



Brain Science, Psychological Trauma, and The God Who is With Us, Part III: Traumatic Memories vs Non-Traumatic Memories

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Note: This essay was originally written in 2007, before I became aware of the research on memory reconsolidation. I made a lot of edits for the 2025 update, but I did not totally re-write the essay from the ground up. This 2025 update is *mostly* synchronized with more recent material, but there are pieces that you will recognize as being written before I learned about the research on memory reconsolidation for experiential learning.¹

Note also: Large portions of the original version of this essay (updated and expanded) are now included in *Outsmarting Yourself* and in the big lion book. At the places where this material used to be included in this essay, I will include reference pointers to the new locations. Wherever there is overlapping material between this essay and the books, the content in the books is more recent, and benefits from many edits and updates.

Immanuel approach reminder: It is always important to remember that Jesus knows every detail regarding how the brain, mind, and spirit are designed. When the recipient has a strong connection with Jesus, and the facilitator is mostly just coaching the recipient to focus on Jesus, ask for guidance and help, and then cooperate with whatever Jesus invites them to do, the facilitator can lead the recipient through trauma-healing work without needing to understand any of this material regarding the similarities and differences between traumatic memories and non-traumatic memories.

I. Introduction: As described in the discussion of the pain processing pathway, we all encounter painful experiences. When we encounter pain, our brain-mind-spirit system tries to process the painful experience, and there is a specific pathway that this processing follows. When we are able to successfully complete this processing journey, we get through the painful experience without being traumatized – we emotionally and cognitively “metabolize” the experience in a healthy way, and instead of having any toxic power in our lives, the adequately processed painful experience contributes to our knowledge, skills, empathy, wisdom, and maturity. As also described in the discussion of the pain processing pathway, various problems and/or limitations can block successful processing; and if we are *not* able to complete the processing journey then the painful experience becomes a traumatic experience, and the memories of these traumatic experiences have toxic power in our lives.

As we work to resolve the toxic memories of traumatic experiences, it is helpful to understand the ways in which traumatic memories are different from non-traumatic memories.

II. Memories for different kinds of content display *qualitative* differences: One of the most fascinating observations regarding memory phenomena is that memories for different kinds of content display *qualitative* differences – they *feel* subjectively different and *behave* differently in ways that are consistent and important.

¹My most recent material regarding memory reconsolidation, and how it applies to the permanent resolution of traumatic memories, is presented in both of my new introduction books (*An Introduction to the Immanuel Approach* and *An Introduction to the Immanuel Approach for Mental Health Professionals*). Pages 76 to 82 in both books.

Feel subjectively different: Using memories for one kind of content *feels subjectively different* than using memories for other kinds of content. For example, when I engage in physical activities, such as walking or riding a bicycle, I am not consciously aware of using memories. I just walk or ride, without even considering that the ability to walk or ride a bicycle is a learned skill, and that I am using motor skill memory files every time I engage in the activity. This *feels subjectively different* than the experience of using memory files for factual information. When I recall factual information, such as the address of a friend I have not visited for years, it *feels, subjectively*, like I search for and then find a piece of information that is stored in a filing system. And using either of these two types of memory files *feels subjectively different* than using memory files for autobiographical information. When I use a non-traumatic autobiographical memory file, I am consciously aware of remembering an event from my personal past experience, and this autobiographical remembering process *feels, subjectively*, like replaying a faded, less intense version of the original experience.

Behave differently: Memories for one kind of content also *behave differently* than memories for other kinds of content. One of the most important ways in which memories for different kinds of content behave differently has to do with how easily the content can be modified. For example, it is easy to modify the cognitive semantic memory file that contains information about our plans for the upcoming weekend. If we had been planning to spend Sunday afternoon in an extended meeting to review the church budget, but then this gets cancelled and Charlotte suggests going to the botanical gardens instead, it is very easy for me to remember that on Sunday afternoon I will be watching birds at the botanical garden instead of reviewing pages of financial records and calculations.

However, memory files carrying certain other kinds of content can be very difficult to modify. My relationship with fried mushrooms provides an excellent illustration of this point. Most of my childhood I loved fried mushrooms. When we would visit my grandparents in Pennsylvania grandpa would occasionally find a few puffballs (mushrooms that are especially easy to identify and absolutely safe to eat). Grandma would slice them into sections and fry them in butter, and my only negative reaction was to be disappointed that each of us only got a small portion. Then one summer we had fried mushrooms on the same day that I came down with the intestinal flu, so that I experienced miserable nausea and vomiting immediately after eating fried mushrooms.² For almost 10 years after this experience, not only did I no longer “like” fried mushrooms, but I would actually get nauseated if I smelled them cooking. Then for another 10-15 years I just didn’t like them. It took almost thirty years of desensitization before I enjoyed eating fried mushrooms again. *Even though I knew that I had always loved them before, that there was nothing wrong with them, and that my aversion was caused by an accidental association with stomach upset from the flu – even in spite of all this opposing information it took thirty years to desensitize the unconscious, involuntary reaction I “learned” from getting sick after eating mushrooms.*

Motor skill memory provides another example of memory that is difficult to modify. If you initially learn to play tennis by just goofing around with your friends, and then you start working with a coach who is helping you to learn proper form, it will take you many hundreds of repetitions over months of practice to learn a new way to swing your tennis racquet. And as will be discussed in detail below, memories for traumatic experiences provide the most

²For those of you wondering about the mushrooms, I know they did not cause my illness because everybody else had them but nobody else got sick.

important example of memory that is difficult to modify.

III. Traumatic memories and non-traumatic memories are *qualitatively* different: We can observe this same kind of *qualitative* difference when we compare traumatic and non-traumatic memories. Research studies, case studies, and observations from our own lives all reveal that traumatic memories and non-traumatic memories *feel subjectively different* and *behave differently* in ways that are consistent and important, indicating that memories for traumatic experiences and memories for non-traumatic experiences are processed, stored, and retrieved differently. **2025 update:** In light of additional information regarding different involvement of the hippocampus in different kinds of memories, and especially in light of recent discoveries regarding memory reconsolidation, the updated version of this essay now discusses six different types of memory that are particularly relevant with respect to emotional healing ministry/psychotherapy (as opposed to just traumatic memories vs non-traumatic memories).

- Memory for cognitive-semantic learning
- Memory for non-traumatic experiential learning
- Memory for traumatic experiences, with fully functioning hippocampus
- Memory for traumatic experiences, with partially impaired hippocampus
- Memory for traumatic experiences, with hippocampus completely disabled/offline
- Memory for traumatic experiences that are shunted to an alternative processing pathway

A. *Feel subjectively different:* Activating traumatic memories *feels subjectively different* than activating non-traumatic memories. “Flashbacks” from dissociated traumatic experiences provide an especially dramatic example. I have worked with combat veterans who experienced flashbacks as part of their post traumatic stress disorder (PTSD), and these veterans always described flashbacks as feeling like *reliving* the original traumatic experiences, as opposed to feeling like normal autobiographical remembering. These veterans reported that when they were inside flashback experiences they would *see* the enemy soldiers, the maimed bodies of their dead comrades, and other images from their combat memories as vividly as when they were actually there; they would *hear* the screams, gunfire, explosions, and other sounds of battle as clearly as if they were listening to the sound track from a combat movie; they would *feel* the weather conditions, the weight of the friends they were carrying in their arms, the pain from wounds, and other physical sensations as distinctly as if these things were actually occurring in the present; they would *smell* the smoke from gunfire, the stench of burning flesh, and other odors from the battlefield as if these things were actually present in my office; and they would perceive the thoughts and experience the emotions from their memories as vividly and intensely as in the original combat experience. Again, people accessing flashback traumatic memories report that it feels like *reliving the original event*.

In addition to my own observations, many other clinicians and researchers working with traumatic memory have carefully studied and described the ways in which traumatic flashbacks are subjectively different than normal autobiographical memory,³ and there are many published

³See, for example Van der Kolk, Bessel A.; & Fislser, Rita. “Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study.” *Journal of Traumatic Stress*. October 1995, Vol. 8, No. 4, pages 505-525; and van der Kolk, Bessel A., “Trauma and Memory,” chapter 12 in Van der Kolk, Bessel A.; McFarlane, Alexander C; Weisaeth, Lars, Editors. *Traumatic Stress: The Effects of Overwhelming Experience on Mind, Body, and Society*. (New York: Guilford Press) 1996, pages 279-302.

case studies that include detailed descriptions of this phenomena.⁴ My current (2025) understanding regarding flashbacks is that extreme trauma, such as the experiences that get totally dissociated and then come back in the form of flashbacks, are processed by an alternative processing pathway, different than the pain processing pathway described in detail in Part II. (With this alternative processing pathway, the content of extreme trauma seems to be frozen as a totally unprocessed recording of the original experience.)⁵

Two more dramatic examples are provided by traumatic experiences that do not get routed to the alternative processing pathway, but that are sufficiently intense to impair or completely disable the hippocampus.⁶ When the hippocampus is *impaired* it does a poor job of mapping how the different components of the experience fit together, so that when the memory is activated the different components of the experience come forward in a disorganized jumble instead of being coordinated into a coherent autobiographical story. If you ask the person to describe the traumatic event, he will have trouble remembering how the visual images, auditory memories, cognitions, and emotions all fit together, and will tell a story that is disorganized and confusing.

When the hippocampus is *completely disabled* there is *no* mapping between the different components. Traumatic experiences during early childhood provide one of the most common examples of this phenomena because the combination of a neurologically immature hippocampus and the cortisol-mediated interference associated with traumatic stress frequently result in memories that are processed without any contribution from the hippocampus. Because there is *no* mapping between the different components, these memories do not even come forward as disorganized autobiographical memory packages. When triggering stimuli that match some aspect of the original experience activate these memories, the different components (visual images, memory for sound track, memory for other sensory components, distorted interpretations, painful emotions) come forward as completely separate, disjointed pieces.⁷

My 18-month-old separation from my parents provides a good example of traumatic memories with no hippocampus involvement, and therefore no mapping between the different memory

⁴See, for example, Shapiro, Francine & Silk Forrest, Margot. *EMDR: The Breakthrough Therapy for Overcoming Anxiety, Stress, and Trauma* (HarperCollins: New York, NY), 1997. The case studies discussed on pages 1-4, 74-88, 136-147, 171-175, and 192-200 include detailed descriptions of this “reliving” type memory experience.

⁵If you have not already made the connection, memory for extreme trauma that comes back as flashbacks is the sixth form of memory from the bullet list above: “Memory for traumatic experiences that are shunted to an alternative processing pathway.”

⁶These are the fourth and fifth bullet points from the list above: “Memory for traumatic experiences with partially impaired hippocampus,” and “Memory for traumatic experiences with hippocampus completely disabled/offline.”

⁷This phenomena of disjointed implicit memory fragments is also discussed in Van der Kolk, Bessel A., & Fisler, Rita. “Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study.” *Journal of Traumatic Stress*. October 1995, Vol. 8, No. 4, pages 505-525; and van der Kolk, Bessel A., “Trauma and Memory,” chapter 12 in Van der Kolk, Bessel A, McFarlane, Alexander C, Weisaeth, Lars, Editors. *Traumatic Stress: The Effects of Overwhelming Experience on Mind, Body, and Society*. (New York: Guilford Press) 1996, pages 279-302 (see especially the discussion on pages 287-289).

components.⁸ When triggers activated these memories, the different components (visual images of being on the phone in the Wetzel's apartment, the thoughts that came to me as I could hear my mother's voice, level-1 attachment pain, level-3 sense of being relationally isolated, right-hemisphere emotions, level-5 left-hemisphere distorted interpretations, and the negative emotions associated with these distorted interpretations) all came forward as completely separate, disjointed pieces. That is, I did not have any spontaneous sense or subjective feeling of connection between the pieces. And I did not even recognize that they were coming from memories from my own experience until I put the whole picture together as part of my healing journey and with the benefit of information from my older brother and parents.

While Flashbacks for extreme trauma and hippocampus-impaired memories are especially dramatic, remembering even mild-to-moderate traumatic events that were fully processed through the hippocampus⁹ still *feels subjectively different* than remembering non-traumatic events. For example, when I was in second grade I had a bathroom accident that I experienced as painfully shameful. Whenever someone asked to go to the bathroom, my teacher would make angry comments about the kids that used the bathroom pass to run around the halls. I was so afraid of being the target of my teacher's angry disapproval that I never asked to go to the bathroom. This was not usually a big problem, but then one day I had diarrhea. I waited until I felt like I was going to explode, and then hurried to the front desk, asked for the bathroom pass, and raced to the bathroom. I almost made it – I got to the bathroom and into a stall before having a messy accident in my pants and on the floor. To make things worse, several older kids came into the bathroom while I was cleaning up the mess, and from their facial expressions and comments it was clear that they thought I was a pathetic loser.

Even though this was not severe trauma, such as being in a car wreck where family members were killed, it was still a traumatic event because I was not able to successfully complete processing tasks at levels three, four, or five. With respect to level three, I was not able to maintain access to my relational connection circuits, and therefore had the subjective perception of being totally isolated in this experience. I could not perceive the Lord's presence with me or feel the internalized presence of other's that loved me, and instead of reaching out to my parents after the event so they could help me I secretly washed my soiled clothes and didn't tell anyone about what had happened. With respect to level four, I had no idea how to handle the situation, and felt inadequate and incompetent because of this. With respect to level five, my interpretation of the meaning of the experience was: "Only babies poop in their pants. I'm weak, stupid, incompetent, and undesirable because I pooped in my pants," and this distorted interpretation produced intense left-hemisphere shame. In fact, I felt so much shame about this incident that I never told anybody about it until more than thirty years later when this memory came up in an emotional healing session.

My hippocampus was functioning well enough that the different components, such as memory for the visual images, memory for what the other kids said, memory for my distorted cognitions, and memory for the associated painful emotions were all organized into an autobiographical story. And my hippocampus was functioning well enough to perform its librarian function – if the subject of embarrassing experiences came up, my conscious,

⁸Note that in very early childhood, the hippocampus has not yet come online at all, and memories for *all* traumatic experiences are therefore stored without any hippocampus mapping.

⁹Point three from the bullet list above, "Memory for traumatic experiences with fully functioning hippocampus."

voluntary search function could quickly and easily find the autobiographical memory package for this experience. However, during the many years that I carried this experience as an unresolved traumatic memory, accessing this traumatic autobiographical story always *felt subjectively different* than accessing non-traumatic autobiographical events. Whenever I would recall this event I could feel toxic energy as soon as the memory was activated, I would experience subjective distress, and the unresolved content *would feel true in the present*.

When I thought about the overall autobiographical storyline, the visual imagery, and what the other kids said, these would all feel like normal autobiographical memory – like I was remembering a past event. However, the *unresolved content* – the perception of being isolated in the experience, the sense of not knowing how to handle the situation, the feeling of inadequacy, the distorted interpretations, and the associated shame – *would always feel true in the present*. I realized, cognitively, that they were associated with the second grade bathroom memory, but they also still felt true in the present.

In contrast to the *traumatic* memory examples just discussed, when I recall autobiographical memories for *non-traumatic* experiential learning¹⁰ I am consciously aware of remembering an event from my personal past experience, and this autobiographical remembering process *feels, subjectively*, like replaying a faded, less intense version of the original experience. When I access a memory file for a non-traumatic learning experience, the *learning* from the experience *feels true in the present*; but the rest of the memory content does *not* feel like it's true in the present, I do *not* feel distress, and I am *not* impaired by unresolved toxic content. For example, if I try a dish at a Thai restaurant and discover that it is WAY too hot for my taste, the next time I go to this restaurant I will remember the earlier, painful-but-not-traumatic experience. And the *learning* from the experience will *feel true in the present* – it will feel true that the one particular dish is much too hot, and I will make sure not to order it. But my subjective experience with respect to the rest of the memory will be that I am replaying a faded, less intense version of the original experience. None of the other content from the earlier experience will feel like it's true in the present, I will *not* feel distress, and I will *not* be impaired by unresolved toxic content.

Finally, when I recall cognitive, semantic, factual information it *feels, subjectively*, like I search for and then find a piece of information that is stored in a filing system.¹¹

2025 update regarding memory reconsolidation: Note that memory reconsolidation theory understands all experiential learning (experiential learning from positive experiences, non-traumatic negative experiences, and traumatic negative experiences) as essentially the same. That is, experiential learning of all kinds is discussed as a single phenomena – learning, storage, retrieval, and modification is understood to be the same for positive learning experiences, non-traumatic negative learning experiences, and traumatic learning experiences, with maybe the small caveat that emotional learning associated with traumatic experiences would be more quickly and intensely learned, more persistently retained, and more difficult to modify. To my perception, this is a point at which our pain-processing-pathway model provides additional value with respect to understanding traumatic experiences:

¹⁰Point two from the bullet list above, “Memory for non-traumatic experiential learning.”

¹¹Point one from the bullet list above: “Memory for cognitive-semantic learning.”

- Level 1: Memory reconsolidation theory does not account for the way in which disorganized attachment disrupts processing of an experience at all higher levels.
- Level 2: Memory reconsolidation theory does not account for the way in which an experience is dissociated (shunted into an alternate processing pathway) if it's intensity exceeds the person's capacity for holding it in the normal processing pathway.
- Level 3: Memory reconsolidation theory does not account for all of the negative effects associated with loss of relational circuits when the intensity of the painful experience exceeds the persons ability to keep their relational circuits online even while experiencing negative emotions.
- Level 4: Memory reconsolidation theory does not account for the negative effects associated with being unable to navigate the situation in a satisfying way.
- Level 5: At level 5, memory reconsolidation theory does account for experiential learning associated with negative experiences that are painful but *not* traumatic. For example, with the WAY-too-hot dish at the Thai restaurant, I will remember what I learned from this painful-but-not-traumatic experience and avoid this dish in the future. And memory reconsolidation theory also accounts for the experiential learning aspect of negative experiences that *are* traumatic. For example, if I have a terrifying accident while driving at night in the rain, I might "learn" that I will die if I drive at night in the rain, and this negative cognitive schema will be the source of a phobia for driving at night in the rain. The interpret-the-meaning-of-the-experience processing at level 5, from both non-traumatic and traumatic experiences, will follow all of the principles that memory reconsolidation research has clarified for encoding, storage, recall, and modification with respect to experiential learning.

However, memory reconsolidation theory does *not* account for the important differences between truth-based, non-toxic learning associated with non-traumatic negative experiences (such as learning to avoid the HOT dish at the Thai restaurant), and distorted, dysfunctional, toxic learning associated with trauma (such as learning a trauma-anchored lie and developing a phobic reaction after having an accident while driving at night in the rain).

B. Behave differently: Traumatic memories *behave differently* than non-traumatic memories.

1.) Ease of modification: One of the most important ways in which traumatic memories behave differently than non-traumatic memories has to do with how easily the content can be modified. For our purposes, the most important examples are the differences between knowledge/beliefs that are carried in cognitive, semantic memories, beliefs that are anchored in non-traumatic experiential learning, and beliefs that are carried in memories for unresolved trauma.

Knowledge/beliefs that are carried in cognitive, semantic memories: As described above, it's easy to modify the memory file that contains information about our plans for the upcoming weekend. If we had been planning to spend Sunday afternoon reviewing the church budget, but then this gets cancelled and Charlotte suggests visiting the botanical gardens instead, it is very easy for me to remember that on Sunday afternoon I will be watching birds at the botanical gardens instead of attending a budget review meeting. Or consider e-mail addresses. I currently believe that my e-mail address is drkarl@kclehman.com. However, what happens if Charlotte says: "I have some bad news. We forgot to pay the yearly fee to retain our registration of the kclehman.com domain name, and now somebody else has taken it. I therefore had to change our website address and our e-mail addresses. Our new website address is www.absentminded.com, and your new e-mail address is now

drkarl@absentminded.com?” In response to this simple piece of information, I promptly change my belief regarding my e-mail address.

And this ease of modification does not only apply to simple pieces of information, such as my e-mail address or our social calendar for the weekend. Those studying education and general memory functions have carried out lots of research regarding the modification of cognitive, semantic knowledge/beliefs. These studies verify that, when working with knowledge/beliefs carried in cognitive, semantic memory, it is fairly straight-forward to modify even long-standing, deeply held beliefs. The researchers discovered that it is very important to identify the misinterpreted data and/or mistaken logic that support the erroneous beliefs, and then lead from the erroneous beliefs to the correct beliefs with data and logic that the person perceives as valid. And when these reasonable conditions are met, the average camper will easily correct mistaken beliefs associated with non-traumatic memories.¹²

Beliefs anchored in non-traumatic experiential learning: Compared to knowledge/beliefs carried in cognitive, semantic memories, it is somewhat more difficult to modify beliefs anchored in non-traumatic experiential learning. For example, let’s say you take an undergraduate student¹³ and run him through a handful of training trials in which you play a specific audio tone and then administer a painful-but-not-traumatic electric shock. And then a day later, a month later, or a year later, you can demonstrate that the experimental subject remembers the learned association by playing the audio tone and observing that he immediately experiences distress—he will describe feeling an unpleasant anticipation of pain, and he will manifest bio-indicators of anxiety/fear, such as increased respiration, increased pulse rate, increased blood pressure, and increased sweating.

And here’s the key with respect to ease of modification (or lack thereof): extensive research shows that you cannot erase this learned association by simply telling the experimental subject that the experimental setup has been changed so that he will no longer receive the shock in association with the tone. In fact, even experiencing the tone without a shock will not erase his learned association. The reassurances will provide cognitive, semantic information that he can use to help manage his anxiety about getting shocked, and new trials with no shock will provide experiential learning that will compete with the original learning. But the original learned association between the tone and the shock will not be permanently change or erased.

As explained in more detail in *An Introduction to the Immanuel Approach*, in order to

¹²For additional discussion of these principles of conceptual change for cognitive, semantic knowledge/beliefs, and discussion of the research supporting them, see Bransford, John D., Brown, Ann L., Cocking, Rodney R., Donovan, Suzanne M., Pellegrino, James W. (Eds.) *How People Learn: Brain, Mind, Experience, and School (Expanded Edition)*. (Washington, D.C.: National Academy Press) 2000, pages 179-182; Clement, J. “Using bridging analogies and anchoring intuitions to deal with students’ preconceptions in physics.” *Journal of Research in Science Teaching*, 1993, Vol. 30, No. 10, pages 1241-1257; Mestre, J.P. “Cognitive aspects of learning and teaching science,” chapter 3 in *Teacher Enhancement for Elementary and Secondary Science and Mathematics: Status, Issues, and Problems*, S.J. Fitzsimmons and L.C. Kerpelman (Eds.), (Arlington, VA: National Science Foundation) 1994, pages 3-6 to 3-36; and Sokoloff, D.R., and Thornton, R.K. “Using interactive lecture demonstrations to create an active learning environment.” *The Physics Teacher*, September 1997, Vol. 35, No. 6, pages 340-347.

¹³One of the most common sources of subjects for psychology research projects are undergraduate students trying to make a little bit of extra spending money.

permanently modify or erase experiential learning, you first need to activate the memories for the original learning, something about the new training trials needs to be different,¹⁴ and then you need to provide a corrective experience with a different meaning from the learning/beliefs carried in the memories for the original learning experiences. The good news is that when these specific conditions are in place, one can easily and consistently modify, or even erase, the knowledge/beliefs carried in the memories for the original learning experiences.

Beliefs that are carried in memories for unresolved trauma: Compared to knowledge/beliefs carried in cognitive, semantic memories, and beliefs anchored in non-traumatic experiential learning, it is especially difficult to modify beliefs that are a part of memories for *traumatic* learning experiences. For example, let's think again about the hypothetical terrifying accident while driving at night in the rain, where I "learn" that I will die if I drive at night in the rain, and then experience intense phobic fear of driving at night in the rain. Just as with non-traumatic experiential learning, you cannot erase this trauma-anchored belief and fear by simply reminding me that I had safely driven at night in the rain before the accident, and that I can safely drive at night in the rain again if I pay careful attention to my speed and the road conditions. Even going out with an exposure therapist, who coaches me through the process of very carefully driving at night in the rain so that I *experience* the truth that I can still drive safely in these conditions, will not modify or erase the underlying traumatic memory that anchors my phobic belief and fear.

The reassurances will provide cognitive, semantic information that I can use to help manage my anxiety about driving at night in the rain. And the in-vivo exposure therapy trials of driving safely in the rain will provide experiential learning that will compete with the original learning. But the trauma-anchored phobic belief and fear will not be permanently modified or erased. Again, as explained in more detail in *An Introduction to the Immanuel Approach*, in order to permanently modify or erase experiential learning, you first need to activate the memories for the original learning, something about the new training trials needs to be different, and then you need to provide a corrective experience with a different meaning from the learning/beliefs carried in the memories for the original learning experiences. But the *bad* news with respect to experiential learning carried in traumatic memories is that this memory reconsolidation process is much more difficult. With traumatic experiential learning, the anchoring memories are harder to find and harder to activate, it is more difficult to set up corrective experiences, and the corrective experiences must include successfully completing all of the unfinished processing tasks.

My experience with believing that I am stupid provides an excellent example of trauma-anchored learning that is very difficult to modify/resolve. I have dyslexia, but this was not discovered until second grade. Unfortunately, this meant that my teachers did not understand the problem or know how to help me during kindergarten and first grade as I was having tremendous difficulty learning how to read. There were incidents of particular unpleasantness, like getting laughed at by the whole class while trying to do some kind of reading/writing exercise on the chalkboard, but mostly it was the day after day after day experience of being unable to learn how to read. Eventually, I came to the following

¹⁴As described in more detail in *An Introduction to the Immanuel Approach*, something being different signals to the brain that there is an opportunity to learn something new, so that the brain authorizes the metabolic expense of plasticizing the synapses that carry the memory for the original training.

conclusion: “If all the other kids in the class are solving the problem without apparent difficulty, and I try all day every day for a year, with no results but frustration and failure, then there must be something wrong with my brain.” Even though I was too dumb to learn how to read, at least I was smart enough to figure out that I was stupid.¹⁵

The point pertaining to our discussion regarding traumatic memories is how difficult it has been to modify this belief that I was stupid.

In sixth grade I discovered that I could get “A’s” if I worked hard enough, and academic success became an important part of my strategy for coping with fears and insecurities. I got A’s in every class for the remainder of my junior high career, and finished as the top academic student on my team of 125 kids. But underneath it all, I still believed I was stupid. I got A’s in almost every class throughout my entire high-school career, qualified for 24 hours of Advanced Placement college credit, and graduated in the top 1% of my class with multiple academic awards, including a national merit scholarship and the number one academic scholarship at the college I was going to attend. But I still believed I was stupid. I got A’s in almost every class throughout my entire college career, completed majors in biology, chemistry, and physics, graduated magna-cum-laude, and was inducted into the honors society. But it still *felt* true that I was stupid. When I decided to go into medicine, I scored in the 99th percentile on the Medical College Admission Tests and competed against 200 other medical students to obtain one of only three academic scholarships at the University of Kansas School of medicine. I got A’s in almost every class throughout my entire medical school career, scored in the 99th percentile on the national board exams, and graduated as the vice president of the medical honors society. But I still knew that I was stupid. At the end of my psychiatric specialty training I obtained the highest score of anybody in our program when we took the standardized test designed to evaluate psychiatric knowledge, and I was chosen by the faculty to receive the top academic honor. But in my heart of hearts, I was still convinced that I was stupid.

There were also specific incidents that indicated I might not be stupid after all. For example, there was an incident in sixth grade where one of the smart eighth graders was showing me an especially difficult problem towards the end of the eighth grade math book. He was pointing out the impressive difficulty of the material he was working on, but admitted that he had not yet been able to figure out this particular problem. I looked at the problem for a few moments, and to my great surprise realized that I understood the point he was unable to grasp.

However, in spite of all this evidence to the contrary I was still convinced that somehow I was stupid. I truly believed that my I.Q. was barely average. I would argue with friends and family about why none of my academic accomplishments could prove that I was intelligent – I would explain how I just worked much harder than other people at the same tasks, and that it was this diligence in putting in extra time and energy, rather than a high I.Q., that accounted for all my achievements. And I can remember being puzzled by the specific incidents that especially challenged my belief that I was stupid. For example, some time after the incident with the eighth grader and his math book I remember pausing and thinking: “That’s something that a smart person would do – how strange. I wonder how that

¹⁵Several other strategic traumatic memories, such as the incident described in the essay “I’m too stupid,” also contributed to my deeply held belief that I was stupid.

happened.” I could never make sense out of these contradictory data points, and so eventually just dismissed them as some kind of artifact.

This scenario led to chronic anxiety and insecurity, since much of my identity had come to be organized around my academic success, but underneath it all I still felt stupid. Even after all my academic success, I clearly remember being afraid to have my IQ tested, for fear that the test results would reveal the terrible truth that I was actually stupid. I felt that somehow I had managed to appear intelligent even though I knew I wasn't. I had fooled people (unintentionally) into thinking I was smart, but certainly they would eventually discover this was not true. I even felt that my scores on the SAT and other standardized tests weren't "real" – almost that I must have cheated somehow, or that my scores were an "accident." On the many occasions that I felt insecure, I would present to myself all the evidence indicating that I was actually intelligent. However, these cognitive therapy techniques would help me to *temporarily manage* my anxiety and insecurity, and the large pile of positive experiential evidence would *compete with* the "I'm stupid" belief, but the cognitive therapy interventions and the competing information from the many positive experiences was never able to *permanently resolve* the distorted belief that was carried as part of the memories for unresolved trauma.

Additional evidence: In addition to observations regarding trauma-associated beliefs in ourselves and our personal acquaintances, and observations from working with people in the context of therapy/emotional healing ministry, there is also a large body of published case studies and a growing body of research that specifically address the modification of beliefs that have been formed by misinterpreting the meaning of traumatic events. See, for example, the case studies and discussion of trauma-associated negative cognitions in publications regarding EMDR,¹⁶ the case studies and discussion of trauma-associated "lies" included in Dr. Ed Smith's Theophostic material,¹⁷ the discussion of trauma-associated negative cognitions included in publications on cognitive therapy for Post Traumatic Stress Disorder,¹⁸ and the discussion of trauma-associated negative cognitions included in general discussions

¹⁶See, for example, the many case studies described in Parnell, Laurel. *Transforming Trauma: EMDR*, (New York, NY: W.W. Norton & Company) 1997; Shapiro, Francine. *Eye Movement Desensitization and Reprocessing: Basic Principles, Protocols, and Procedures*. (New York, NY: Guilford Press) 1995; Shapiro, Francine, & Maxfield, Louise. "EMDR and Information Processing in Psychotherapy Treatment: Personal Development and Global Implications." In Solomon, Marion F., & Siegel, Daniel J. (Eds.), *Healing Trauma: Attachment, Mind, Body, and Brain*. (New York, NY: W.W. Norton & Co.), 2003, pages 196-220; and Shapiro, Francine & Silk Forrest, Margot. *EMDR: The Breakthrough Therapy for Overcoming Anxiety, Stress, and Trauma* (HarperCollins: New York, NY), 1997. These sources also reference many additional case studies published in professional journals, such as Brown, K.W., McGoldrick, T., & Buchanan, R. "Body dysmorphic disorder: Seven cases treated with eye movement desensitization and reprocessing." *Behavioral & Cognitive Psychotherapy*, 1997, Vol. 25, pages 203-207.

¹⁷Smith, Ed. *Genuine Recovery*. (Campbellsville, KY: Alathia Publishing), 2000; Smith, Ed. *Healing Life's Deepest Hurts*. (Co-published: Ann Arbor, MI: Servant, Campbellsville, KY: New Creation) 2002; and Smith, Ed. *Theophostic® Prayer Ministry: Basic Seminar Manual*, (Campbellsville, KY: New Creation Publishing), 2005.

¹⁸Foa, Edna B., Steketee, Gail, & Rothbaum, Barbara Olasov, "Behavioral/Cognitive conceptualizations of Post-Traumatic Stress Disorder." *Behavior Therapy*, 1989, Vol. 20, pages 155-176; Rothbaum, Barbara Olasov, and Foa, Edna B. "Cognitive-Behavioral therapy for Post Traumatic Stress Disorder," Chapter 22 (pages 491-509) in Van der Kolk, Bessel A, McFarlane, Alexander C, Weisaeth, Lars, Editors. *Traumatic Stress: The Effects of Overwhelming Experience on Mind, Body, and Society*. (New York: Guilford Press) 1996.

of psychological trauma.¹⁹ All of these sources clearly describe how trauma-associated beliefs are resistant to change, even in the face of clear data, and even experience, opposing them, and how special conditions are required for correction of these persistent traumatic-anchored beliefs.²⁰

An especially helpful analogy – files and windows on your personal computer: When thinking about the difference with respect to ease of modification between beliefs that are based on cognitive, semantic memories and beliefs that are carried as parts of memories for unresolved trauma, we have found the behavior of files and windows on your personal computer to be an especially helpful analogy.

When you open a cognitive, semantic memory file, and then present new information to correct an erroneous belief, it's as if you can easily work in the same window and use the new information to permanently modify the original file. Whenever this file is opened in the future, it will contain the new, updated, correct information. However, *in most situations*, when you open a *traumatic* memory file it will open in “*read only*” status. You can present opposing information from cognitive, semantic memories by opening other files in additional windows, and you can even bring in opposing experiential beliefs by opening windows with files for positive experiences with opposite meaning, but you cannot work in the same window to permanently correct the error in the original traumatic memory file. The opposing information can *compete* with the distorted beliefs associated with unresolved trauma, and this will *moderate or manage* the distorted beliefs and associated emotions, *but the original file will not be permanently corrected*. In the future, every time the traumatic memory file is activated the distorted beliefs and associated emotions will still be there, and you will have to repeat the process of trying to moderate or manage the problem by opening other, separate files that carry truth that challenges the distorted beliefs.

For example, my knowledge regarding medication dosages is carried in cognitive, semantic memories. If I believe that 12.5mg/day is the appropriate dosage of Controlled Release Paxil for the treatment of panic disorder, but then I come across a new, carefully documented study that shows 25mg/day is actually more effective for most patients, the new information will permanently modify my original beliefs about Paxil dosages. In the future, when questions about Paxil dosages for panic disorder come up, the new, correct information will come forward. There won't need to be a fight, every time the question comes up, between a persistent erroneous file and the newer, more accurate information.

In contrast to information about Paxil dosages carried in cognitive, semantic memories, my distorted beliefs about my intelligence were anchored in memories for unresolved trauma. Even though other evidence accumulated that challenged this belief, this opposing evidence was carried in cognitive semantic files and positive experiential learning files that opened in

¹⁹See, for example, Van der Kolk, Bessel A, McFarlane, Alexander C, Weisaeth, Lars, Editors. *Traumatic Stress: The Effects of Overwhelming Experience on Mind, Body, and Society*. (New York: Guilford Press) 1996, pages 431&432.

²⁰Note: When thinking about the data regarding ease of modification, it is important to realize that beliefs can also be *indirectly* associated with traumatic memories, and that this presents an intermediate condition. That is, trying to change a belief can feel emotionally threatening because the belief is incorporated into our coping system in some way, and trying to change it triggers unresolved trauma. When this is the case the person will resist changing the belief, even though the belief is not a misinterpretation of the meaning of a traumatic event, and therefore not *directly* anchored in unresolved trauma.

separate windows. This opposing evidence could *challenge* and *compete with* my distorted beliefs, but it was never able to get into the traumatic memory files in order to *permanently correct* my conviction that I was stupid. In spite of all the evidence to the contrary, every time the distorted-interpretations component of my dyslexia trauma would get activated by some trigger, my “I’m stupid” belief files would come forward and “I’m stupid” would *feel true*.

When you are *not* triggered, your traumatic memory files are dormant and their windows are closed; whereas non-traumatic memory files are active, and their windows are open. When you are *not* triggered, non-traumatic memory windows dominate the screen, and beliefs carried in non-traumatic memories *feel true* and *govern your reality*. On the other hand, when you *are* triggered, traumatic memory files are activated and their windows open in front of the non-traumatic memory files. When you *are* triggered, windows from beliefs carried in traumatic memories dominate the screen, and your triggered, traumatic memory beliefs *feel true* and *try to govern your reality*.

Toxic, traumatic content at other levels of the pain processing pathway: We have just discussed distorted, erroneous interpretations at level 5 as an especially good example of traumatic content that is difficult to modify. This same difficulty with respect to modification also applies to the other components of unresolved content carried in traumatic memories. For example, if you have raw perceptual content that was dissociated by disconnection at level 2 before any processing occurred, and this content comes forward as physical memories, you can *manage* the problem by reminding yourself that the physical symptoms you are experiencing are actually implicit memory content, since they are exactly the same physical symptoms that have been carefully evaluated with the conclusion that there is no medical cause in the present, and since they exactly match known traumatic memories; *but this helpful information carried in cognitive-semantic files and non-traumatic experiential learning files will **not** permanently resolve the toxic content in the underlying traumatic memories*. You can also prepare for healing by building your capacity to stay with painful emotions, *but this increased capacity, by itself, will **not** permanently resolve the toxic content in the underlying traumatic memories*.

If your unresolved traumatic memories include intense emotions that caused your relational circuits to go offline, and this content gets triggered forward, you can *manage* the problem by remembering Biblical principles and reminding yourself that you are committed to considerate behavior, even when you do not *feel* any subjective relational concern; *but this helpful information carried in cognitive-semantic memory files, by itself, will **not** permanently resolve the toxic content in the underlying traumatic memories*.

If you have memories of traumatic experiences where you were unable to complete the level 4 task of finding a satisfying way to navigate the situation, and this content gets triggered forward, you can *manage* the problem by remembering biblical principles and learning coping skills to help you minimize your impairment while triggered, *but this helpful information and these new coping skills, by themselves, will **not** permanently resolve the toxic content in the underlying traumatic memories*.

And as already discussed above, if you have memories of traumatic experiences where you were unable to complete the level 5 task of correctly interpreting the meaning of the experience, and this content gets triggered forward, you can *manage* the problem by reminding yourself of opposing truth in cognitive-semantic memory files and positive-experiential-learning files, *but these helpful truths, by themselves, will **not** permanently*

resolve the toxic content in the underlying traumatic memories.

As will be discussed in “Brain Science, Emotional Trauma, & The God Who is With Us, Part IV,” the toxic content carried in traumatic memories can only be modified under certain conditions. Informational truth carried in cognitive-semantic memories, and true, life-giving beliefs carried in positive-experiential-learning memories *can be helpful during healing work to permanently resolve trauma*, but you cannot *directly* resolve traumatic memory content by simply loading more truth into non-traumatic memory files.²¹ And increased capacity and new maturity skills *can be helpful during healing work to permanently resolve trauma*, but you cannot *directly* resolve traumatic memory content by simply building capacity and loading more maturity skills into non-traumatic memory files.

2.) Ease of access: Another important way in which memories for traumatic events behave differently than cognitive-semantic memories or non-traumatic experiential-learning memories has to do with how easily the memories can be accessed. Traumatic experiences that overwhelm the person’s involuntary capacity and are therefore shunted to the alternative processing pathway provide the clearest example. These dissociated memories are completely unavailable to the person’s conscious awareness under normal circumstances – they cannot be accessed by the conscious voluntary strategic search system, and they cannot normally be accessed by association network stimulation. Dissociated memories can only be accessed under certain very specific conditions.²²

Traumatic experiences that are not dissociated, but that are sufficiently intense to seriously impair the hippocampus provide another example of traumatic memories being difficult to access. This is especially clear for traumatic experiences during early childhood, where the combination of a neurologically immature hippocampus and the cortisol-mediated interference associated with traumatic stress frequently result in memories that are processed without any contribution from the hippocampus.²³ Because the disabled hippocampus does not perform any librarian functions for these memories, they cannot be accessed by the conscious voluntary strategic search system. Other than in the context of guidance from Jesus, these memories are only accessed when triggering stimuli that match some aspect of the original experience activate one or more of the disjointed components through association network stimulation.

And as will be discussed below in more detail, part of why finding and accessing traumatic memories is so difficult is that it is opposed by psychological defenses and spiritual opposition.

²¹See “Brain Science, Emotional Trauma, & The God Who is With Us, Part VI: Special Topics” for discussion of how truth carried in non-traumatic memories can contribute to permanent resolution of traumatic memory content.

²²For example, several specific conditions for accessing dissociated memories are: 1) triggering stimuli that match some aspect of the original experience activate the memory through association stimulation, and this activation is powerful enough to temporarily overcome the dissociative barriers; 2) some change in other variables causes internal parts to allow dissociated memories into conscious awareness; 3) specific conditions in hypnotic sessions designed to access dissociated memories.

²³Non-dissociated early traumatic memories are possibly the best example of memories that are processed with the hippocampus totally off line.

IV. What causes the qualitative differences between traumatic and non-traumatic memories?:

A. Multiple parallel memory systems: The more carefully we study the mind and brain, the more complexity we discover with respect to memory.

*One of the most important developments in memory research in recent decades has been the discovery of a number of parallel memory systems. These parallel memory systems are qualitatively different, and can operate independently.*²⁴

Neurological injury case studies: There is a LOT of evidence demonstrating the reality of these different memory systems.²⁵ Some of the most easily understood data points proving the existence of these parallel memory systems are observations from medical situations where a particular neurological injury affects the different memory systems in different ways. If there is only a single memory system that handles all of the different types of memory, then injury to this single memory system should impair all the different types of memory in the same way. However, there are many carefully documented neurological-injury case studies where a specific injury, such as a brain tumor, severely damages one of the memory systems while leaving other memory systems intact.

For example, Dr. Oliver Sacks describes a carefully documented case study of a young man with complete loss of ability to lay down new autobiographical memory²⁶ due to a brain tumor that destroyed the hippocampus on both sides of his brain. Within minutes after any event, Greg would lose every trace of autobiographical memory for the experience – if you spoke with him for an *hour*, and then left briefly to use the restroom, when you returned *five minutes* later he would have no conscious memory of ever having met you before. However, his other memory systems were still intact:

For example, he could learn new pieces of factual information – even though he did *not* have any *conscious, autobiographical* memories of his conversations with Dr. Sacks, *he could remember the facts of news trivia from these conversations*. If you asked him: “Greg, have you spoken with Dr. Sacks today?” He would respond with something along the lines of “Who’s Dr. Sacks? I’ve never met the man.” But if you then asked him: “Who won the baseball game last night?” He could often respond with accurate sports trivia from his conversation with Dr. Sacks earlier that morning: “The Mets won, 7 to 5, with two runs in the

²⁴For a brief summary of the progressive discovery of multiple memory systems over the last five decades, see page 1111 of Jacobs, W.Jake, & Nadel, Lynn. “Neurobiology of reconstructed memory,” *Psychology, Public Policy, and Law*. 1998, Vol. 4, No. 4, pages 1110-1134.

²⁵For a discussion of the many bodies of evidence supporting the existence of multiple memory systems, see Squire, L.R., “Declarative and non-declarative memory: Multiple brain systems supporting learning and memory,” In D.L. Schacter, & E. Tulving (Eds.), *Memory Systems* (Cambridge, MA: MIT Press), 1994, pages 203-231.

²⁶Autobiographical memory is memory for the *story of your life*. If I asked you “what did you do this morning?” you would access your autobiographical memory, and tell me a *story* about this morning’s events. For example: “I woke up when the paper-boy threw the newspaper through our living room window at 5:30 a.m., and then I spent the next hour picking broken glass out of the carpet. After that,...etc.” Your memory for this story of your morning adventures is autobiographical memory. Remembering the meaning of the word “autobiography” helps me to remember the definition of autobiographical memory: If I wrote a *book* about the *story* of my life, it would be called an *autobiography*; similarly, *memory* for the *story* of my life is *autobiographical memory*.

ninth inning.”

He could learn to find his way around the hospital – even though he did *not* have any *conscious, autobiographical* memories of his years of living at the hospital, *he could walk from his room to the cafeteria without getting lost*. If you asked him: “Greg, can you show me the way to the cafeteria?” He would respond with something along the lines of “I’ve never seen this place before this morning! How could I know the way to the cafeteria?” But when it was time for lunch he would get up and walk to the cafeteria.

He could learn new physical skills, such as typing or playing the guitar – even though he did *not* have any *conscious, autobiographical* memories of his many practice sessions, *if you put him in front of a typewriter he could type, and if you gave him a guitar he could play*.

He could learn new songs – even though he did *not* have any *conscious, autobiographical* memories of ever hearing the new songs before, *if someone started humming the tune he could sing the rest of the song*.

And he could form new emotional associations – even though he did *not* have any *conscious, autobiographical* memories of previous interactions with people on the staff, *his face would light up when he met those who had been especially kind to him*.

The most dramatic demonstration of the difference between his severely damaged conscious autobiographical memory and his “other” memory functions was his experience with attending a rock concert. Dr. Sacks took him to a Grateful Dead concert – a band he loved, but that he had not heard for many years. Rock concerts are not particularly subtle – not something you would forget easily. This concert was an *all day* event, and Greg participated *enthusiastically* and *passionately*. The next day, he had *no* conscious, autobiographical memory of going to the concert – *the morning after the concert*, when Dr. Sacks asked him about the Grateful Dead, he reported that he really liked the group but that it had been many years since he had been to one of their concerts. But he *could* remember and sing the new songs from the concert, and he had new positive emotional associations. For example, if Dr. Sacks played one of the new songs from the concert Greg would immediately begin to sing along, accurately remembering both the words and the melody; and after the concert, whenever Dr. Sacks came to visit, Greg’s face would light up and he would greet Dr. Sacks as a fellow Grateful Dead fan.²⁷

Another especially dramatic case study is presented by Dr. Claparede. Dr. Claparede describes a 47 year old woman who had neurological injury that, like Greg’s brain tumor, destroyed her ability to form new explicit autobiographical memory. Like Greg, she would lose all conscious, autobiographical memory of personal experiences in a matter of minutes. Her inability to record new autobiographical memory was so severe that she still did not recognize her surroundings, even after living at the chronic care facility for *five years*. She did not recognize the doctors she saw every day, and continued to greet her nurse as a complete stranger, even after this nurse had been with her for six months.

However, the memory systems for establishing new emotional associations and beliefs remained intact, as demonstrated by a famous experiment performed by Dr. Claparede. While shaking hands with the patient Dr. Claparede stuck her with a pin hidden between his fingers.

²⁷Sacks, Oliver. *An Anthropologist on Mars*. (New York: Vintage Books) 1995, pp 42-76.

Several minutes later, when Dr. Claparede again reached out for her hand, she pulled it back and refused to shake his hand. When questioned about her behavior she persisted in her refusal to shake his hand, but appeared to have no conscious memory or insight regarding the recent incident with the pin. Any normal person would have responded to his questions with something direct and obvious, such as “Why do you *think* I don’t want to shake your hand? You just stuck me with a pin! (You Jerk!)” Instead, this patient seemed confused, and had difficulty explaining her persistent refusal to shake his hand. Eventually she commented “Is there perhaps a pin hidden in your hand?” When asked why she would have this fear she again had difficulty explaining herself, and eventually responded with comments such as ‘That was an idea that went through my mind,’ or ‘Sometimes pins are hidden in people’s hands.’ She *believed* that it was not safe to shake Dr. Claparede’s hand, and she held this belief with enough conviction that she refused to shake his hand, even in the face of awkwardness and embarrassment, but she had no conscious autobiographical memory of getting stuck by the pin only minutes before.²⁸

The point with respect to multiple memory systems is this: The patient still had the non-traumatic experiential learning memory system necessary to form new *beliefs, emotional associations, and behavioral responses*, even though she had completely lost the memory system necessary to establish new *explicit autobiographical memories*.

A third neurological case-study example of a specific injury producing distinct effects on different memory systems is provided by patients with Huntington’s disease. A team of researchers has demonstrated that the specific brain injury caused by Huntington’s disease results in dramatic loss of the ability to learn new motor skills, while leaving the ability to learn certain other kinds of information largely unaffected.²⁹

Functional brain imaging: Functional brain imaging, such as SPECT, PET, and fMRI scans, provide more data points that are particularly easy to understand. In short, scans of the living, functioning brain show that there are consistent, reproducible differences with respect to the neurological circuits that light up when we access different kinds of memory content.³⁰

B. Traumatic memories, non-traumatic memories, & the hippocampus: Research studies and case studies specifically focusing on the neurology of non-traumatic memories vs traumatic memories indicate that the phenomena of multiple memory systems applies to non-traumatic vs traumatic memories *to some extent*. A large collection of research studies and also case studies demonstrate that, on one hand, there is a lot of overlap between the neurological circuits that process, store, and retrieve traumatic memories and the neurological circuits that process, store, and retrieve non-traumatic memories. However, these research studies and case studies also indicate that there is an important difference with respect to the hippocampus. With memories for *non-traumatic* experiences the hippocampus is centrally involved, mapping and

²⁸Claparede, Edouard. “Recognition and ‘me-ness.’” In D. Rapaport (Ed.), *Organization and pathology of thought* (New York, NY: Columbia University Press), 1951, pages 58-74, specific quotes pages 69-70 (translated from Claparede, E. “Recognition et moiite.” *Archives de Psychologie.*, 1911, Vol. 11, pages 79-90).

²⁹Butters, Nelson; Heindel, William C., & Salmon, David P. “Dissociation of implicit memory in dementia: Neurological implications. *Bulletin of the Psychonomic Society*, July 1990, Vol. 28, No. 4, pages 359-366.

³⁰See, for example: Schacter, Daniel L.; Alpert, Nathaniel M.; Savage, Cary R.; Rauch, Scott L.; Albert, Marilyn S. “Conscious recollection and the human hippocampal formation: Evidence from positron emission tomography.” *Proceedings of the National Academy of Sciences, USA*, 1996, Vol. 93, pages 321-325.

coordinating the different components of each experience into a coherent autobiographical memory package. The hippocampus is also responsible for providing a “librarian” function with respect to storage and retrieval, so that you can find a given memory by consciously and intentionally searching for it. However (as already mentioned at several points above), with memories for *traumatic* experiences the hippocampus becomes increasingly impaired as the intensity of the trauma increases. And with especially intense traumatic experiences, as well as with very early traumatic experiences, the hippocampus is essentially “off line.”³¹

Note that traumatic memories and non-traumatic memories are *not* processed, stored, and retrieved by two completely different neurological systems.³² Two completely separate systems would provide a simpler model, that would in many ways be easier to teach, learn, and use. But unfortunately it would also be incorrect.

C. Different *types* of memory files: It is also possible that failure to successfully complete the journey through the pain processing pathway results in memories for traumatic experiences ending up as a different *type* of memory file that is qualitatively different from memories for non-traumatic experiences. This essay is not the place for discussion of the many complex considerations and possible alternative models regarding different types of memory files; however, I would like to describe one possible model that I perceive to be especially strong. Memories for painful experiences are modified as they go through the processing pathway, and my proposed model is that these modifications are an important part³³ of what causes the *qualitative* differences between non-traumatic memories and traumatic memories – these modifications, produced by the successful completion of the processing tasks at each level, cause the resulting fully processed non-traumatic memory to *feel subjectively different* and to *behave differently* than traumatic memories.

For example, consider the level 3 processing task of maintaining/re-establishing access to your relational connection circuits. As you are going through an experience, successful level 3 processing modifies the experience so that it includes access to your relational connection circuits; *and as this happens, the file carrying memory for the experience is modified* so that whenever it is activated in the future the subjective experience of remembering the event will include the perception that there are others that know you and love you, and that these people are a relational resource (even if they are not present in the room). However, if this processing task is *not* successfully completed, and the corresponding modifications to the experience and memory file do *not* get made, then whenever the memory gets activated in the future the subjective experience of remembering the unresolved trauma will include the perception of being relationally isolated in the traumatic event.

³¹For a more detailed description of this model regarding the neurological systems for traumatic and non-traumatic memories, and a summary discussion of the research and case study evidence supporting it, see Jacobs, W. Jake, & Nadel, Lynn. “Neurobiology of reconstructed memory,” *Psychology, Public Policy, and Law*. 1998, Vol. 4, No. 4, pages 1110-1134.

³²Extreme trauma that gets totally dissociated, and then comes back as flashbacks, may be the one exception. If my hypothesis is correct, extreme trauma that gets dissociated *does* get shunted into a completely different processing system that just freezes the whole package as completely unprocessed content.

³³I say “part” because it is important to recognize that there may also be other phenomena, such as spiritual issues associated with traumatic memories, that also contribute to the qualitative differences between traumatic and non-traumatic memories.

Cars being processed on an assembly line provide a helpful analogy. As the car is successfully processed at each station in the assembly line it is modified so that it is *qualitatively* different – it will feel subjectively different and behave differently after the modifications resulting from being processed at each station of the assembly line. For example, one station might install the engine. After successful processing at this station the car will certainly behave much differently. Another station might install the seats and other interior details. After successful processing at this station the experience of using the car will certainly feel subjectively different. Yet another station might apply rust-proofing and paint. After successful processing at this station the car will look different, and will also behave differently in that it will be much more resistant to rust.

D. Dissociated traumatic memories vs non-dissociated traumatic memories: The details of how people re-experience dissociated content in flashbacks indicates that the *same hippocampus circuits* are *not* involved, but that some *other* neurological circuits are organizing the many components into a replay of the original experience. This, in addition to other evidence, indicates that dissociated traumatic memories are stored, retrieved, and processed differently than non-dissociated traumatic memories.

Unfortunately, many discussions of traumatic memory have not distinguished between *non-dissociated* traumatic memory and *dissociated* traumatic memory. Not surprisingly, this has often resulted in misunderstanding and confusion. One of the most significant places this has happened is in the false memory/recovered memory debate, where research results from studies of non-dissociated traumatic memories have been used to argue that dissociative phenomena cannot occur/do not exist. For example, many studies have shown that moderately traumatic experiences will be remembered more intensely and persistently than non-traumatic experiences, and some authors have then used these findings to argue that there is no such thing as dissociative amnesia that could cause a person to “forget” an intensely traumatic experience immediately after it occurs.

See “Brain Science, Emotional Trauma, and The God Who is With Us, Part VI: Special Subjects” for additional discussion of dissociation.

E. Psychological and spiritual phenomena that hinder access and modification: In addition to increased difficulties caused by impaired hippocampal involvement for some traumatic memories, in addition to increased difficulties caused by failed processing tasks that result in traumatic experiences being stored as a different type of memory file, and in addition to increased difficulties caused by extreme trauma being shunted to an entirely different processing system, traumatic memories are also associated with psychological and spiritual phenomena that oppose access and modification. For example, we all develop a variety of psychological defenses to manage our traumatic memories, and most of these defenses include some component of trying to keep the traumatic memories *inactive* and *out* of our conscious awareness. When we decide that we want to recall and reconnect with these memories, as part of psychotherapy or emotional healing ministry, the defenses that have been developed and practiced over many years do not simply vaporize.

Vows provide a good example of how psychological defenses³⁴ can get in the way of fully³⁵ accessing traumatic memories. Charlotte and I once worked with a woman who had been receiving emotional healing ministry for years, but she never felt or displayed emotions, even when describing intensely traumatic experiences. She also never appeared to receive any benefit from the ministry sessions. As we worked with her we discovered that she had made a vow to never let herself feel the pain from her many traumatic childhood experiences. We helped her work through this vow, and within *seconds* of releasing it she began to sob with pain from the memories she had previously been discussing without emotion. She continued to sob as she worked through a number of important memories, *now with the emotions connected*, and she experienced dramatic, lasting benefits from this session.

Blocking beliefs (guardian lies) are another psychological phenomena that affect traumatic memories, and these can hinder both access and modification. For example, I have frequently encountered clients who believe things like “I’ll go crazy if I remember that,” “I’ll die if I feel that pain,” “I’ll never get back out if I fall into those emotions,” or “I can’t handle that memory.” Not surprisingly, beliefs like these hinder accessing the corresponding memories.³⁶ Blocking beliefs can also hinder modification. For example, soldiers with post traumatic stress disorder often have blocking beliefs along the lines of: “If this pain gets resolved I’ll get careless, and get myself killed just like...,” or “Carrying this pain is how I honor my fallen comrades. Cooperating with resolving this pain would be to betray and abandon my friends who died in the jungle.” Needless to say, this kind of belief gets in the way of participating in therapy or ministry that would modify and resolve the traumatic memories.

With respect to spiritual phenomena, demonic spirits routinely oppose accessing and resolving traumatic memories. My perception, from my own observations and from comments by many other authors, is that demonic spirits like trauma. Unresolved traumas make it easier for demonic spirits to gain access to a person’s mind, demonic spirits use the toxic power in traumatic memories to intimidate and manipulate, the pain in traumatic memories often pushes a person to sinful behaviors that give demonic spirits more space in his life, and I’m sure there are other ways, in addition to these, in which demonic spirits take advantage of unresolved traumas. In light of these considerations it should not surprise us that demonic spirits routinely oppose anything that will contribute to resolving traumatic memories, and this certainly includes accessing them and modifying them.³⁷

And since all of these phenomena are *inherently* linked to unresolved traumatic content, they

³⁴For discussion of how vows are a form of psychological defense, see Lehman, Karl D., “Vows: ‘Clutter’ That Can Hinder Emotional Healing,” available as free download from www.immanuelapproach.com.

³⁵As discussed in Part II, a traumatic memory needs to be fully connected, *including the painful emotions*, in order to be resolved. The woman described in this example could easily access the visual images and autobiographical narratives of the traumatic memories we were working with, but the vow was blocking her from accessing the painful emotions.

³⁶People are often not even aware of these blocking beliefs, but if you know what to look for you can often spot them as the person encounters resistance while trying to access unresolved trauma.

³⁷An interesting data point is that I had never knowingly encountered a demonic spirit before I began to use tools that were actually effective for accessing and resolving traumatic memories. But I have *routinely* encountered tangible demonic opposition since I began using tools that have regularly resulted in traumas being resolved. It’s almost as if I finally started interfering with something they really cared about.

do *not* affect *non*-traumatic memories.

V. Summary of differences between traumatic memories and non-traumatic memories:

- 1.) To some extent, traumatic memories and non-traumatic memories are stored, retrieved, and processed by different *memory systems*.
- 2.) Traumatic experiences and non-traumatic experiences probably end up as different *types* of memory files that are *qualitatively* different from each other.
- 3.) Changes to the memory file as it goes through the processing pathway may be an important factor contributing to these qualitative differences between memories for traumatic experiences and memories for non-traumatic experiences.
- 4.) Traumatic memories are associated with psychological defenses and spiritual opposition that hinder access and modification.
- 5.) With respect to psychotherapy and emotional healing ministry, the functional bottom line is that traumatic memories ***feel subjectively different*** than non-traumatic memories, they are ***more difficult to access*** than non-traumatic memories, and they are ***more difficult to modify*** than non-traumatic memories.

VI. Implicit memory vs explicit memory: Another important aspect of the unresolved content carried in traumatic memories is that it often comes forward as *implicit* memory (as opposed to explicit memory).

Explicit memory: Explicit memory recall is what we all think of as “remembering.” Explicit memory *feels* like “normal” memory. When we recall events through the explicit memory system it *feels, subjectively*, like “I’m remembering something from my personal past experience.” For example, if I ask you “what did you do this morning?” you will tell me about getting woken up by the paper boy throwing the newspaper through your living room window at 5:30 a.m., and how you spent the next hour picking up broken glass...etc, *and you will feel* like you are remembering something from your personal past. This *conscious, autobiographical* memory about your personal experiences is explicit memory.

Implicit memory: Implicit memory is all memory phenomena that does *not* include the subjective experience of “I’m remembering something from my personal past experience.” Implicit memory content does *not* feel like “normal” memory. When the implicit memory systems are activated our minds and brains recall memory material, but it does not *feel, subjectively* like explicit autobiographical memory.³⁸ Since implicit memory does not *feel* like what we think of as memory, we usually *do not* have any awareness that we are remembering or being affected by past experience when memory material comes forward through one of the implicit memory systems.³⁹ When this happens, the person perceives that the implicit memory

³⁸Even if we are aware that we are being affected by some kind of memory phenomena (for example, we learn to recognize emotional triggering as an implicit memory phenomena), we still don’t have the subjective experience of “I am remembering something from my personal past experience.”

³⁹You can learn to recognize the subjective experience of implicit memory being activated with a lot of deliberate practice, but most people have very little awareness or insight regarding implicit memory phenomena.

material, such as the beliefs and emotions associated with a childhood traumatic event, *are true in the present*. We sometimes refer to implicit memory as “invisible” memory, since it usually affects us *without being “seen”* by our conscious minds.

My observation is that explicit memory and implicit memory can be combined in a single recall experience. Take my second grade diarrhea trauma, for example. If someone asks me to describe an especially embarrassing childhood experience, my prefrontal-cortex strategic search function will find the memory of my diarrhea disaster, and I will remember this event as an autobiographical story package. However, even though I am aware that I am remembering an autobiographical experience, and the visual imagery and memory for the dialogue feel like normal, explicit, autobiographical memory, the *unresolved content* still comes forward as implicit memory thoughts and emotions *that feel true in the present*, as opposed to just feeling like *memories* of thinking “I’m such a loser” and feeling inadequate and humiliated. In this situation, I am at least consciously aware of the connection – I realize that the implicit memory thoughts and feelings are associated with the second grade diarrhea memory.

While implicit memory sometimes comes forward in combination with explicit memory, where it is at least consciously recognized as coming from an unresolved trauma, the much more common phenomena is for a trigger to directly activate traumatic memory *components* through association stimulation, so that the unresolved content comes forward as *isolated* implicit memory⁴⁰ *that is not recognized as memory*. For example, a peer laughing at me in a certain way might trigger just the cognitive and emotional components of my diarrhea trauma, causing me to think “I’m a loser” and feel shame, *but with no awareness that this thought and emotion is actually coming from the underlying traumatic memory*.

My experience with dyslexia provides another good example of unresolved traumatic content coming forward as isolated, unrecognized implicit memory. When I tried and tried, but could not do something that all the other kids appeared to be handling easily, I felt hopeless, I felt inadequate, and I concluded that I was stupid. Then, for most of the rest of my life (until these traumatic experiences got healed), whenever I would encounter a new, complex, difficult problem I would have the thought “I’m just stupid,” I would feel hopeless and inadequate, and I would expect to fail. *But I never realized that this was memory content*. When this content from my kindergarten and first grade experiences would get activated as implicit memory, these thoughts and emotions would *feel true in the present*, and I would have *no awareness that these thoughts and emotions were coming from my childhood memories*.

Implicit memory content from unresolved traumatic events might include disorganized attachment, attachment pain, dissociative disconnection, unprocessed sensory input (the sights, sounds, physical sensations, etc of flashbacks), loss of access to your relational connection circuits and all that goes with this (such as lack of joy and the subjective perception of being isolated), feelings of inadequacy, confusion, distorted interpretations (“lies” in Theophostic vocabulary), and negative left-sided emotions driven by the distorted interpretations. This implicit memory content will cause a wide variety of problems as it comes forward and blends with our experience in the present. For example:

⁴⁰Traumatic experiences are especially likely to come forward as implicit memory when they are more intense (the hippocampus is more impaired), and less processed (level 4 does not contribute the subjective perception that you are a part of the experience).

Post traumatic stress disorder: Post traumatic stress disorder results in both physical and emotional problems, and all aspects of this disorder are caused by unresolved trauma. Unresolved traumatic content that has been disconnected at level 2, and then comes forward as totally unprocessed, intensely disruptive flashbacks (as described above), is the most dramatic example of a PTSD physical and emotional problem.

Isolated physical symptoms: Unprocessed physical sensations coming forward as implicit memory can cause a wide variety of physical symptoms. We have had a number of patients who spent thousands and thousands of dollars on medical care for puzzling physical symptoms – symptoms that modern medicine was not able to diagnose or treat, but that evaporated when we found and resolved traumatic memories with content that exactly matched the physical symptoms.

Anxiety disorders: Panic attacks, phobias, obsessive compulsive disorder, and many other anxiety disorders are often caused by toxic content from underlying traumatic memories coming forward as implicit memory. The live ministry session “Lisa, Childhood Surgery, Panic Attacks, and Abreaction” portrays this dramatically. The distorted level 5 interpretation “I’m going to die,” and the associated emotions of helplessness and terror, caused Lisa to have panic attacks whenever the unresolved memory of her traumatic childhood operating room experience would get activated.

Depression: Depression is often caused by attachment pain and/or distorted beliefs coming forward as implicit memory. The live ministry sessions portraying Chrystal’s healing journey provide an example of attachment pain causing depression. As Chrystal clearly describes, the attachment pain from losing her father caused depression whenever it would come forward as implicit memory. We have also seen many cases where depression is caused by Level 5 distorted interpretations associated with unresolved traumatic memories. For example, if an alcoholic father molests his child and then leaves the family, the child often comes up with distorted interpretations such as “He molested me and left me because I’m worthless, and there’s nothing I can do about it.” Whenever this implicit memory content gets triggered forward, *and feels true in the present*, the child will *believe* “I’m worthless” and “It’s hopeless,” and these beliefs then generate the corresponding left-sided emotions of worthlessness and hopeless despair. If these thoughts and emotions are activated frequently and intensely they can cause full blown major depression.

Eating disorders: Eating disorders are often caused by attachment pain and/or distorted beliefs coming forward as implicit memory. The live ministry session, *Eileen: Immanuel Intervention (Intermediate)*, provides an example of attachment pain causing a dysfunctional eating pattern, and it is especially interesting to note that Eileen’s problematic eating with respect to ice cream completely resolved after Jesus healed the attachment pain.

Addictions: Overeating, alcohol and drug abuse, pornography, and many other forms of addictive behavior are often (usually? always?) attempts to self medicate various types of trauma pain that are coming forward as implicit memory.

Relational conflicts: Many, many, many interpersonal conflicts are caused and/or exacerbated by some combination of unresolved attachment pain, right-sided emotions with loss of relational connection, distorted interpretations, and negative left-sided emotions driven by the distorted interpretations *all coming forward as implicit memory*. Unresolved traumatic content,

coming forward as implicit memory, contributes to marital discord, conflicts between family members, conflicts between friends, conflicts in church, conflicts on the mission field, conflicts between neighbors, conflicts between employers and employees, conflicts between professional colleagues, conflicts between students and teachers, conflicts between warring tribal groups in Africa, conflicts between Arabs and Israelis, and even conflicts between complete strangers.

Impaired parenting: Unresolved trauma coming forward as implicit memory can impair your ability to parent in so many ways that you could write an entire book on the subject. In fact, somebody already has – one of the main themes in *Parenting From the Inside Out*,⁴¹ an excellent book by Dr. Daniel Siegel and Mary Hartzell, is the ways in which unresolved issues can hinder a person’s ability to parent well.

One of the most serious parenting problems is caused by memories for experiences where you were unable to maintain access to your relational connection circuits. If your child does something that activates these memories you may be drawn back into the place where your inadequate level 3 skills caused you to temporarily lose the relational aspect of your self. When this happens, not only will you not attune to your child, but you will become completely non-relational in your attempt to manage the situation and stop the painful emotions. *This is the unfortunate context in which parents do the most profoundly hurtful things to children they dearly love.*

Difficulty receiving new truth: We will have trouble receiving new truth if the erroneous beliefs we are trying to correct are actually trauma-associated distorted interpretations coming forward as implicit memory. For example, a pastor might do an excellent job of presenting Biblical truths, but if some in the audience have trauma-associated beliefs that oppose the teaching content it will be very difficult for these people to hold onto the Biblical truths whenever the opposing beliefs are triggered. However, if the opposing trauma-associated distorted interpretations are resolved, these people will have a much easier time with learning, embracing, and applying the truth being presented.

Hindered evangelism: Many who resist the Gospel have had traumatic experiences with Christianity. When you talk to these people about the Lord, their openness is hindered by unresolved traumatic content coming forward as implicit memory.

Impaired discernment: Traumatic implicit memory content can interfere with the guidance we receive from our intuitive right hemisphere in a number of ways. One of the most dramatic is that we can mistake triggered implicit memory for guidance from the Holy Spirit. For example, subtle triggering can cause you to feel a vague, hard-to-put-your-finger-on-it resistance to taking a certain action, and this subtle, vague, intuitive reluctance can be mistaken for the kind of Holy Spirit guidance that some call a “check in the Spirit.”⁴²

Blocked peak performance: In any situation we might be in, we will not be able to function at peak performance if something triggers underlying traumatic memories so that some combination of flashback sensory input, attachment pain, unprocessed right-sided emotions,

⁴¹Siegel, Daniel J., and Hartzell, Mary, *Parenting From the Inside Out*. (New York: Jeremy P. Tarcher/ Putnam, a member of Penguin Putnam Inc.) 2003.

⁴²For additional discussion of this important topic, see “Guidance from Holy Spirit Vs Triggering,” available as a free download from www.immanuelapproach.com.

losing access to our relational connection circuits, feeling inadequate, confusion, distorted interpretations, and lie-driven dysfunctional emotions comes forward as implicit memory. These factors can impair our ability to function on the job, our academic performance, our ability to excel in athletic competition, and our ability to deliver peak performance in many other situations.

An interesting data point with respect to traumatic memories and functional impairment is the growing phenomena of using EMDR to enhance peak performance. For example, if you put “Peak performance and EMDR” in the search box on Google or Yahoo, you will find hundreds and hundreds of websites put up by mental health professionals advertising individual therapy, seminars, and workshops using EMDR to enhance peak performance. There are also articles in professional journals describing the use of EMDR to further increase performance in those who are already doing well.⁴³ One of the most interesting data points discussed in these articles is that Olympic athletes are now using EMDR to help them release their potential to the fullest extent. My perception is that the biggest factor contributing to EMDR’s success with respect to enhancing peak performance is that it resolves underlying trauma – trauma that impairs the person whenever the toxic content it carries gets triggered forward, *and that especially interferes with performance during situations of increased intensity and strategic importance.*

VII. “Trigger,” “triggering,” and being “triggered”: An updated, expanded version of this content is now available in the Glossary of An Introduction to the Immanuel Approach, pages 721-722.

VIII. Verbal logical explainer (VLE) and confabulation: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter three, pages 23-40.

IX. Other levels of central nervous system extrapolation: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter four, pages 41-48.

X. Good old denial and self deception: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter four, pages 48-51.

XI. Negative reactions to the suggestion that we might be triggered: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter eleven pages 103-107.

Trauma almost always includes the absence of attunement: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter eleven, pages 103-105.

Specific content that opposes recognizing and taking responsibility for triggering: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter eleven, pages 106&107.

⁴³See, for example, Foster, Sandra, & Lendl, Jennifer, “Eye Movement Desensitization and Reprocessing: Initial applications for enhancing performance in athletes.” *Journal of Applied Sports & Psychology*. 1995, Vol.7, Supplement 63; Foster, Sandra, & Lendl, Jennifer, “Peak performance and EMDR: Adapting trauma treatment to positive psychology outcomes and self-actualization,” accessed July 26, 2008, <http://www.psicotraumatologia.com/foster.rtf>; and Foster, Sandra, & Lendl, Jennifer, “Eye Movement Desensitization and Reprocessing: Four case studies of a new tool for executive coaching and restoring employee performance after setbacks.” *Consulting Psychology Journal: Practice and Research*, Summer 1996, pages 155-161.

XII. The importance and difficulty of neutralizing traumatic implicit memory and VLE

confabulations: Let us summarize with respect to both the strategic importance and the difficult challenge of neutralizing traumatic implicit memory and VLE confabulations:

- Unresolved traumatic memories powerfully affect our perceptions, thoughts, emotions, abilities, and choices.
- The unresolved traumatic content comes forward as implicit memory, so that it feels true in the present, and is not recognized as coming from underlying unresolved memories.
- Our VLEs come up with “explanations” that focus on the triggering stimuli in the present, our central nervous system extrapolators fill in a few more of the holes, and good old denial and self deception take care of anything that is left over.
- The end result is that we usually believe the VLE explanations, accept the implicit memory content as true in the present, and blame the triggers as if they are the original source of the implicit memory content from the underlying traumatic memories; and we try to solve the problem by loading more informational truth into non-traumatic memory files and by trying to manage, control, or change the triggering stimuli in the present.
- Unfortunately, you cannot resolve the toxic content carried in traumatic memories by loading more informational truth into non-traumatic memory files, or by focusing on the triggering stimuli in the present; and this means that our *usual* responses will *not* resolve the true, underlying source when we are dealing with problems caused by traumatic memory content.
- Suggesting the possibility of triggering can stir up a variety of negative reactions that make it much more difficult to recognize and acknowledge any triggering and VLE confabulations that are present.
- If we perceive that a *person* is responsible for the triggering situation, we will only feel heard, validated, safe, and ready for reconciliation if he takes full responsibility for the implicit memory traumatic content.
- Furthermore, if we are triggered by some aspect of our interactions with the Lord, then all of the above dynamics will result in traumatic implicit memory content and VLE confabulations undermining our relationship with Him (such as I described with respect to transferring content from my 2 year old separation trauma onto the Lord).

Putting all this together, we can see both how important and how difficult it is to neutralize our traumatic implicit memory and VLE confabulations.

XIII: Neutralizing traumatic implicit memory and VLE confabulations: At this point, the reader is hopefully asking: “So what do we do? *HOW* do we expose and neutralize our traumatic implicit memory and VLE confabulations, so that they won’t continue to disrupt our lives and relationships?”

A. I need to take responsibility for MY triggered traumatic content and VLE

confabulations: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapters nine and ten, pages 93-102.

PLEASE don't let your VLE misuse this information: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter twenty-eight, pages 258-260.

B. Exposing and resolving the underlying traumatic memories: Obviously, an important part of taking responsibility for your traumatic implicit memory and VLE confabulations is to take responsibility for the ongoing, long term endeavor of exposing and resolving the underlying memories that are the source of the traumatic implicit content that comes forward when you get triggered. An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter seven, pages 73-86. The big lion book (*An Introduction to the Immanuel Approach*) provides an especially thorough discussion of this aspect of neutralizing traumatic implicit content and VLE confabulations.

C. Recognizing and acknowledging “invisible” implicit memory and VLE confabulations, and then choosing based on truth: Each specific traumatic memory that gets resolved is a step forward, but none of us will be finished with *all* of our traumatic memories any time soon. In the mean time, we need to embrace the challenge of at least partially neutralizing our implicit memory and VLE confabulations by recognizing and acknowledging them, and then once these previously “invisible” phenomena have been exposed, making behavioral choices based on the truth carried in our non-traumatic memory files.

Note that recognizing and acknowledging our traumatic implicit memory and VLE confabulations is also a necessary prerequisite for exposing and resolving underlying trauma, since we can't even ask the question “should I deal with traumatic memories?” until we have recognized that we are triggered, and then also acknowledged and surrendered the VLE confabulations arguing for other explanations.

The bad news is that we do not have space in this seminar for a thorough discussion of how to recognize and acknowledge our traumatic implicit memory and VLE confabulations. The good news is that we *will* present the help-you-recognize-when-you're-triggered tool that many find to be both the most valuable and the easiest to use. Furthermore, additional discussion regarding how to recognize and acknowledge our triggered traumatic memories and VLE confabulations is available in *Outsmarting Yourself*, Appendix D, pages 305-321.”

Another piece of good news is that it helps to know about the memory-anchored negative responses described above. For example, I have often felt blamed, accused, and invalidated when Charlotte has suggested that I might be triggered, but I recognized and understood this second layer of triggering as it welled up inside of me, and I could feel that this understanding helped me choose to respond constructively even though my subjective experience was an intense implicit memory perception of being blamed, accused, and invalidate, and an equally intense impulse towards angry, defensive retaliation.

Watch for loss of access to relational connection circuits: We have been created to be relational beings – we have been created to be in relationship with God and with each other. Our minds and spirits have been created to *desire* relationship and to *function best* in relationship. As described in Part II, the Lord has actually designed specific circuits in our biological brains to serve this longing and need for connection, and when these brain circuits are functioning as designed our spontaneous experience will be to feel relationally connected and to feel the desire for connection. We will perceive others as relational beings, we will be aware of others' true hearts, we will feel compassionate concern regarding what others are

thinking and feeling, we will experience the presence of others as a source of joy, and we will be glad to be with them.

As also discussed in Part II, there are problems that can cause us to lose access to these brain circuits, and when this happens our spontaneous experience will include the *absence* of feeling relationally connected (we won't even *want* to be connected). We will *not* perceive others as relational beings, we will *not* be aware of others' true hearts, we will *not* feel concern/compassion regarding what others are thinking and feeling, and we will *not* be glad to be with them or experience their presence as a source of joy. Furthermore, when we lose access to our relational connection circuits *in the context of being upset with a specific friend or family member*, instead of perceiving that person's presence as an emotional resource we will perceive him as the problem and as an adversary.

One of the problems that can cause us to lose access to our relational connection brain circuits is dismissive attachment. A large part of dismissive attachment is learning to live without access to one's relational connection circuits, and to the extent that a person has dismissive attachment he will be going through life with these circuits "off line." Experiencing painful emotions that directly overwhelm our emotional maturity skills is another problem that can cause us to lose access to our relational connection circuits. However, *the most common problem causing us to lose access to our relational connection circuits is traumatic memories being activated*. As described earlier, if the unresolved content carried in a particular traumatic memory includes loss of access to your relational connection circuits, then these circuits will go off line every time this particular memory gets activated. Furthermore, I've found it to be much easier to recognize and acknowledge that I've lost access to my relational circuits than to recognize and acknowledge that I'm triggered. Even after years of practice, I still find it especially difficult to *acknowledge* that I am triggered – even when I am just talking to myself, I still experience intense internal resistance to *acknowledging* my triggering and VLE confabulations. However, I have been pleasantly surprised to discover that this resistance has been almost entirely absent when it comes to recognizing and acknowledging that I have lost access to my relational connection circuits.

An updated, expanded version of this content, including concrete, specific resources for helping you learn to recognize when your relational circuits go offline, is now available in *Outsmarting Yourself*, chapters twelve, fifteen, sixteen, pages 109-115, 123-160.

D. Re-establishing access to your relational connection circuits: One of the most damaging effects of getting triggered is loss of your relational connection circuits, and then the ways in which this loss affects how you relate to all those around you. Conversely, if you are in any kind of difficult situation and triggered traumatic memories have caused you to lose access to your relational connection circuits, one of the most helpful things you can do to limit the negative impact of your triggering is get them back on line. *Reestablishing access to these circuits will actually enable your brain to function more effectively*. Especially with respect to *relational conflicts*, EVERYTHING will turn out better and flow more easily once you get them back on line. For example, in my experience, *surrendering* my VLE confabulations and *acknowledging* my triggering – one of the steps that can be especially difficult – gets much easier if my relational connection circuits are on line and functioning properly.

Another piece of fascinating brain science provides further understanding of why it is *so* costly to lose access to these circuits and *so* important to get them back on line. Dr. Sacks describes a patient who developed a particularly interesting form of color-blindness. After an injury to the

part of his brain responsible for processing color, this patient not only lost the ability to see color in the present, he also lost the ability to think in color, he lost the ability to dream in color, and he even lost the ability to *remember* in color. He could remember the fact that bananas are yellow, but he could no longer recall the subjective experience of actually *seeing* yellow, and all of his memories came forward in black and white. *When he lost the part of his brain responsible for processing color the subjective experience of color was removed from every aspect of his life.*⁴⁴

My perception is that a similar phenomena occurs with our relational connection circuits. When we lose access to our relational connection circuits we temporarily lose the subjective experience of relational connection from every aspect of our lives. We not only lose the feeling of being relationally connected to those around us in the present, we also lose the ability to think relationally, and we even lose the relational connection component of our memories.

Yet another asset of focusing on our relational connection circuits is that it is often possible to reestablish access to our relational connection circuits even in situations where we do *not* have the time, emotional space, or other resources necessary for finding and permanently resolving any underlying trauma contributing to the problem. Therefore, part of taking responsibility for our traumatic implicit memory and VLE confabulations is taking responsibility for deliberately reestablishing access to our relational connection circuits.

An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter seventeen, pages 161-163.

Regaining access – receiving attunement: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter eighteen, pages 165-186.

Regaining access – deliberate appreciation: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter nineteen, pages 187-208.

Regaining access – receiving calming: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter eighteen, pages 209-214.

Regaining access – humor: An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapter eighteen, pages 215-218.

E. Practical thoughts/tips regarding the exercises to get relational circuits back on line:

An updated, expanded version of this content is now available in *Outsmarting Yourself*, chapters twenty-two and twenty-three, pages 219-235.

IX. Conclusions regarding traumatic implicit memory, VLE confabulations, and relational circuits: In my personal experience with applying these principles,

- recognizing, acknowledging, and taking responsibility for my traumatic implicit memory and VLE confabulations helps me choose righteous behavior, even before anything *feels* different.
- recognizing that I have lost access to my relational connection circuits, and then choosing to

⁴⁴Sacks, Oliver. *An Anthropologist on Mars*. (New York: Vintage Books) 1995, pages 3-41.

take deliberate steps to get them back on line, has dramatically reduced the negative effects of my traumatic implicit memory and VLE confabulations.

- Recognizing and acknowledging my traumatic implicit memory and VLE confabulations opens the door to the possibility of finding and resolving the underlying traumatic memories. Until I recognize and acknowledge my traumatic implicit memory and VLE confabulations I am not even asking the question: “Should I deal with underlying memories?”
- When I am able to identify the underlying traumatic memories, the moment the pieces all come together so that it *feels* true that my pain is really coming from the memories, *all the negative thoughts and emotions I had transferred onto the other person drop off of him or her*. For example, it no longer feels true that bad Charlotte is causing my pain by beating me at Scrabble and making insensitive comments, *and I once again perceive her as my ally instead of the source of my pain*. I may still feel the negative thoughts and emotions from the trauma, but it no longer feels true that *Charlotte* is causing them.
- When I successfully work through a traumatic memory, this particular package of toxic content is *permanently* resolved so that it will *never again cause trouble*.
- When I’m trying to help another person who is triggered, *Starting* with attunement *before* suggesting the possibility of triggering makes it much easier for the other person to surrender VLE confabulations and acknowledge traumatic implicit memory.

Traumatic implicit memory, VLE confabulations, and relationships: Finally, I would like to make several comments specifically regarding traumatic implicit memory, VLE confabulations, and relationships.

- As Charlotte and I have applied these principles we have experienced steadily increasing joy in our marriage. *Relational connection is the source of joy, relational conflict breaks relational connection, and applying these principles to resolve and prevent relational conflict will therefore result in much more joy.*
- As mentioned earlier, God has created us to be relational beings, and this seems to be one of the most important aspects of His plan for us. The enemy, not surprisingly, therefore makes a special effort to attack relationships. *Understanding and applying these principles can help us to outwit the devil’s schemes to disrupt the Body of Christ through relational conflict.*
- Our most important relationship is our relationship with the Lord, and therefore **the** most important point regarding all of this is how it applies to This relationship. The most costly effect of traumatic implicit memory content and VLE confabulations is injury to our relationship with the Lord, and *the most important reason to understand and apply these principles is to remove blockages that hinder our hearts from perceiving and connecting with Him*. Understanding and applying these principles in our relationship with the Lord will help us outwit the devil’s schemes to disrupt This relationship that God desires to be the foundation and center of our lives.