (Siegel, Schore, and Cozolino, 20).

by social signals within interpersonal relationships.¹⁴⁴ Siegel proclaims the mind as having “a natural drive toward integration,” which is often hindered by “challenges to well-being” in the form of “sub-optimal experience with caregivers in early life...random events, genes, epigenetic factors, or toxic chemical exposures or infections...in early life, or during the formative period of adolescence.”¹⁴⁵ Thus, man is born, at minimum, a blank slate, if not good, and is subsequently corrupted by his environment—a view that denies human moral agency.¹⁴⁶

¹⁴⁴ Siegel, *Pocket Guide to Interpersonal Neurobiology*, 1-5. Siegel uses mind as both noun and verb throughout his works. Expressing both the essence of the mind and one of its central qualities, Siegel writes, “So at a minimum we are proposing that the system that gives rise to the mind, the system that has mind as some aspect of itself, has as its basic element the flow of energy. Sometimes that energy stands for or symbolizes something other than itself. In this case we say that the energy has information. So there is something about energy and information flow that may be fundamental to mind” (Siegel, *Mind*, 46-47).

¹⁴⁵ Siegel, *Mind*, 199. Beyond understanding environment and genetics as mere shaping influences, Siegel writes, “The structure and function of the developing brain are determined by how experiences, especially within interpersonal relationships, shape the genetically programmed maturation of the nervous system” (Siegel, *The Developing Mind*, 3). Siegel writes, “Within IPNB, we view mind, brain, and relationships as three aspects of energy and information flow. Brain is the embodied neural *mechanism* shaping that flow; relationships are the *sharing* of the flow; mind is the embodied and relational process that *regulates* the flow of energy and information” (Ibid., 7).

¹⁴⁶ B.F. Skinner’s materialism deemed all factors Siegel cites as environmental forces of natural selection, thus both achievement and responsibility were not attributable to man (B. F. Skinner, *Beyond Freedom and Dignity* (Toronto; New York: Bantam Books, 1972), 22-23). Ironically, Siegel forsakes materialism but its ideas creep into IPNB mostly through the neuroscience’s embracing of evolution and attachment theory (Siegel, *Mind*, 170-83; Siegel, *Pocket Guide to Interpersonal Neurobiology*, 13-3, 14-2, 14-5, 21-10, 42-4, 42-5, 42-6-42-8, A1-45). IPNB combines attachment theory with the bio-deterministic Polyvagal Theory of Stephen Porges (Stephen W. Porges, *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation*, 1st ed, The Norton Series on Interpersonal Neurobiology (New York London: W.W. Norton, 2011); Bonnie Badenoch, *Being a Brain-Wise Therapist: A Practical Guide to Interpersonal Neurobiology*, 1st ed, Norton Series on Interpersonal Neurobiology (New York: W. W. Norton & Co, 2008), 15, 128, 139. The scientific claims of the Polyvagal Theory have come in to serious question (“After 20 Years of ‘Polyvagal’ Hypotheses, Is There Any Direct Evidence for the First 3 Premises That Form the Foundation of the Polyvagal Conjectures?,” ResearchGate, accessed March 20, 2024, <https://www.researchgate.net/post/After-20-years-of-polyvagal-hypotheses-is-there-any-direct-evidence-for-the-first-3-premises-that-form-the-foundation-of-the-polyvagal-conjectures>; David G. S. Farmer et al., “Brainstem Sources of Cardiac Vagal Tone and Respiratory Sinus Arrhythmia,” *The Journal of Physiology* 594, no. 24 (December 15, 2016): 7249–65; Diana A. Monteiro et al., “Cardiorespiratory Interactions Previously Identified as Mammalian Are Present in the Primitive Lungfish,” *Science Advances* 4, no. 2 (February 21, 2018): eaaq0800.

In IPNB, a healthy mind experiences optimal self-organization, which leads to it exhibiting “the five qualities of FACES: flexible, adaptive, coherent (resilient over time), energized, and stable (reliable not rigid).”¹⁴⁷ Learning the ‘mindsight’ skill of seeing the mind in oneself and in others is the key to remedying the disintegration of the mind because it enables the individual to discern different streams of awareness. With such a new ability, the capacity to intentionally alter the direction of information flow—to use the skilled focus of attention to change the mind—enables us to amplify the activity of certain pathways and inhibit others.”¹⁴⁸

The neuroscientific underpinnings of IPNB appear to stand in stark contrast to its subjective elements based on the social sciences and spirituality. IPNB’s use of neuroscience provides its most visible link to empiricism with the appearance of an empirical basis.¹⁴⁹ Yet, neuroscience is subject to many

¹⁴⁷ Siegel, Schore, and Cozolino, 6. Upon review of the *Diagnostic and Statistical Manual of Mental Disorders* editions III-5, Siegel discovered that “every symptom of every syndrome could be re-envisioned as an example of chaos or rigidity,” leading him to conclude that “human relationships can foster resilience and emotional well-being by facilitating an integrative capacity” (Siegel, *Mind*, 77; Siegel, *The Developing Mind*, 14; Daniel J Siegel, “The Mind in Psychotherapy: An Interpersonal Neurobiology Framework for Understanding and Cultivating Mental Health,” *Psychology and Psychotherapy* 92, no. 2 (June 2019): 227-28). Siegel defines self-organization, a principle of complex systems in mathematics, as “the way a complex system regulates its own becoming. In other words, arising from the system (the emergent aspect) is some process that, in a recursive, self-reinforcing way, organizes its own unfolding (self-organization)” (Siegel, *Mind*, 36; Siegel, “The Mind in Psychotherapy,” 225-27).

¹⁴⁸ Daniel J. Siegel, “Mindfulness Training and Neural Integration: Differentiation of Distinct Streams of Awareness and the Cultivation of Well-Being: Social Cognitive & Affective Neuroscience,” *Social Cognitive & Affective Neuroscience* 2, no. 4 (December 2007): 260. Siegel writes, “When we come to realize that the brain develops across the lifespan, we can see that we can use our relationships to ‘inspire to rewire’ our own and others’ brains toward integration to cultivate more well-being and compassion in our lives” (Siegel, *The Developing Mind*, 304). Thus, the brain is incorporated and sometimes used interchangeably with “mind” in IPNB. For example, “neural firing patterns” in the brain are referred to as “a fundamental part of the mind and where the mind resides” (Siegel, *Pocket Guide to Interpersonal Neurobiology*, 1-8). In IPNB the mind can be thought of as “brain +” with the plus equating to things beyond brain function in the forms of consciousness and information processing (Siegel, *Mind*, 15, 113, 118).

¹⁴⁹ Francisco Ortega and Fernando Vidal, eds., *Neurocultures: Glimpses into an Expanding Universe* (Frankfurt am Main: P. Lang, 2011), 118. Alain Ehrenberg writes, “Neuroscientific reductionism has a particular appeal because it holds great sway not only in the brain sciences, but also in the social sciences” (Ibid.). In their ten simple tips for avoiding “neurohype,” L. Syd M. Johnson and Karen Rommelfanger warn: “Avoid assuming that brain-based data are inherently more genuine or valid than behavioral data” (L. Syd M. Johnson and Karen S. Rommelfanger, eds., *The Routledge Handbook of Neuroethics*, Routledge Handbooks in Applied Ethics (London New York: Routledge, Taylor & Francis Group, 2020), 257).

limitations that will be detailed in the following paragraphs which undermine its value as a means of explanatory power for IPNB.

Contra IPNB, neuroscience cannot provide the biological basis for complex human behavior.¹⁵⁰ Frank Rösler points to both the advances in the last seventy years of neuroscience and its limitations, writing, “Neuroscience does provide many basic and domain-specific explanations, but it is still far away from providing exact predictions of individual behavior or, even more ambitious, explanations of the interactions of mind and body.”¹⁵¹ The combination of the physiological domain with the subjective psychological domain poses several difficulties in terms of immediately perceivable measurements of the subjective phenomenon and a lack of clearly defined psychological concepts, such as “clear temporal segregation of states, events and processes which form the basis of psychological categorizations.”¹⁵² Rösler concludes that to achieve a complete reduction of a psychological concept to biological activity “is unlikely to ever be achieved” as it is dependent on “unequivocal one-to-one relationships between the subjective psychological and objective physiological.”¹⁵³ Jerome Kagan reveals that scientists “do not know how to translate the metric of a biological measure into that of a psychological one; say, a certain increase in

¹⁵⁰ Frank Rösler, “Some Unsettled Problems in Behavioral Neuroscience Research: Psychological Research,” *Psychological Research* 76, no. 2 (March 2012): 131; Sally L. Satel and Scott O. Lilienfeld, *Brainwashed: The Seductive Appeal of Mindless Neuroscience* (New York: Basic Books, 2013), 150; Alva Noë, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness*, (New York, NY: Hill & Wang, 2010), 37, Kindle. Rösler, a German psychologist, is “one of the pioneers of Cognitive Neuroscience” (https://www.leopoldina.org/fileadmin/redaktion/Mitglieder/CV_R%C3%B6sler_Frank_EN.pdf).

¹⁵¹ Rösler, 131-32. Thus, the fourth principle of IPNB falls because it seeks an impossibility: understanding the mind based upon neurobiology.

¹⁵² Rösler, 133. Rösler discusses the implications of the problems, writing, “On the one hand there are biological physical measures and derived variables that can be measured by clear-cut operations. Such measures, variables and derived concepts are ontologically objective. These are “brute” facts, which are almost completely independent from the observer and which can be observed and measured always in the same manner—today, yesterday, and tomorrow, in Asia, Europe, or Africa. In contrast, psychological-social concepts, variables, and measures depend on the observer and his or her assumptions. These concepts are ontologically subjective, as they do not exist in an absolute sense by means of their spatial-temporal reality, but only in a relative sense. They rest on introspective experience and social agreement. Due to this they cannot be fully grasped by objective measurements” (Ibid., 134). Rösler makes a compelling argument but it assumes brute facts in a secular paradigm; cf. Powlison, 270-78.

¹⁵³ Rösler, 137. Rösler highlights the complexity of the problem with an illustration of the sensation of shock or surprise as not being able to be mapped on to a single neuron or a set of neurons but the sensation involves “a specific pattern of activations that comprises millions if not billions of elementary activity changes within the brain and whole body” (Ibid., 134-35).

blood flow to the amygdala into a rating on a seven-point-scale of the intensity of ‘anxiety’ a person feels at the moment,” which amounts to an inability to translate the biological directly into the psychological.¹⁵⁴ Yet, Siegel et al., rely heavily on explanations rooted in neurobiology to explain human behavior within the framework of IPNB.¹⁵⁵

The results of brain scanning technology often produce flashy headlines but are, in reality, limited in their capabilities in the realm of the mind and body. Brain scans, such as functional magnetic resonance imaging (fMRI), cannot see the individual mind, or a group’s minds, nor can it see experience.¹⁵⁶ Since brain scans cannot provide any information about the immaterial mental state and may only suggest some kind of activity in the brain, these brain scans therefore do not contribute anything new to traditional data-gathering methods such as interviews or questionnaires.¹⁵⁷

It is somewhat ironic that some strong skepticism regarding neuroscience comes from Siegel himself as the IPNB library is filled with explanations of mental states and behavior based on neurological functioning.¹⁵⁸ Siegel admits,

¹⁵⁴ Jerome Kagan, *An Argument for Mind* (New Haven: Yale University Press, 2006), 218. eBook Collection (EBSCOhost). In other words, structural or functional brain images cannot produce “conclusive inferences of causal linkages between brain activations and psychological states or traits” (Johnson and Rommelfanger, 254-55).

¹⁵⁵ Louis Cozolino explains, “The amygdala is an organ of appraisal that guides us in making basic approach-avoidance decisions. It is the source of our anxieties, tensions, and fears and guides us toward what we have experienced as safe and away from what has proven to be dangerous. It is when this primitive executive system is overly active that we experience anxiety disorders, panic attacks, and PTSD” (Siegel, Schore, and Cozolino, 65). A calm mental state is confounded with the state of calm amygdalae in the presence of a trusted other, leading the authors to conclude, “Without doing anything, our neural systems were rewiring in the direction of secure attachment (Ibid., 128). Siegel’s remedy for the over-excited amygdala is, in one instance, imagining [one’s] amygdala as “sighing with relief, having discharged its duties to warn,” resulting in one’s sense of doom dissipating (Siegel, *The Developing Mind*, 277).

¹⁵⁶ Robert Alan Burton, *A Skeptic’s Guide to the Mind: What Neuroscience Can and Cannot Tell Us about Ourselves* (New York: St. Martin’s Press, 2013), 2, 101, 142, Kindle.

¹⁵⁷ Satel and Lilienfeld, 150; Burton, 144.

¹⁵⁸ Examples of neuroscience-based explanations include, “Cognitive neuroscientists generally agree, however, that it is the pattern of firing in the map — the particular clusters of neurons activated in a specific pattern — that, somehow, creates the experience of mind.” (Daniel J. Siegel, “Toward an Interpersonal Neurobiology of the Developing Mind: Attachment Relationships, ‘mindsight,’ and Neural Integration,” *Infant Mental Health Journal* 22, no. 1-2 (January 2001): 69); “When emotion is highly dysregulated, thought cannot regulate

“On the level of neuroscience...no one understands how neural firing might create the subjectively felt experience of a thought, memory, or emotion. We just don’t know.”¹⁵⁹ Elsewhere, he also admits that one’s mental life cannot be objectively measured, that there is no measure for integration, that self-reports cannot capture “inner subjective awareness,” that the subjective inner experience can never be known by another, and that “neural correlations do not solve the ‘hard problem’ of how the physical property of neurons’ firing... gives rise to the subjective experience of being aware.”¹⁶⁰ As a result, Siegel adopts eclecticism—turning to the spiritual—in search of knowledge to fill the gaps in neuroscience, such as his incorporation of mindfulness into IPNB.¹⁶¹

A Biblical Evaluation of the Core Principles of IPNB

Siegel’s religious upbringing, experience, and attitudes provide some clarity concerning the nature and origin of the core concepts of IPNB above. Although ethnically Jewish, he was raised without any formal religion and attended pacifist Unitarian and Quaker churches during the Vietnam War period until bringing his own family to mosques, Baptist churches, and regularly attending a local Hindu center.¹⁶² Thus, Siegel’s religious views are as eclectic as the

emotion, because under these conditions everyone “flips their lids,” as Daniel Siegel likes to say, as prefrontal areas of the cerebral cortex responsible for executive functioning (rational decision making, sound judgment) go offline. And when this occurs, the primary way to calm down involves interactive, not auto, regulation, through attuned, empathic relationships” (Siegel, Schore, and Cozolino, 266-67); “The prefrontal cortex can go ‘offline’ as we ‘flip our lids’ as represented by the sudden raising of the fingers above the limbic thumb [in reference to the hand model of the brain]” (Siegel, *Pocket Guide to Interpersonal Neurobiology*, 3-2-3-4) See also multiple explanations involving the debunked triune and “reptilian” brain concepts based in evolutionary neuroscience (Ibid., 10-4, 13-3, 14-1, 20-4, 20-10, A1-61, A1-83). Cf. Lennart Heimer, ed., *Anatomy of Neuropsychiatry: The New Anatomy of the Basal Forebrain and Its Implications for Neuropsychiatric Illness* (Amsterdam; Boston: Academic Press/Elsevier, 2008).

¹⁵⁹ Siegel, *Mind*, 33.

¹⁶⁰ Siegel, *The Developing Mind*, 37.

¹⁶¹ Ibid., 43. IPNB’s use of spirituality is discussed in detail in the following sections.

¹⁶² Siegel, *Mind*, 190-96. Siegel’s experience in the Unitarian Church influenced him to embrace all religions and emphasized understanding the good in all faith traditions (Ibid., 195-96). He further describes his vision of the worldview of IPNB, writing, “It made sense to differentiate our cultures, religious beliefs, and ethnic identities, and honor those differences and promote compassionate linkages. That would be an integrated world, a world of compassion, a world that enabled people to belong and thrive not only in spite of differences, but because of those differences. Integration could be envisioned as the source of kindness and compassion. That would be an integrated world, a world that flourished, a world in which kindness and compassion were signs of well-being” (Ibid., 196).

IPNB framework he constructed. Siegel explains, “I was raised to believe in being human, to defend the rights of all people to find their way to their own truths.”¹⁶³ The spirituality of IPNB is syncretistic because it draws upon the ancient wisdom traditions of the Lakota, Polynesian, Buddhist, Christian, Hindu, Islamic, and Jewish religions in the pursuit of constructing “a useful bridge between science and spirituality” toward an integrated humanity through “compassionate linkages.”¹⁶⁴ For example, IPNB’s mindful awareness is a ‘third wave’ behavior therapy concept and practice that is not a novel product of science but traceable instead to ancient Buddhism.¹⁶⁵

Unwary Christians and atheists alike could embrace IPNB because the spiritual aspects of it consist primarily of mindfulness practices of which the origin may not be readily apparent to them.¹⁶⁶ Christians, however, must understand that New Age practices involving spirit guides, Yoga, and other forms of Eastern meditation are based on ancient religion and, therefore, ignore

¹⁶³ Siegel, *Mind*, 196. In sharp contrast, the Bible reveals the truth of one Creator God from eternity to eternity who revealed Himself to all men through His creation (Gen 1:1; Deut 33:27; Ps 90:2; Isa 41:4; 44:6; 57:15; John 17:3; Rom 1:18-23). See John MacArthur and Richard Mayhue, eds., *Biblical Doctrine: A Systematic Summary of Bible Truth* (Wheaton, IL: Crossway, 2017) 143-45. Siegel trespasses on the territory of the theologian as he positions himself as medicine-man and priest in an attempt to heal body and spirit—an inevitability for the psychotherapist (C G Jung, *Modern Man In Search Of A Soul* (London: Kegan Paul, Trench, Trubner & Co. Ltd., 1933), 278).

¹⁶⁴ Siegel, *Mind*, 204. Consilience becomes an avenue for confirmation bias as Siegel welcomes all views that confirm his ideas as useful and incorporates them into IPNB but there is no objective evaluation or overriding authority such as in the case of Christianity’s use of Scripture to discern ultimate truth.

¹⁶⁵ Gerald Corey, *Theory and Practice of Counseling and Psychotherapy*, 10th ed. (Pacific Grove, CA: Brooks/Cole, 2017) 250-51; Callie W. T. Joubert, “Mindfulness and the Brain: A Christian Critique of Some Aspects of Neuroscience: Conspectus,” *Conspectus* 12 (September 2011): 61-62; Daniel J. Siegel, “Reflections on the Mindful Brain,” *Openground Mindfulness*, accessed March 28, 2024, <https://www.openground.com.au/assets/Documents-Openground/Articles/0e39aa6bc0/reflections-on-the-mindful-brain-siegel.pdf>, 5.

¹⁶⁶ Siegel writes, “Mindful awareness can be intentionally created by practices such as meditation, yoga, tai’ chi, qigong, or centering prayer... The terms ‘mindfulness’ and ‘mindful traits’ are used in various ways in the scientific literature and may refer to a way of being and to measurable enduring aspects of a person’s personality, respectively. Studies of mindful traits... reveal elements of being nonjudgmental, nonreactive, aware of moment-to-moment experience, being able to label and describe the internal world, and, independently for those who practice mindfulness techniques such as meditation or yoga being self-observant” (Siegel, *Pocket Guide to Interpersonal Neurobiology*, 6-2). It must be emphasized that the human philosophies and knowledge which form the basis for IPNB are susceptible to the noetic effects of sin and amount to human interpretations apart from biblical revelation, thus leaving IPNB and its adherents susceptible to serious error (cf. Ps 14:1-7; Prov 1:7; Acts 17:22-34; Rom 1:21; 2 Cor 3:7-16).

God's warnings about syncretism and violate His moral law (Exodus 20:1-5; Matthew 22:36-40).¹⁶⁷ Scripture is also clear that God is unique, possesses one essence while, in contrast, "idols are vain and empty" (Deuteronomy 4:35; 6:4; 32:21; Psalm 96:5; Mark 12:29; Isaiah 40:18; 43:10-11).¹⁶⁸ The Bible is also clear that God is jealous and will not share His glory, people, or worship with another (Exodus 20:5; 34:14; Deuteronomy 4:24; 5:9; Joshua 24:19-20; Psalms 78:58-59; 79:1-7; Ezekiel 39:25; James 4:5).¹⁶⁹

The ultimate authority of polytheistic IPNB, although not stated explicitly, is subjective lived experience since one is free to adopt spirituality according to his preferences and perceived needs. For example, Bonnie Badenock writes, "From the viewpoint of interpersonal neurobiology and inner community work, the respect we experience for our patients guides us to enter their spiritual worlds as they bring them to us. In this sense, everyone's life has spiritual dimensions."¹⁷⁰ Subjective experience is a dangerously deficient

¹⁶⁷ Dave Hunt and T. A. McMahon, *America, the Sorcerer's New Apprentice : The Rise of New Age Shamanism* (Eugene, OR: Harvest House, 1988), 45. The authors write further, "In the process of calling 'new' what is in fact extremely old, the mystical is being marketed as *technological*... The average Yoga student in the West is not aware that Yoga was introduced by Lord Krishna in the Baghavad Gita as the sure way to the Hindu heaven, or that Shiva, 'The Destroyer' (and one of the three most powerful and feared of Hindu deities) is addressed as Yogeshwara, or Lord of Yoga...The fact that Yoga is at the very heart of Hinduism is usually suppressed and often denied" (Ibid., 46). Furthermore, Hunt and McMahon reveal transcendental meditation was popularized by Maharishi Mahesh Yogi in the West only after suppressing its Hindu roots and marketing it as science (Ibid., 47-49).

¹⁶⁸ MacArthur and Mayhue, 174. God's unity is fully revealed in Christ and the Trinity does not divide the divine essence (John 17:3; Acts 17:24; Rom 3:30; 1 Cor 8:4-6; Eph 4:5-6; 1 Tim 2:5) (Ibid.).

¹⁶⁹ MacArthur and Mayhue, 185; Grudem, 205. Grudem writes, "People sometimes have trouble thinking that jealousy is a desirable attribute in God. This is because jealousy for our own honor as human beings is almost always wrong...we do not deserve the honor that belongs to God alone (cf. 1 Cor 4:7; Rev 4:11)" (Ibid.).

¹⁷⁰ Badenoch, 94. Fundamentally, spirituality itself does not have much to do with change through IPNB. Instead, more focused on feelings, Badenoch writes, "Our part in this work is simply to create a neuroception of safety in regard to bringing spiritual issues into the room, so our patients can allow their whole person to be present (Ibid., 96). Ernie Baker and Howard Eyrych warn about mixing belief systems and the resulting dilution of the systems, writing, "*Counseling systems, by their very nature, are really philosophical belief systems*. If this is true, then we must be on high alert for the danger of syncretism (Robert W. Kelleman, ed., *Scripture and Counseling: God's Word for Life in a Broken World* (Grand Rapids, MI: Zondervan, 2014), 161, 168-69). IPNB's syncretistic spirituality contradicts the clear teaching of Scripture (Exod 20:1-5; Col 2:8). Badenoch, PhD, LMFT, is author of three IPNB titles emphasizing relational psychology and attachment, including, *The Brain-Savvy Therapist's Workbook*, *The Heart of Trauma*, and *Being a Brain-Wise Therapist* (<https://www.norton.com/search/YmFkZW5vY2g=>).

authority and thus, it is inferior to Scripture as a sufficient source for soul care (Proverbs 3:5-7; 14:12; 2 Timothy 3:16-17; 2 Peter 1:3-4).

IPNB has been demonstrated to have a deficient view of God, to be syncretistic, and to have unbiblical answers to mankind's problems of living. Its presuppositions are philosophy and empty deception (Colossians 2:8). Can IPNB be redeemed by a Christian seeking to integrate it with biblical wisdom?

Critique of Curt Thompson's IPNB Approach to Shame

Curt Thompson's integrated counseling approach relies heavily on IPNB principles to understand God, man, problems of living, the solutions to those problems, and as an interpretive lens that ultimately obscures Scripture.¹⁷¹ The following critique will highlight his IPNB-informed counseling theory and methodology as expressed in *Anatomy of the Soul* and *The Soul of Shame* where they clearly conflict with Scripture.

As a practitioner of IPNB, Thompson's writings rely on the ever-sinking sands of human wisdom primarily in the form of various practices from world religions cloaked in the language of neuroscience rather than the solid foundation of the Word of God (Matthew 7:24-29; Colossians 2:8).¹⁷² For example, he writes, "Theological *facts*, such as the fact of my sinful nature or other presuppositions about God or man...are not very helpful on their own in getting us to live the way we want to live...They do not reflect our total

¹⁷¹ Thompson, *Anatomy of the Soul*, 205-220. See especially page 214 where Thompson explicitly says he is interpreting the fall of mankind from a neuroscience perspective. President of the American Association of Christian Counselors (AACC) Tim Clinton sees the future of Christian counseling as further integrating "trans-theoretically" with IPNB as part of an "evidence-based lens" adding complexity to the integration of "deep theology [and] rich and deep psychology" (Tim Clinton and Gary Sibcy, "Christian Counseling, Interpersonal Neurobiology, and the Future," *Journal of Psychology & Theology* 40, no. 2 (2012): 141-45).

¹⁷² Ibid., 9. Thompson concedes, "Not only do our minds change, but scientists' understanding of how the human brain works is also developing. That means anytime you read 'the brain does this' or 'the mind does that,' what I am saying is more akin to 'This is how we currently believe the brain behaves.'" (Ibid.). Thompson's fullest understanding of IPNB is expressed comprehensively in *Anatomy of the Soul* (Thompson, *The Soul of Shame*, 31).

experience...they may not provide enough practical guidance.”¹⁷³ Thompson’s reliance on extrabiblical authority results in several misunderstandings of God and His nature within the realm of theology proper.

God is independent, sovereign, and immutable but Thompson denies this, writing, “God as we believe him to be—in control and invulnerable—not God as Scripture describes him to be: risk-taking and able to be hurt badly.”¹⁷⁴ Thompson later contradicts both himself and Scripture as he claims God is never controlling (Cf. Proverbs 16:9; 16:33; 19:21; Psalm 135:6; Lamentations 3:37; Ecclesiastes 7:13-14; 9:1-2; Isa 14:24; 45:6-7; Amos 3:6; Romans 8:28).¹⁷⁵ It appears that Thompson holds to a form of process theology as he sees God as capable of being surprised and making discoveries—violations of the doctrines of God’s immutability and impassibility.¹⁷⁶

Instead of viewing Exodus as concerned with YHWH revealing Himself to Moses and Israel, Thompson interprets it as God’s being enamored with man, writing, “I suspect that God really enjoys the attention that he gets from us. The degree to which we pay attention to him affects not only us. It

¹⁷³ Thompson, *Anatomy of the Soul*, 133. The truths of Scripture are reduced to mere data of the Western left-brained emphasis on facts (Ibid., 127, 132). Sensing God is displeased with oneself is not achieved by measuring oneself against the standards of Scripture but is the problematic result of trauma-induced “disorganized right-brain circuitry” leading one to shun intimacy with God (Ibid., 131).

¹⁷⁴ Thompson, *Anatomy of the Soul*, 18. Ironically, here Thompson looks to Scripture’s authority but distorts its meaning. Later he opines, “I believe he [God] allows himself to be deeply affected by our attitude toward him, though often we don’t grasp this aspect of his character” (Ibid., 23). Subsequently, he concludes, “God’s engagement was contingent upon Moses’ emotional/behavioral, or mind/body state” (Ibid., 100). Additionally, Thompson writes, “In fact, from the beginning God has had to trust us as much as he asks us to trust him. In creating us he risks everything (Thompson, *The Soul of Shame*, 161) He claims God’s vulnerability toward mankind is fundamental to healing shame and promoting human flourishing (Ibid). Thompson claims God is open to wounding, pain, rejection, death, and “having a rough go of it” by virtue of creating man (Ibid., 156). Cf. Exodus 3:14; Psalms 102:25-27; 115:3; 135:6; Isaiah 46:9-10; Malachi 3:6; Romans 11:36; Ephesians 1:11; James 1:17.

¹⁷⁵ Thompson, *Anatomy of the Soul*, 145.

¹⁷⁶ Ibid., 219; Wayne A. Grudem, *Systematic Theology: An Introduction to Biblical Doctrine* (Leicester, England: Grand Rapids, MI: Inter-Varsity Press; Zondervan Pub. House, 1994), 166-67. Grudem attributes the appeal of process theology to one wanting to feel significant in the universe, which squares with man-centric IPNB (Ibid.).

affects him.”¹⁷⁷ In chapter four of *Anatomy of the Soul*, Thompson takes this approach to God and Scripture because he integrates IPNB’s emphasis on awareness, attempts to unpack it in Scripture, and then proceeds to explain the workings of the inner person in terms of neurobiology.¹⁷⁸

God is omnipotent and takes the initiative in revealing Himself to mankind, thus He cannot be known through human effort or wisdom but by Scripture alone (Matthew 11:27; Romans 1:18-25; 1 Corinthians 1:21).¹⁷⁹ In contrast, IPNB’s emphasis on experience and being known or feeling felt, leads Thompson to conclude, “You cannot know God if you do not experience being known by him. The degree to which you know God is directly reflected in your experience of being known by him...your relationship with God is a direct reflection of the depth of your relationship with others.”¹⁸⁰ Finally, also conflicting with God’s omnipotence is Thompson’s prerequisite of a particular neurobiological state as necessary before the Holy Spirit can change

¹⁷⁷ Thompson, *Anatomy of the Soul*, 51. Betraying his use of IPNB as an exegetical lens, Thompson subsequently asks, “From the viewpoint of neuroscience, what does it mean for us to pay attention?” (Ibid.). In other words, the sole purpose of mentioning Moses and the burning bush is for Thompson to introduce the IPNB ideas surrounding awareness. More specifically, the idea that “the dorsolateral prefrontal cortex (DLPFC)” is the location of the “voluntary focusing mechanism” (Ibid. 52-53).

¹⁷⁸ Thompson, *Anatomy of the Soul*, 52-53. Betraying his use of IPNB as an exegetical lens, Thompson subsequently asks, “From the viewpoint of neuroscience, what does it mean for us to pay attention?” In other words, the sole purpose of mentioning Moses and the burning bush is for Thompson to introduce the IPNB ideas surrounding awareness, and more specifically, the idea that “the dorsolateral prefrontal cortex (DLPFC)” is the location of the “voluntary focusing mechanism” (Ibid. 52; Siegel, *The Developing Mind*, 159-69, 394). The point at which Thompson drives is that “deeper activation of the mind” and attention on “the very activity of the mind itself...wires our brains in certain patterns...[and] also greatly influences our relationship with God” (Thompson, *Anatomy of the Soul*, 53). The fact that this neuroscientific method was not available for over two centuries of Christianity is not addressed by Thompson but cannot be ignored as it is a direct attack on the sufficiency of Scripture (2 Peter 1:3).

¹⁷⁹ Grudem, 149.

¹⁸⁰ Thompson, *Anatomy of the Soul*, 24. Describing the type of therapeutic relationship central to IPNB-informed counseling, Thompson writes, “Through this conversation and others like it, Jeremy slowly began to understand what it meant to be known, to have another person validate and accept his feelings, preferences, and dreams. For the first time, he understood what it meant to be accepted for who he was rather than what he knew or what he did” (Ibid., 25). Thus, Thompson’s theology and integration drive his counseling methodology. Yet, being known by God is not a human work but one is known by confessing, repenting, and becoming a child of God. God knows those who belong to Him (cf. Ps 139; Nah 1:7; Matt 7:22-23; Acts 2:37-39; 1 Cor 8:3; Eph 2:1-10). Ultimately, God who is omniscient sees all (Jer 23:24; Heb 4:13). Man must know God to flourish (John 17:3).

a believer.¹⁸¹ Once one has achieved an integrated brain, Thompson writes, “They have put themselves in the position to be available for the Holy Spirit to create those very characteristics that we so long to take root in us: love, joy, peace, patience, kindness, goodness, faithfulness, gentleness, and self-control.”¹⁸²

Only by Scripture does one come to know the mind of God as He revealed it, therefore, if the Bible has not revealed it to mankind, God’s mind regarding that particular is unknowable (1 Corinthians 2:11; 2 Timothy 3:16-17). Yet, Thompson claims to know God’s mind, writing, “God knows that unless our right brains are transformed and our neural networks are integrated from left to right and from bottom to top, we will remain in the narrow, constricting, well-hewn grooves of the networks we have formed over our lifetimes [and] we so often help create in our children.”¹⁸³ Thompson confounds the categories of the constitution of man: God does not mention the brain in Scripture nor the need to integrate its neural networks.¹⁸⁴

Scripture reveals God created mankind with a material visible body, which includes the brain, and an immaterial invisible aspect referred to as heart, mind, soul, or spirit with a primacy given to the immaterial (Genesis 2:7; 6:5; 41:8; Proverbs 4:23; 23:7; Luke 6:45; Romans 12:1-2; Matthew 10:28; 1 Timothy 4:8).¹⁸⁵ Thompson again confounds the immaterial with the material claiming the former is dependent on the latter, writing, “Were it not for our fully embodied experience of our mind, we would be unaware of much of what

¹⁸¹ Ibid., 41.

¹⁸² Ibid. Cf. Gal 6:7-8. Thompson gives additional insight to his theology of the Spirit, writing, “The process of being known is the vessel in which our lives are kneaded and molded, lanced and sutured, confronted and comforted, bringing God’s new creation closer to its fullness in preparation for the return of the King. It is the communal container in which the information about the mind and relationships that we will explore in this book takes its shape and gives birth to the graces of love, joy, peace, patience, kindness, goodness, faithfulness, gentleness, and self-control” (Ibid., 13-14). In contrast, Scripture emphasizes the need for mankind to know God (Jer 31:34; John 17:3; Phil 3:10-12; 2 Pet 3:18).

¹⁸³ Thompson, *Anatomy of the Soul*, 81.

¹⁸⁴ Joubert, 61.

¹⁸⁵ MacArthur and Mayhue, 416-24. Matthew 10:28 demonstrates that God acts in ways on immaterial man that are inaccessible to mankind, the immaterial is distinct from the material and is a matter of life and death, the immaterial survives physical death, and the fear of God ought to exceed the fear of what man can do to the body (Joubert, 69).

our mind is trying to tell us (cf. Luke 9:30-31; 16:19-31; Revelation 6:9-11).¹⁸⁶ There are also numerous instances where Thompson uses brain and mind interchangeably, leading to confusion.¹⁸⁷ Yet, passages such as Luke 16:19-31 and Revelation 6:9-11 seem to indicate awareness in the disembodied state between death and glorified bodily resurrection. Thompson also speaks of brain-to-brain interaction absent any mention of the mind being active in the interaction.¹⁸⁸

Thompson promotes several unbiblical notions concerning man's emotions. Adopting the out-sized emphasis on emotion characteristic of IPNB, he writes, "Emotion is the very energy around which around which the brain organizes itself... It is the means by which we experience and connect with God, others, and ourselves."¹⁸⁹ For example, he teaches that one's emotions can be damaged

¹⁸⁶ Thompson, *The Soul of Shame*, 33. The cited passages demonstrate the intermediate state between embodied mortal existence and embodiment in the resurrection body. MacArthur writes, "Ultimately, all souls will be reunited with resurrected bodies. At Jesus's return to earth, the martyrs of Revelation 6:9-11 will be resurrected so they can reign in Jesus's kingdom on earth (Rev 5:10)" (MacArthur and Mayhue, 418). See also Revelation 20:4 (Ibid.).

¹⁸⁷ For example, the renewal of the mind in Romans 12:1-2 is confounded with neuroplasticity under the assumption that one can change neural networks at will resulting in concurrent transformation of mind and brain (Thompson, *Soul of Shame*, 44). Thompson explains, "Neuroplasticity is the feature of flexible adaptation that makes possible the connection (or pruning) of neural networks and thus the formation and permanence of shame patterns. And attention is the function that drives the movement of neuroplasticity. Via intentional attunement we connect the neurons located within the PFC with the neural networks correlated with the nine previously listed domains. By this attention we move them toward differentiation and linkage, bringing them together as an integrated whole" (Thompson, *Soul of Shame*, 45-46). Thompson attributes cognitions, affections, volitions, relating, and desires to the brain rather than immaterial man (Ibid., 43, 52, 55, 69, 130, 182; Thompson, *Anatomy of the Soul*, 2, 41, 76, 78, 95, 101, 118, 176). The previous citations are examples, but not exhaustive. It is clear that IPNB informs Thompson's exegesis rather than the reverse.

¹⁸⁸ Thompson, *Anatomy of the Soul*, 101. Thompson is not innovating but employing IPNB. Bonnie Badenoch and Susan Gantt write, "We have seen such a synchrony develop where one person moving into an intense implicit state pulls the rest of the group into a calm, empathetic, holding state of mind, very like a dance of neural circuits operating between brains for the betterment of the whole" (Bonnie Badenoch and Susan P. Gantt, *The Interpersonal Neurobiology of Group Psychotherapy and Group Process* (London, UK: Taylor & Francis Group, 2013), 12, eBook Collection, (EBSCOhost). What is being described is another determining the immaterial state heart/mind of another but Scripture connects relational problems and negative inner states as coming from one's own thoughts, desires, motives, and intentions (Gen 4:5-7; Prov 23:7a; Mark 7:14-23; Luke 6:45; Jas 4:1-3). In contrast, Thompson elevates shame as "the emotional feature out of which all...sin emerges (Thompson, *Soul of Shame*, 122).

¹⁸⁹ Thompson, *Anatomy of the Soul*, 90.

by being treated harshly, leading to emotional injury and shame and resulting in one's left-brain-caused impressions of God that raises questions of His love, care, or appraisal of one's person.¹⁹⁰ Thompson's two-pronged deterministic theology of emotion blames the brain and relationships for one's emotional states, which amounts to biological/environmental determinism thereby constituting an explicit denial of human moral agency.¹⁹¹

In contrast to Thompson's view, Scripture shows that emotions experienced as subjective feelings flow from thinking and behavior. Therefore, the immaterial heart must be addressed because bodily approaches only relieve symptoms temporarily (Genesis 4:3-7; James 4:1-3; Romans 2:14-15; 1 Peter 3:10, 16).¹⁹² What man has deemed negative emotions proceed from the conscience's judgment of the motives and intentions of the heart, thus, one's emotions are not damaged by what happens to him but are functioning as God designed (Romans 2:14-15).¹⁹³

¹⁹⁰ Thompson, *Anatomy of the Soul*, 35.

¹⁹¹ Ibid, 35, 90-91, 96; Thompson, *The Soul of Shame*, 4. Thompson writes, "emotion is something that both regulates us and that we regulate," thus man cannot be seen as a responsible moral agent under his paradigm (Ibid, 49). Thompson characterizes emotion as brain, not immaterial heart function (Thompson, *Anatomy of the Soul*, 91). Cf. Adams, *Competent to Counsel*, 96-7 where Adams attributes man's emotions to his voluntary aspects of his immaterial nature. Cognition, volition, affection are all processes of man's immaterial heart (Jeremy Pierre, *The Dynamic Heart in Daily Life: Connecting Christ to Human Experience* (Greensboro, NC: New Growth Press, 2016), 17, 50, 103). He embraces the notion of uncontrolled emotion and sense of well-being in the lower mammalian and reptilian brain rather than maintaining moral agency and locating emotion driven by the intentional works of the immaterial heart (Ibid. 94). Cf. Mark 7:14-23; James 4:1-3. Thompson elevates shame to one's constitution writing, "To be human is to be infected with this phenomenon we call shame" (Thompson, *Soul of Shame*, 4). Furthermore, he uses shame as a term synonymous with authority, Satan, evil, and evil's vector as he personifies shame as desiring and willing with its own agenda (Thompson, *The Soul of Shame*, 78-80, 170-73, 195). Ironically, this undermines one's angelology as Satan is misunderstood as an impersonal force with more power than God allows him in reality.

¹⁹² Jay E. Adams, *Competent to Counsel: Introduction to Nouthetic Counseling*, The Jay Adams Library (Grand Rapids, MI: Ministry Resources Library, 1986), 93-4. Again, theory drives practice. Although Freudian transference and Rogerian acceptance are not explicitly cited, these concepts are present in IPNB's acceptance and non-judgmental approach to emotions demonstrated by Thompson's unbiblical theory and practice (Ibid., 100-104).

¹⁹³ Jay E. Adams, *The Christian Counselor's Manual: The Practice of Nouthetic Counseling*, The Jay Adams Library (Grand Rapids, MI: Zondervan Pub, 1986), 110-11. Rich Thomson sees shame as the clearest indicator of a sin induced sense of guilt in one's immaterial conscience (Rich Thomson, *The Heart of Man and the Mental Disorders: How the Word of God Is Sufficient*, 3rd ed. (Sugar Land, TX: Biblical Counseling Ministries, Inc, 2022), 542).

Scripture shows mankind as individuals who will be judged by God based on actions flowing from the immaterial heart (Jeremiah 17:10; Ezekiel 18:1-32; Romans 14:10-12; Revelation 20:11-15). In contrast, Thompson describes attachment theory as supporting the idea that there is no such thing as an individual brain and that one's style of attachment determines one's brain (by extension one's mind) based on how one previously attached to one's parents.¹⁹⁴ Based on this biological/environmental determinism, he teaches that God holds parents responsible for "shap[ing] the neurological wiring" of their children, a subject not breached in Scripture.¹⁹⁵

Scripture is clear that man's post-fall depravity is his central problem producing eternal separation from God remedied only by God's gracious redemption through the gospel (Genesis 3; Psalms 51:5; 58:3; John 3:16-19; Romans 3:9-18; 6:23; Ephesians 2:1-10; Revelation 20:11-15). Thompson deemphasizes man's plight and instead directs counselees to focus on man's pre-fall status by emphasizing God's pleasure with man as His creation (cf. Hebrews 11:6).¹⁹⁶ Contra Thompson, Heath Lambert points counselees to the reality that sin damaged all of creation and more specifically, mankind's standing before God in the areas of motivations, thinking, emotions, bodies, and relationships.¹⁹⁷

According to Thompson, man's central problem is choosing to be "mindless rather than mindful," as seen in Adam and Eve's interest "in knowing right from wrong (a dominantly left-brain hemisphere function used to cope with fear and shame) than knowing God, which requires the integration of all parts of the brain."¹⁹⁸ Thus, a lack of integration in one's brain becomes the original

¹⁹⁴ Thompson, *Anatomy of the Soul*, 109-10.

¹⁹⁵ Thompson, *Anatomy of the Soul*, 110-11. Thompson does allow for the individual temperament (heart) to have some influence but his approach amounts to an inversion of the reality that adverse childhood experiences, as shaping influences, merely shape one but one's heart determines him (Ibid., 112; Tedd Tripp, *Shepherding a Child's Heart*, 2nd ed. (Wapwallopen, PA: Shepherd Press, 2005) 3-7, 10-11).

¹⁹⁶ Thompson, *Anatomy of the Soul*, 147.

¹⁹⁷ Ibid., 147; Heath Lambert, *A Theology of Biblical Counseling: The Doctrinal Foundations of Counseling Ministry* (Grand Rapids, MI: Zondervan, 2016), 219-25. See Ps 51:5; Prov 2:14; Rom 5:12-14; 8:20-22; 9:2-3; Col 1:21; 1 Cor 15:21-22; 15:42-4; Titus 3:3; James 1:13-15; 3:13-16; 4:1-3. Thompson does not discuss the implications of the fall for counseling an unbeliever as opposed to a Christian.

¹⁹⁸ Thompson, *Anatomy of the Soul*, 4. Cf. Genesis 3; Romans 1:18-32; 3:9-18, 23; 5:12; 6:23a;

sin.¹⁹⁹ One merely finds themselves on the “low road” leading to sin due to a disintegrated prefrontal cortex preventing them from appropriate responses to people and circumstances.²⁰⁰ Thompson’s view of confession redefines sin in IPNB terms. For example, he writes, “From a neuroscientific standpoint, when we admit our penchant to ignore emotion, to be inattentive to memory, to dis-integrate our minds, and to reap the behavioral consequences—in other words, our penchant to sin—we acknowledge the presence of neural networks that have been...repeatedly fired to wire in a way that represents our ‘old self with its practices’ (Colossians 3:9).”²⁰¹

One final way that Thompson distorts hamartiology is through what he labels “toxic rupture.” Toxic rupture is defined as the result of situations in the form of “intensely painful mental states.”²⁰² Yet, as has been discussed above, the situation does not determine one’s response to it, and the primary problem is not the situation, which is under the sovereign hand of God, but one’s sinful immaterial heart response to it.²⁰³

Revelation 20:11-15. Man’s problem, starting with the fall of man and ending with the lake of fire, is sin.

¹⁹⁹ Thompson writes, “Sin severs your relationship with God. When you are separated from God, you are separated from others and experience commensurate separation between different elements of your own mind.... ‘Being separated,’ then, is a metaphor for disconnection, dis-integration, and a host of other ideas that are also used in neuroscience and attachment theory” (Ibid, 183).

²⁰⁰ Thompson, *Anatomy of the Soul*, 163. Cf. Genesis 6:5; Romans 3:10-18, 23; James 1:13-14; 3:13-16; 4:1-3.

²⁰¹ Thompson, *Anatomy of the Soul*, 163. Confessing mere biological states creates an artificial distance between one and his sin, bypassing conviction and undermining the process of confession and repentance unto godly sorrow. It creates an opening for worldly sorrow since there is a lack of owning one’s sin as connected to his very being (2 Cor 7:9-11).

²⁰² Thompson, *Anatomy of the Soul*, 190. Thompson describes toxic ruptures, writing, “We scream and call someone names. Or we withdraw into a vault of silence. We nurture a hurt or wound, ruminating about it, deepening the sadness or anger felt or expressed into a state of despair. We verbally or nonverbally engage in a campaign of contempt” (Thompson, *Anatomy of the Soul*, 190).

²⁰³ Nicolas Ellen writes, “We cannot control people or the outcome of situations (Ecclesiastes 3:1-11, 7:13-14, 9:1-2). We can only control our own thoughts, emotions, desires, words, and actions (Romans 12:2-3, Proverbs 16:32, Psalm 37:4, Ephesians 4:29, 22-24). Therefore, we need to evaluate and take responsibility for how we are responding to people and the outcome of situations (Galatians 6:7-8, 5:16-25). We need to evaluate what is motivating us with people and the outcome of situations (James 1:13-14, 3:13-16, 4:1-3). Are we motivated by love for God above our selfish desires? Or, are we motivated by our selfish desires above love for God? (1 John 2:15-17, James 4:4, James 3:16)” (Nicolas Ellen, *Biblical Counseling Practicum* (Houston, TX: Expository Counseling Center, 2009), 162).

In contrast to Scripture's Christ-centered solution to man's sin through the gospel, Thompson takes a man-centered, IPNB-informed approach to an alternative way of salvation (John 3:16; Romans 6:23; 10:9-11; 1 Corinthians 15:3-4). Below, Thompson's general approach to man's problems will be discussed primarily from *Anatomy of the Soul* and then his shame-specific approach will be discussed primarily from *The Soul of Shame*.

In addressing the remedies to man's plight, Thompson forsakes God's moral law, seeing it as disconnected from His ways and different from what "true living is all about."²⁰⁴ Instead, he looks to bodily attunement, autobiographical narratives, and the experience of "feeling felt."²⁰⁵

Thompson's IPNB informed bodily attunement involves a technique called a body scan that he claims helps one recover previously lost implicit memories that were repressed due to trauma in hopes that experiencing the emotions surrounding those memories will help one work toward healing.²⁰⁶ Thompson suggests additional techniques, writing, "Movement exercises, such as yoga and tai chi, are additional means by which you can enhance your awareness of your body's sensations and breathing. Doing so enhances the integration between circuits from the insula and the prefrontal cortex."²⁰⁷

²⁰⁴ Thompson, *Anatomy of the Soul*, 168. Thompson adopts IPNB's vision of human flourishing—integration—rather than Scripture's vision for the good life, conformity to Christ and God's moral law (Matt 22:36-40).

²⁰⁵ *Ibid.*, 170-74. For an IPNB perspective on the "remedies" of attunement, narrative, and "feeling felt" or resonance, see Siegel, Schore, and Cozolino, 34-69; 137-39; Siegel, *Pocket Guide to Interpersonal Neurobiology*, 19-6, 23-1 – 23-5.

²⁰⁶ Thompson, *Anatomy of the Soul*, 124-26; 170-71. Secular sources now question the validity of the existence of repressed memories (Michael Scheeringa, *Analysis of The Body Keeps the Score: The Science That Trauma Activists Don't Want You to Know*, 2023, 57, Kindle). Scheeringa's study of "284 three to six year-old children who experienced a variety of traumas" produced "zero children who could not recall their traumatic events (*Ibid.*). For a more detailed discussion, see Elizabeth F. Loftus and Katherine Ketcham, *The Myth of Repressed Memory: False Memories and Allegations of Sexual Abuse*, 1st ed. (New York, NY: St. Martin's Press, 1996).

²⁰⁷ Thompson, *Anatomy of the Soul*, 171. Thompson also recommends centering exercises involving meditation on a specific word, such as those in Galatians 5:22, and focusing on a single word per week by regularly invoking images related to that word in one's mind—especially in response to interpersonal difficulty (*Ibid.*, 174). He writes, "Ask yourself how you can be a conduit of joy, peace, patience, or gentleness in this moment. This exercise will not only facilitate the integration of your own prefrontal cortex, you will be doing the same for those around you by creating space within which they can feel felt" Thompson, *Anatomy of the Soul*, 174.). This mediation is very similar to centering prayer also recommended by Thompson (*Ibid.*, 47). It is rooted in Eastern religion and mysticism, see P. Gregg Blanton, "The Other Mindful

The autobiographical narrative is another method Thompson employs and recommends as a means of making sense of one's implicit memories and emotional responses—creating distance between one and his emotions—toward seeing oneself as a child in need of comfort rather than an angry and shameful son or daughter.²⁰⁸

Thompson claims the validation, sense of being understood, or “feeling felt” achieved through psychotherapy is key to the empowerment to control one's emotions.²⁰⁹ He recommends counselees employ “the neuroplastic triad” of aerobic activity, focused attention exercises, and novel learning experiences to promote neuroplasticity because “neuroscience research confirms that mindful meditative exercises that stretch and challenge the attentional mechanism of your brain enhance the integration of the prefrontal cortex.”²¹⁰

In counseling shame, Thompson uses an IPNB theology and methodology as described above while specifically emphasizing vulnerability, being known,

Practice: Centering Prayer & Psychotherapy: Pastoral Psychology,” *Pastoral Psychology* 60, no. 1 (February 2011): 136; Thomas Keating, “A Traditional Blend: The Contemplative Sources of Centering Prayer: Sewanee Theological Review,” *Sewanee Theological Review* 48, no. 2 (2005): 145–49.

²⁰⁸ Thompson, *Anatomy of the Soul*, 171. Thompson explains, “Writing out your life story on a piece of paper requires focused attention and enables you to think more slowly and deliberately than you would if you were typing. This helps activate your right hemisphere, which is correlated with nonverbal and implicit memory—feelings, sensations, images, and perceptions—that is connected to the memory you are writing about. Inevitably, memories that you have not thought about for some time may surface as a result. Of course, as you write by hand, you will also activate the left hemisphere, which processes information in a logical, linear fashion. This process of combining language (left mode) with visuospatial, nonverbal, implicit experience (right mode) causes neurons from the right and left hemispheres to synapse more robustly with each other. In other words, you foster the integration of your brain” (Ibid., 79). Autobiographical narrative is an important component in many psychotherapies.

²⁰⁹ Ibid, 172. Cf. 2 Corinthians 4:7; 12:9.

²¹⁰ Thompson, *Anatomy of the Soul*, 174–75. Thompson does recommend some biblical methods, namely, practicing the spiritual disciplines of meditation, prayer, fasting, study, and confession but does so through a mystical approach as inspired by Dallas Willard's *The Spirit of the Disciplines* (Ibid. 175–77). Thompson writes, “Spiritual disciplines have been practiced in the lives of deeply integrated followers of God for over three thousand years. Interestingly, they can facilitate the very things neuroscience and attachment research suggest are reflections of healthy mental states and secure attachment. Furthermore, these disciplines can strengthen the nine functions of the prefrontal cortex. In short, the disciplines enable us to pay attention to our minds in order to pay attention to the Spirit who is speaking to us through that very medium” (Ibid., 180).

and practicing acts of imagination.²¹¹ He draws on the work of author and speaker Brené Brown who also sees vulnerability as a means of enhancing human flourishing, and he sees shame as the primary obstacle to people allowing themselves to be vulnerable in their relationships.²¹²

Thompson's final step to overcoming shame is practicing acts of embodied imagination which involves fostering relationships to hear the Father's voice of delight and "regularly and intentionally revealing our most hidden shame in the context of those relationships that comprise the great cloud of witnesses surrounding us. In this literal embodied act, our whole self is liberated from shame."²¹³ Thus, the experience of a Rogerian empathetic and accepting relationship of IPNB is the central means of solving one's problems—salvation—according to Thompson's integrated counseling theory and practice (cf. John 3:36; Acts 2:21; Romans 6:23).

Thompson teaches that "neuroscience acts like a magnifying glass, enabling us to see detail about the human condition that we might otherwise overlook," with the caveat that "God's story is our ultimate authority."²¹⁴ Yet, in practice, he does not use Scripture as a corrective concerning the findings of science or the polytheistic philosophy of IPNB. He fails to understand that Scripture, not neuroscience, is the inspired, inerrant, authoritative, and sufficient revelation of God to mankind, and therefore, the Bible is the lens through which man

²¹¹ Thompson, *The Soul of Shame*, 158-61; 162-65, 175; 195-97. For Thompson's approach to being known refer back to the previous paragraph.

²¹² *Ibid.*, 158-60. For the primary source of Thompson's view of vulnerability beyond IPNB, see C. Brené Brown, *Daring Greatly: How the Courage to Be Vulnerable Transforms the Way We Live, Love, Parent, and Lead*, 1st ed. (New York, NY: Gotham Books, 2012).

²¹³ Thompson, *The Soul of Shame*, 180. Thompson explains, "When I see my friend's face, hear his voice, sense his empathy for my plight in real time and space, I am given the opportunity to imagine a different way of telling the story of what has been only shame, isolation and stasis. To imagine a different story requires my brain to be in a position to do so; for I cannot imagine a future if I have no memory on which to base it. Embodied acts of this kind provide the basis for imagining new possibilities. But this takes effort and perseverance" (*Ibid.*). For Thompson, healing happens in community but he holds no biblical doctrine of the centrality of the church, writing, "It is important to note that these communities can emerge in various settings. They do not form solely within religious circles. They exist in schools, in factories, in neighborhoods, at the office of the technology company, in the coal mine, in the departments of psychiatry in leading medical schools, in art associations, in restaurant kitchens" (Thompson, *The Soul of Shame*, 197).

²¹⁴ Thompson, *Anatomy of the Soul*, 205.

may discover the objective truth concerning God, man, sin, salvation, and all matters of life and godliness (Psalms 19; 119:89, 105; 2 Timothy 3:10-17; 2 Peter 1:304, 20-2).

Ultimately, Thompson's approach to Scripture and religion through the interpretive lens of IPNB leads him to a universalist position which sees all paths as leading to salvation in Christ.²¹⁵ IPNB has been shown above to be contradictory to Scripture in its theology proper, anthropology, hamartiology, and soteriology; therefore, it should not be accepted by Christians as a validly applied theology.²¹⁶

CONCLUSION

IPNB utilizes the findings of neuroscience as a basis of explanatory power in its eclectic and unbiblical approach to human flourishing. Neurological structures and processes as products of evolution and environmental adaptation are improperly used to explain the complex behaviors of mankind. Some of the neurobiological underpinnings of IPNB are pseudoscientific, such as the attachment and polyvagal theories. IPNB joins neuroscience, which is unable to explain complex human behavior, and subjective philosophies. It is scientism. IPNB is demonstrated to lead to unbiblical counseling theory and practice, therefore, it should not be utilized by Christians to counsel those experiencing shame or any other problem of life and godliness.

Therefore, Thompson's integration of IPNB and Christian principles marred by his IPNB-informed interpretive lens is also fatally flawed. Despite

²¹⁵ Ibid, 264. Thompson confesses, "As a follower of Jesus, I believe that history is traveling in a particular direction and that at its culmination we will all submit to him as Lord of heaven and earth. I believe that the best of all religious experience, explicitly Christian, or not, will ultimately lead to Jesus, and salvation in every sense will come through a relationship with him" (Ibid.). His view cannot be true according to Scripture. Idolatry is one of the most consistently confronted means of wickedness in Scripture from the fall of mankind forward and, indeed, it was bound up in the very nature of the fall as Thompson herein admits (Ibid., 211). Cf. Thompson's view with Scripture: John 6:37; 14:6; 17:3, 6-12; Romans 1:22-23; Revelation 21:8; 22:14-16.

²¹⁶ In the end, Thompson is not integrating but merely using biblical illustrations to validate IPNB concepts.

the contrary claim of Thompson, theological facts rightly formed from Scripture about God, man, and sin, are not irrelevant, but essential to soul care in the form of counseling and provide the necessary practical guidance for life and godliness. Thompson's IPNB-informed approach, on the other hand, is not necessary. His counseling system employs syncretism cloaked in neuroscientific language in a fruitless attempt to establish extrabiblical authority. It robs his counselees of the hope that comes from a high view of God and Scripture in exchange for a god who is imperfect and subject to man. Thompson inadvertently destroys the hope available for Christians as they read of the suffering and trials of Job, Joseph, Ruth, Paul, and others, because he exchanges biblical hope for the determinism of attachment theory. Thompson puts words in God's mouth to promote IPNB principles, yet God makes his will clear for counselees—their sanctification (1 Thessalonians 4:3a). The somatic modalities—rooted in false religions—have no role to play in sanctification, and thus, Christians should not employ IPNB or Thompson's system in biblical soul care.

RESPONSES

A RESPONSE TO FRANCINE TAN'S CRITIQUE

*Dr. Edward T. Welch*²¹⁷

Editor Note: In our original Spring 2025 issue, the JBSC editorial team mistakenly published a response by Dr. Edward Welch that was not intended for publication. We have removed that article and replaced it with the revised response that was intended by him to be included.

This is a response to Francine Tan's article, "Common Grace in Debate: A Response to Edward T. Welch's 'Common Grace, Knowing People, and the Biblical Counselor.'"²¹⁸

My article came out of a requested presentation and article from a recent ACBC symposium.²¹⁹ I was asked to do something on common grace. I understood my assignment to be what we can actually learn from others, especially unbelievers, though I might have misinterpreted the request. Either way, Abner Chou had been assigned to present a theology of common grace and biblical sufficiency.²²⁰ I did not want to duplicate that work or include a long prolegomena on common grace. The antithesis was well covered.

My Topic

My interest was "to consider observations made without the ostensible aid of Scripture, and their possible utility for pastoral care and counsel." I

²¹⁷ Dr. Edward T. Welch is a faculty member and counselor at the Christian Counseling Education Foundation and is a prolific author on a variety of counseling topics. Please contact jbsc@biblicalcounseling.com with questions for the author.

²¹⁸ Francine Tan, "Common Grace in Debate: A Response to Edward T. Welch's 'Common Grace, Knowing People, and the Biblical Counselor,'" *Journal of Biblical Soul Care* 8:2 (2024).

²¹⁹ JBSC, 8:1, 2024

²²⁰ JBSC, 8:1, 2024.

pursued this for two reasons. One is that I hoped to identify a biblical category that is assumed but overlooked. Another is that I wanted avoid the focus on unbelievers and place it more on us and our own observations that we make with the naked eye, which is a skill we share with unbelievers. My method stretched the intent of the JBSC in that I tried to be personal and concrete.

When you talk about sharing skills with unbelievers in the JBSC you have some explaining to do, so my article does touch on how human depravity is not the entire story with unbelievers. Something “good” persists, and this exists apart from the regenerative work of the Spirit and the light of Scripture. It is good in that you can detect their connection to their creator and they make contributions to life on earth. It is good in that you can have a genuine point of contact with unbelieving neighbors. Those neighbors can be friends who you enjoy, appreciate, see relational and vocational skills in, and admire. This does not deny the radical transformation that believers experience in Christ. It is simply to say that this transformation makes us uniquely capable of having relationships with people who are different from ourselves. All this could be nuanced and developed, but my interests were in what we as believers observe, so I moved on, with the expectation that I was making ordinary comments, which, if denied, would have implications in daily life that I cannot even imagine.

Tan’s Basic Critique

Tan’s prominent concerns, as I understand it, are my sloppiness with the doctrine of common grace, and my elevation of personal experience/observation over Scripture.

On the first issue, I essentially agree with Francine Tan’s general comments about common grace. Her comments review how we are presuppositional creatures. Our presuppositions affect the data. This is axiomatic in both the church and the world, especially since Thomas Kuhn’s, *The Structure of Scientific Revolutions*. But, as I mentioned in my article, assumptions skew some data more than others. They blind irregularly, which means that we consider observations with different worldviews on a case-by- case basis. I agree with Tan’s comments on common grace, but they are incomplete and don’t reach toward the interests of my article.

Regarding sloppiness, I see such things in myself, but I don't think this is highly relevant to the article. There are places where, from my perspective, her critique is a bit demeaning and unnecessary. There are other places where she suggests that I am inconsistent and say two different things. I believe, however, that I am clear on the important matters, and the category of common grace is, by nature, populated by apparent contradictions, paradoxes, mysteries and complexities.

The second issue—the charge that I place empirical data over Scripture—is a significant one. This is simply not true. My article, I think, is clear.

“When secular theories are incorporated into our counsel, the doctrine of sin is the first one to suffer, and when the doctrine of sin is minimized the gospel of Jesus Christ itself is lost. God’s words are our treasure and we love them. Mere human insights do not and should not stir the heart in the same way, and they do not have the prominence of the mystery ‘set forth in Christ as a plan for the fullness of time, to unite all things in him’” (Ephesians 1:9-10).

“This places common grace within the larger context of Scripture and subordinates it to Christ.”

“The caution in all this is that we do not fall in love with our observations. Though useful and important, they live under Scripture and under Christ.”

“God’s words are the food that sustains us. Christ is the Word who sustains us. Christ is the one who unites all things in himself. Through God’s words and the Word we see more, both the visible and the invisible.”

Tan overlooks these because she identifies them as “incongruent” (p.93) with my “true position,” which she identifies as less than biblical. Then she summarizes some of her critique under the heading, “Elevating Experiences over God’s Special Revelation,” or, makes comments such as “Welch readily embraces trauma informed resources,” or “To cherry pick best practices is to accept the entire secular system.”

In my writing I prefer to use words that are accessible, so I don't include Van Til's distinction between the metaphysical and the epistemological in this section, and I did not use antithetical. I do, however, try to use words intentionally, as does the JBSC. My article does not elevate experience over Scripture and Christ. I do not embrace trauma informed resources, as though they are objects of deeply held affection. If you reread that section of my article, I think you would find her language misleading and inaccurate. The comment about cherry picking sounds like a quote that is used to paint someone in integrationist colors.

My working hypothesis is that these are assumptions about me that precede the article. Over the past decade, attendees from ACBC conferences have casually mentioned that they were surprised to hear I was an integrationist. The actual sources for this weren't clear, the reasons for it were also unclear, but the designation was. As someone who has always taught that I want biblical rationale for every counseling moment, it seems odd to be counted among that group, and it leaves me wondering what are the bona fides for inclusion within biblical counseling. I hope this doesn't sound like sour grapes on my part. My point is that being a believer does not protect us from misunderstanding another believer.

Does Experience Matter?

This is the question that my article tries to address. Tan's concerns to protect biblical sufficiency against the Trojan horse of common grace seem to dismiss the category of personal, life experience, i.e., things you learn as you have spent time studying anything, such as how to help people. If I follow what she says, experience is a signal that reveals one's underlying, sub-biblical epistemology. Experience, instead, should be limited to your facility with Scripture. Using this logic, the best counselors are those who know lots of Scripture and have good character. This, I think, is reactionary and out of step with the nature of biblical wisdom. When I have observed biblical counseling in which there are two counselors, both counselors can have access to similar Scripture and walk with integrity before Christ, but counselees typically look to the more experienced counselor, even when the counselors are similar ages. Counselees have good reasons for these instinctive preferences.

I thought all of us would say that life experience matters. It is a feature of biblical wisdom. I also thought that we would agree that the resident NT/OT prof is not necessarily the person who could be the most helpful pastoral counselor. Does ACBC disagree? I think that you agree but prefer to do that with significant qualifications and nuances. If so, I wonder if the nuances keep us from ever getting to these other questions.

With this distrust of experience in mind, I am unclear if we have any use for a question such as, “What has been helpful?” Yes, we lead with “What is true?” Yet without a way to assess the benefit of our care, we can rest in being theologically correct yet pastorally foolish. Much of my own growth comes from saying things that are true but unhelpful, and then reckoning with why they were unhelpful. This is not placing experience above Scripture. It is a humble approach to ministry in which we acknowledge that we can misunderstand the person or misapply Scripture.

How Do We Know the Person?

This is the related question because it grows through experience earned by skillful listening. Is Scripture all we need to know people, or, especially, in counseling and pastoral conversations, are there other ways of knowing. For example, we can preach or teach in a very different culture, without knowing one person in the room, and the hearers can be deeply known. Yet, as we spend time in that culture, and know the stories of individual people, we have fuller and useful knowledge. Marriage and all good relationships follow the same pattern.

Scripture shapes everything we know, and Scripture points us to the need for careful knowing and careful observations. Compassion alone makes this necessary. Then Scripture sends us out, in faith and love, with an awareness of humanity’s dark lineage, a knowledge of our greatest need, a rough idea of a person as the fusion of body and soul, and much more. From there, we study people and know them uniquely. How do we do that? In a similar way that we study other features of creation—we work at it, and we get help because this task is more important than knowing the best time to trim hydrangeas, no matter how important hydrangeas might be. I have often cared for someone with a complex struggle, and with each conversation, I knew a little more,

and then a little more, and then I read something on that struggle, and then I spoke to colleagues, and then tracked down those who had a similar struggle. Through that process, compassion grows and pastoral care becomes more proficient and helpful. Can they grow apart from this process?

Here again, I thought that this was what all pastors and counselors thought and did, and I still think that. I was trying to take that important process of knowing people and elevate the category rather than leave it implicit.

Lesser Matters

Tan's article touches briefly on other issues. These are matters for another day, so I will only mention them.

Science. One issue regards the nature of science. When the topic is how we make observations, it naturally extends into more formal science. My perspective, in very broad strokes, is that I appreciate careful observations by ordinary people, and I am suspicious when more formal science makes bold new claims. For most formal science, "conclusive" is a hope rarely achieved. To wait for scientific proof of changes, especially in the human brain, is to wait indefinitely because that standard cannot be met outside of a laboratory in which you can manipulate variables.

Tan writes that I draw scientific conclusions about brain contributions to depression when the science is not conclusive. She is accurate. But that doesn't leave me waiting for conclusive results or defaulting to sin as an explanation. Instead, armed with a biblical understanding of the body I go out and try to learn more. Since depression, in my experience, is not monolithic, I do not expect one theory to fit everyone, but I have found that some depression has much in common with people I have known who have had verifiable brain differences. Depression often acts like a physical weakness.

The nature of wisdom. Another related issue emerges because the discussion of common grace and biblical sufficiency tend to go together. That is, if the Bible is sufficient, then we don't need other ways of knowing. This is a larger matter about the nature of wisdom.

Scripture gives us everything we need for life and godliness, but it can't and won't supply all the details. It can't, of course, because that is impossible. There is no book that could equip us for every person and give us the steps to follow in every situation. It won't because, from my perspective, that is not God's way. Some things are simple and clear: say no to adultery in thought and act. Other things are complicated and less clear. What if a neighbor's dog attacked your dog, with nasty consequences, and the neighbor hasn't said anything about it. Well, you get advice. But what happens when ten wise people tell you ten different things. Then you say, "I am poor and needy, Jesus, help, because I have to do something soon." Then you ... I don't have any idea what the next step would be. Wisdom is hard fought. The Lord seems to like us to squirm, struggle, pray, read, ask more advice, and then take hard steps that are less clear than we thought and trust that he is sovereignly with us even if things seem to go sideways. And, to go back to the adultery decisions, the simple and clear part is just the start. The wisdom-less scripted-creative-and-by faith part of pastoral has now begun, which includes experience.

Priorities. Another small issue is how we prioritize our concerns. For example, Tan is quick to raise concerns about avoiding blame when people hear that there is a physical feature to their struggles. She must be in a setting that sees such things. I think that such things are possible, but I rarely witness this in my own counseling and pastoral care, so I believe that we can certainly blame, but I tend to see people blaming other people more than blaming their brains.

Differences in Apologetic Method

Differences large and small enter into our apologetic method. We all make choices in how we talk with those who disagree with us. Those choices are not necessarily right or wrong. Embedded in my article are some of those values that inform my ministry decisions.

In my conversations with thoughtful integrationists, I find that the issue is not their confusion about common grace. Instead, they often assume a tri-partite view of the person, which means that the spirit must have God for salvation and the soul must have psychology for healthy emotions, thinking and relationships. The Bible, of course, contributes as it can, but it is best left

for life outside the therapeutic hour. In response, I have tried to offer another biblical perspective on the person, but that, too, left people underwhelmed.

What seemed meaningful to some integrationists was to illustrate how Scripture led to a deeper understanding of people and provided a more profound way to help. They assumed that Scripture said nothing about real help for modern diagnoses, and those who tried to use Scripture were simplistic, sometimes harmful and likely unethical. With such low expectations, a test run in which Scripture shows its counseling capacities can be a surprise. Better still is when we offer Scripture in a way that helps troubled counselees and troubled counselors. I had a conversation with a Christian psychologist after I wrote a book about shame and gave him a copy. He quickly wrote back, “This is exactly what I hoped I would do when I entered graduate school. But I was never equipped to do it.” He saw that Scripture spoke with a depth that secular theories never could and was excited by it. He also thought that it was probably too late to learn such things.

This is to say that we all make choices about how to bring Jesus to the world around us. My preference is to speak with humility and respect, listen to why those who disagree do what they do, surprise low or stereotypical expectations if possible, and illustrate how the gospel of Christ goes absolutely everywhere, reaching eternal matters that are outside the capacity of therapeutic care, and it is stunning.

I genuinely appreciated the invitation to the ACBC symposium. Having now come to the end of the process that began with the symposium and ends with the JBSC critique, I am blessed by the interest JBSC and ACBC have in my responses.

Ed Welch
1/16/2025



The Association of Certified Biblical Counselors is committed to championing the sufficiency of Scripture for the Church as she engages the problems people face, speaking the truth in love. Christians have the responsibility to bring the truth of God to bear on the problems of everyday life, and to embody that truth in a life of love.

At ACBC, we seek to strengthen the Church to speak the truth in love by providing a quality training and certification process, a global network of like-minded individuals and institutions, and a source of practical and biblical resources for the Church.

In short, we seek to bring biblical solutions for the problems people face, upholding that the method God has given to do this is truth in love.

Find all our ACBC resources at
BIBLICALCOUNSELING.COM