

**Hypnotic Resource Grafting: Recontextualizing Trauma and Schemas  
By Using Placebo and Metamotivational State Manipulations**

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## **Hypnotic Resource Grafting: Recontextualizing Trauma and Schemas By Using Placebo and Metamotivational State Manipulations**

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### **Abstract**

*Research on human memory reconsolidation has shown that fear-laden memory can be stimulated to reorganize and then later reconsolidate without fear. The phenomenon of expectancy violation, also known as "novelty mismatch," has already been shown to accomplish this experimentally. There are recently developed therapies that purportedly capitalize on this effect to heal trauma and dysfunctional schemas. The current authors suggest that therapeutic novelty mismatch can be operationalized in different ways with some methods more effective than others. It is proposed that 2 additional factors may work synergistically with novelty/mismatch to re-contextualize implicit memory: hypnotic placebo and metamotivational sympathy state. Hypnotic resource grafting (HRG) is a strategy that incorporates these synergistic factors. Rather than a protocol for a specific therapy, HRG can be applied in a wide range of therapies. The following paper will discuss methods and use a case example to illustrate.*

**KEYWORDS:** *trauma, schema, memory reconsolidation, hypnosis, resource, novelty mismatch, placebo, hypnotic resource grafting*

## Introduction

Many therapies have been designed to extinguish consolidated fear memories (e.g. traumas, schemas and phobias). Hypnotic resource grafting (HRG) differs from most. Instead of relying on one mechanism of action, it involves five active elements. Three of the elements are designed to synergistically catalyze connections between the fear-laden memory and a resource memory system. This five-factor strategy is designed to aggressively extinguish trauma, schemas and phobias.

Most fear reduction strategies can be classified into one of several categories. One category is simple exposure that relies on the habituation effect (Groves and Thompson, 1970). Prolonged Exposure Therapy (Foa, Hembree, & Rothbaum, 2007) would be a good example. Narrative Exposure Therapy (Schaer, Neuner & Elbert, 2011) would be another example but with more cognitive interaction with the memory. Another category of strategy would be the “top down” cognitive approaches such as Cognitive Processing Therapy (Resick, Monson & Chard, 2017).

Probably the most common strategy for fear extinction involves coactivation of a contradictory positive resource memory or experience alongside the fear memory. These methods are in line with Hebb’s (1949) maxim “Neurons that fire together will wire together.” Such coactivation therapies would be systematic desensitization (Wolpe & Lazarus, 1966), re-enactment therapies (Foa & Kozak, 1986), Resource Development and Installation (Korn & Leeds, 2002) used in conjunction with EMDR (Shapiro, 1989), Somatic Experiencing (Levine, 2008), counting therapies (Ochberg, 1996; Greenwald, 2013), Rossi’s (2002a, 2002b) technique of therapeutic dissociation, the havening technique (Ruden, 2011), Manfield’s (2017) Flash titration technique, Another example of coactivation would be the therapeutic relationship itself as in most talk therapy. According to Norcross and Lambert (2018), the quality of the therapeutic relationship is a stronger prediction of outcome than the utilized therapeutic technique. Hence, the therapeutic relationship can be categorized as a subtle but effective coactivation strategy.

Coherence Therapy (Ecker, Ticic, & Hulley, 2012) and RTM therapy (Gray & Bourke, 2015) take coactivation a step further by eliciting a novelty/mismatch of information between the fear and resource memories. These strategies capitalize on certain memory reconsolidation phenomena that will be discussed later. HRG incorporates this approach. However, HRG incorporates 2 other factors designed to synergistically augment the novelty/mismatch effect: hypnotic placebo and manipulation of meta-motivational state. These manipulations are designed to catalyze a direct relationship between the fear memory and the resource memory. Most coactivation strategies involve a different meta-motivational state than HRG. Some background understanding of Reversal Theory is needed to explain this difference.

## Reversal Theory

Reversal Theory (Apter, 2007) is an area of research that may yield an important tool to facilitate integrative learning. The theory categorizes metamotivation into four dimensions,

each dimension involving two opposing states. Research in this field has already established different physiological and affective correlates for some of these states (Svebak, 1985; Walters, Apter, & Svebak, 1982). The dimension most relevant to HRG pertains to "sympathy" (joining with) versus "mastery" (acting upon). When a person is focused on receptively attaching to someone or something, he/she may be said to be in a sympathy state. Here, the term "sympathy" has a more general meaning than the common associations of pity or compassion. The current authors propose that these opposing states may have opposing neuropeptide environments in the body that can influence contextual learning. HRG has been designed with the hypothesis that the physiological correlates of a mastery state may not enhance contextual learning while those of a sympathy state may facilitate it. Evidence that this may be true comes from genomic research. Cozzolino et al. (2014) found markers of increased Zif268 (EGR1) expression following therapeutic hypnosis. The marker Zif268 is known to be associated with increased neuroplasticity. Since the HRG sympathy state induction parallels the receptivity and absorption in hypnosis, it is reasonable to hypothesize that it will similarly increase neuroplasticity. HRG is designed to work within a sympathy state to facilitate unconscious communication between memory networks.

Early in the HRG process, the patient is shown how to pair together a hand posture and verbal expression to induce his/her own sympathy state. It is theorized that a palms-up posture has been classically conditioned in a person's history to be associated with receptivity and social connection. It is almost never paired with a mastery state. The early HRG sympathy state training is an induction that reinforces the open receptive state paired with the hand posture. Verbal requesting has also been classically conditioned the same way. A verbal request usually involves depending on another's will. It is a cooperative "joining with" kind of operation. Therefore, the open palms posture and request syntax are both used to train the patient to evoke his/her own sympathy state. Later in the procedure, the patient uses his/her own syntax and open palm posture in a self-hypnotic placebo.

Recent research is suggestive of why a meta-motivational sympathy state may be effective for facilitating the reprocessing of fear memory. Since a sympathy state is about "joining with" and "connecting" with another, oxytocin may be released when such a state is induced. It is well established that oxytocin is involved in social bonding and attachment in animals and humans (Young et al., 2001; Gordon et al., 2010; Hurlmann & Scheele, 2016; Bosch & Young, 2018). The HRG procedure anthropomorphizes the patient's resource memory system in such a way that the patient is induced to feel as if he/she is forming a human-like relationship.

The benefit of oxytocin to fear extinction has been shown by several studies involving intranasal oxytocin administration. Koch, et al. (2016) and Eckstein et al. (2017) showed that intranasal oxytocin can restore functional connections between the basolateral amygdala and the ventral medial prefrontal regions for PTSD subjects. Eckstein et al. (2015) and Hu, et al. (2019) demonstrated that intranasal oxytocin can also facilitate fear extinction in humans. These studies reveal that oxytocin assisted fear extinction in humans is also associated with a decrease of activation in the basolateral amygdala and an increase in activation of the ventromedial prefrontal cortex. The Hu et al. study is especially important because it demonstrated that the administration of oxytocin can facilitate the extinction of human fear that is consolidated. Hu et al. hypothesized that the oxytocin interacted with memory reconsolidation processes during the extinction process.

The dominant meta-motivational state during a fear reduction therapy may be very

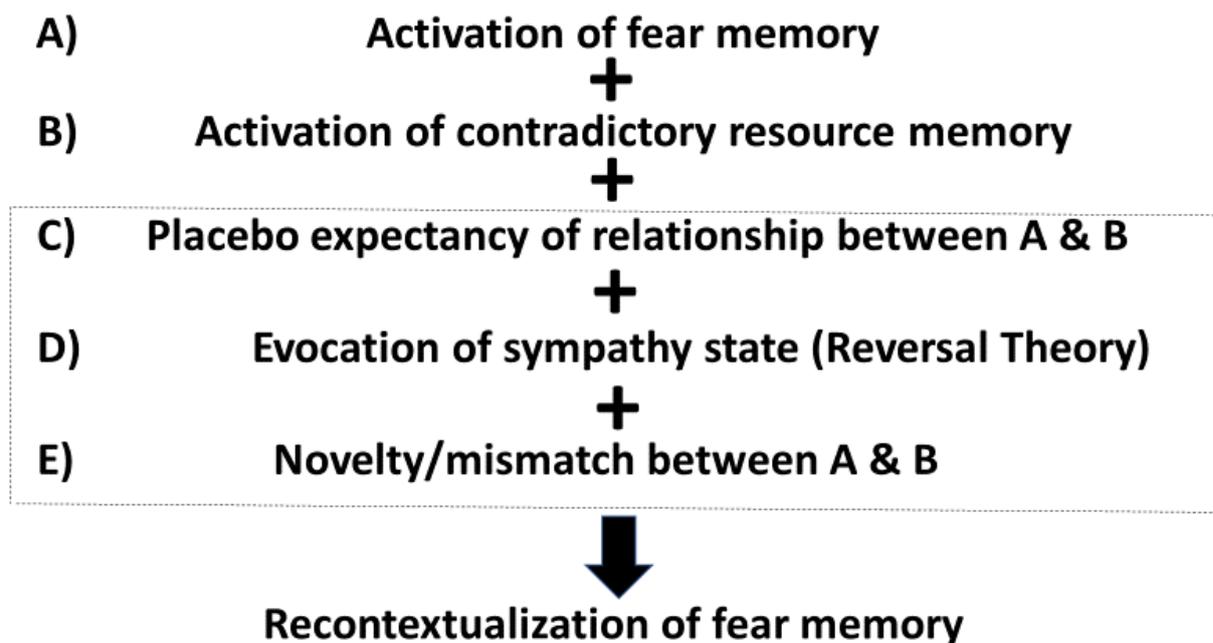
important. The evocation of a mastery state during therapy may result in missing out on the benefits of oxytocin release. The HRG strategy may evoke a sympathy state with oxytocin release and thereby facilitate recontextualization. During part of the procedure, both the therapist and patient cooperate in attending to the flow of positive associations from the resource memory throughout the patient's body. Most patients report profound relaxation. It is theorized that this may constitute a kind of psychological stroking that results in oxytocin release. In HRG the therapist also guides the patient to anthropomorphize his/her resource memory. All of this may enhance any attachment oxytocin effect when the patient makes requests of the resourced part of his/her mind.

## **A Five-Factor Strategy for Recontextualizing Fear**

There is a core within the HRG strategy that should ideally be replicated for each protocol:

1. A fear-laden target memory is first activated.
2. A negative cognition is associated from the target memory
3. A desired contradictory positive cognition is chosen by the patient for possible replacement of the negative cognition.
4. Positive resource memories are located by the patient in which the positive cognition felt true.
5. The patient experiences the resource memories and associates the evoked emotions into body locations and colors.
6. The patient reactivates the initial target memory while body associations from the resources are maintained.
7. Hypnotic placebo techniques are used to catalyze associations between the resource body associations and the target memory. This occurs while the patient maintains a meta-motivational sympathy state.

The overall strategy can be illustrated as follows in Figure 1.



**Figure 1. The five-factor HRG strategy for recontextualizing fear memory**

In the preceding five-factor strategy, components C, D and E comprise synergistic dimensions that are designed to catalyze the integration of fear memory A with a resource memory B.

The placebo expectancy factor C is developed in several steps. Early in the procedure the patient is taught how to use an open palm posture and a requesting syntax to “talk to his/her unconscious.” Later in the procedure, the patient is guided to associate the positive affect from his/her resource experience to a color, temperature and body location. From there, the patient is guided to associate the color throughout his/her whole body. The patient is then asked a hypothetical question: “If it were possible that this (temperature) (color) associated with your resource experience could act like a healing medicine down in your unconscious to help you with your other challenging experience.....would you let it?” Patients invariably commit to this proposition and by doing so establish a powerful placebo expectation. Later in the procedure the patient is guided to associate back to the fear context while allowing the color to remain in his/her body. He/she is then led to use his/her open palm posture while making certain requests to the (color) part of his/her mind. The suggested requests accomplish several things. First, it is a reinforcement of the placebo expectancy. Second, it helps induce a sympathy state B by asking for a cooperative relationship with the resource system. Third, it allows the therapist to suggest for the patient to make novel requests that highlight a mismatch C between the fear and resource memories. It is also likely that a mismatch effect can occur unconsciously due to the contradictory memories A and B. Delorenzi, Maza, Suarez, Barreio, Molina, and Stehberg (2014) summarized several studies supporting their hypothesis that conscious recall and behavioral expression are not required for reactivation and labialization to take place during memory reconsolidation. If this

hypothesis is accurate then it opens the door for hypnotic techniques to create novelty mismatch in implicit memory.

## **HRG in Practice**

It is important to clarify that the HRG strategy is not a single protocol. The current authors have already developed several protocols using the strategy. One protocol is for healing trauma. Another is for helping patients to revise life-long maladaptive schemas. The current authors are seeing early signs that HRG may be effective against phobias.

HRG is not appropriate for all patients. It is not appropriate for psychotic disorders, bipolar disorders, active addictions (although there have been a few exceptions where HRG has been successful even when the patient was in active addiction) or traumatic brain injury. For patients who dissociate or get hyper-aroused when starting to activate a traumatic memory it is advised to first use a titrated exposure procedure such as the Box Titration technique to be described later. Manfield's (2017) Flash technique can also be used.

When applied to developmental traumas, HRG is best described as taking place within the framework of a phase model of trauma-informed treatment (Van der Hart et al., 2006). The stabilization phase must be completed first. Dialectical Behavior Therapy (DBT) (Linehan, 1993) or other mindfulness-based techniques may be necessary. In Dissociative Identity Disorder (DID) cases, alters need to have already established cooperative relations with each other and the therapist. Even with these complex cases, alters can eventually be invited to co-experience the benefits of HRG by sharing the body together when activating a targeted trauma memory. In these cases, one can imagine numerous contexts beginning to integrate with a resource context all at the same time.

The following steps outline one trauma protocol that has produced very positive results in clinical practice. A more detailed description is appended at the end of this article. The same approach can be used for schemas and phobias with some minor changes.

- 1) The patient is first introduced to an auto-hypnotic posture that can be used to induce a meta-motivational sympathy state. The patient is trained to use a palms-up posture with forearms elevated. He/she also learns to use the syntax of polite request when speaking to a resource part of his/her unconscious.
- 2) The patient is asked to briefly activate the negative memory for about three seconds. It is brief enough that the patient is not allowed to go into much distress. Schema memories will usually not be overwhelming. Trauma memories are usually more arousing. The key is to titrate the activation so that the neurohormonal stress environment in the patient does not intensify. The patient is asked to scale his/her estimated subjective units of disturbance (SUD) from zero to ten "if he/she were to allow himself/herself to view the negative memory for a minute." This technique is useful to determine whether a titration procedure will be needed later. If significant hyper-arousal to the negative memory appears likely then different procedures may be used to titrate and "soften" the amount of exposure. Clinical judgement should be based on nonverbal indicators such as shallow breath, hand or leg tremors, face buried in hands, etc.

- 3) The patient is helped to define a negative cognition embedded in the negative memory. For trauma memories, the negative cognition will be a shame belief about the self (e.g., "I'm weak" or "I'm defective").
- 4) The patient is helped to define a desired replacement cognition that is positive (e.g., "I'm strong" or "If I ask for what I want then I may get it or not and I can keep myself safe.")
- 5) The patient is asked to locate three positive adult memories when the patient had the "felt sense" that the desired positive cognition was true. These are the resource memories.
- 6) The negative memory is then activated as the dominant context. Different exposure techniques can be used. The current authors have used a one-minute re-experiencing of the background story combined with a three-dimensional eidetic exposure to the worst moment of the memory (Ahsen, 1973; Shapiro, 1989). These three dimensions involve sensory elements (sight, sound, smell), the negative cognition and the somatic reaction. It may also be desired to obtain a SUD rating (Subjective Units of Disturbance) zero to ten (ten being the highest disturbance) and a VOC-PC rating (Validity of Cognition-positive cognition) one to seven (seven means completely untrue) for the desired positive cognition.
- 7) One of the adult resource memories is then re-activated to establish it as a new dominant context. The patient is asked to review the resource memory in several stages with increasing specificity to the most inspiring moment in the memory. The patient is given a series of hypnotic suggestions to associate the "felt sense" of the resource memory to his/her body. The patient is asked to associate a color to the felt sense which is then associated deeper into different parts of the body.
- 8) The patient is given a hypnotic suggestion for connecting the resource and trauma contexts. This is accomplished by using a sequence of hypothetical questions that lead the patient to commit to a suggested belief: **"If it were possible that your (*color*) felt sense of (*positive cognition*) in your body could act like a healing medicine in your unconscious to help heal the disturbance in your other challenging memory...would you let it?"**..(patient answers and affirms)...**"And in order for that to happen would you be willing to let that (*color*) felt sense of (*positive cognition*) stay in your body while the scene changes around you so that you still have it throughout your body and you will also be back in the challenging memory?"** (Patient affirms).
- 9) The therapist then guides the patient to re-activate the negative memory context while still connecting with the resources in his/her body associations. The therapist emphasizes constancy of the patient's body retaining his/her somatic resource associations by allowing the scene to change around the patient to the negative memory scene. **"So, letting that happen, let the scene change around you while you still have that (*color*) felt sense of (*positive cognition*) in your body.....and you are also looking out at the most disturbing part of your challenging memory.**

**Let me know when you have the two together.”**

10) The patient is guided to induce a meta-motivational sympathy state and to auto-hypnotically invoke an unconscious connection with the resource context. In this critical step, the patient is asked to do three things all at the same time: (a) hold his/her hands in the sympathy invocation posture, (b) view the previously defined visual components of his/her trauma memory as if it is happening around him/her and not from a dissociated external view, and (c) speak internally to the colored resource part of his/her mind and make a series of requests. The requests are designed to stimulate implicit processing. The following are examples:

- Will you help us to appreciate how there is more to us than this experience?
- Will you help us to find the hidden meanings in this experience that will lead us to grow?
- Would you be willing to help us to view this experience in a different light?
- Will you help us to learn the ways that the current world is different than this experience?

The patient is asked to signal to the therapist whenever he/she feels he/she has finished processing a question and is ready to be given a new question. This period of requests continues for about six minutes.

11) The patient is then asked to lower his/her hands and meditate on his/her experience for about three minutes. He/she is told it is important that he just let go and to merely notice what comes to him/her of its own accord. The patient is asked to share what he/she is experiencing after his/her meditative period.

12) The patient is asked to pause the negative memory scene and go back to his/her positive resource scene. The patient is then asked if he/she would be willing to let his/her body “drink in” more of the same resource color from his/her resource scene. Hypnotic suggestions are given to strengthen the associations to the patient’s body.

13) Steps 9 through 11 are then repeated.

14) At the end of the session, the therapist may obtain a SUD and a VOC-PC rating. A body scan may also be requested to locate residual disturbances associated to the body.

## **Optional Titrations**

Different patients have varying levels of fear and HPA activation to trauma memories. Target memory titration is a method to reduce the associated fear of a memory so that resource emotions can dominate. The current model assumes that underlying neuropeptides compete for control over learning reflexes. It is proposed that if fight/flight neuropeptides are dominant then contextual learning will be impaired. Because of this it is sometimes necessary to fractionate the target into less toxic representations. This strategy was adopted by Wolpe and Lazarus (1966). They developed a fear hierarchy of imagined stimuli and progressively desensitized up the ladder. Consistent with this strategy, different titration techniques can be

used in HRG if the patient abreacts or dissociates too strongly. The therapist can create a strategy of successive titration methods applied up an imaginary fear hierarchy. At the very bottom of the hierarchy would be techniques that involve mostly unconscious exposure to the traumatic sensory memory. There is research supporting the proposition that unconscious exposure to a fearful stimulus can more effectively desensitize a fearful stimulus than conscious exposure (Siegel & Weinberger, 2009; Siegel et al., 2017). The following box titration procedure is one method to maximally titrate fear.

The patient is instructed to first construct an imaginary box in an empty room. The box lid is left open. Next, the patient is asked to briefly view the worst part of his/her traumatic memory above the box for about five seconds and then to “freeze” it into a “still-shot” (no movement). The patient is then instructed to crumple and stuff the image into the box as if the image is on cellophane. The box is left in the room for later use in the procedure.

After a resource memory has been fully anchored into body associations (See Step 7) the patient is asked to stay in his/her resource location instead of suggesting that the context will change. The patient is asked to place his/her box somewhere in his/her imagined resource location so that he/she can occasionally glance at it when instructed. He/she is subsequently asked to pendulate between noticing the resource events and occasionally looking at the box. Exposure to the box may be gradually increased from very brief exposures to prolonged exposure. The patient is also instructed to use the open-palm sympathy state posture while making processing requests to the colored resource part of his/her mind (See Step 10). When making the processing requests, the patient is guided to make his/her requests with reference to “what’s in the box.” It should be mentioned that this technique bears similarity to Manfield’s (2017) Flash titration technique that also uses unconscious exposure. Two important features pertain to the box titration method. First, it keeps the patient associating his/her self as if the patient is in the resource context. Second, it implies a spatial contextual relationship between the resource context and the trauma scene. There are many other methods that can also be used for titrating exposure to the trauma memory. In HRG these titration methods are usually not required except for the most severely traumatized cases.

## Discussion

There are several research domains that are relevant to the HRG strategy:

### Hypnotic Placebo

Both classical conditioning and verbal instruction can be involved with the placebo effect (Stewart-Williams & Podd, 2004). In HRG, the patient is asked "If it were possible that your (defined color and defined meaning from the resource memory) could act like a beneficial medicine to help you heal your trauma .....would you let it? " This is a hypnotic maneuver using a hypothetical reframe. The therapist then seamlessly slides the patient into the new frame that assumes that a helping relationship will be established between the resource memory and the trauma. An expectancy is thereby initiated by a hypnotic suggestion. Research on placebo and Parkinson's symptoms shows that an expectancy placebo can produce real physiological effects (Del la Fuente-Fernandez et al., 2002; De la

Fuente-Fernandez & Stoessl, 2004). This research showed that the placebo effect on Parkinson's symptoms were mediated by actual increased dopamine release in the substantia nigra. HRG is designed to similarly augment internal learning reflexes to connect mismatching memory systems. The patient's acceptance of the hypothetical medicinal qualities of his/her resource color creates a hypnotic placebo. It is hypothesized that this may also elicit the neuropeptide oxytocin to associate to his/her fear memory during the procedure.

One significant HRG placebo is the initial training in the sympathy state invocation technique. The patient is trained to use his/her own open palm body posture with requesting syntax to invoke a sympathy metamotivational state. The patient develops an anticipatory belief that this unusual technique will invoke his/her unconscious to help him/her.

Language is important in HRG. "Would you be willing?" and "Will you?" are used as a frequent request syntax. This form of speech is designed to theoretically minimize reactance (Brehm, 1966; Wicklund, 1974) in the unconscious. The authors have often observed self-parts break contact with the host self-part when the patient makes a mistake by giving a command instead of making a request. It appears that the unconscious is hungry to have its choice respected in a similar manner to most people. The therapist should wait on the patient's choice as often as possible. In HRG, the patient is similarly coached to make a request for help from his/her resource part instead of giving commands. This avoids the phenomenon of internal reactance. Reactance has been shown to be especially amplified when a person perceives that another's will is intentionally restricting one's freedom (Kaye, 1977).

### **Memory Reconsolidation**

Lane, Ryan & Greenberg (2015) proposed that most effective therapies will change a target memory's state via memory integration. They refer to Nadel and Moscovitch's (1997) multiple trace theory to describe how new information is incorporated into a target memory during effective therapy. This is a daunting task when much of the targeted memory complex is captured by dissociation. Jovasevic et al. provided strong evidence that the microRNA miR-33 regulates GABAergic mechanisms involved in such dissociation. However, we know that reintegration of a previously dissociated traumatic memory can occur.

The current authors propose that it would be inaccurate to view reconsolidation of a previous fear memory as only involving the memory's reorganization. The term "reorganization" suggests a single memory will change within itself. Consider the following metaphor: "When the work of therapy is done, it's no longer a tiger. It's a tiger in a cage." New information has been added to the system. Beckers and Kindt (2017) suggested that an appropriate goal of therapy could be to reverse the debilitating effects of fear generalization instead of blocking fear with drugs. Such a goal would involve recontextualizing the memory so that new information can be integrated. Consistent with this strategy, a series of studies by Schiller and colleagues (Schiller, Monfils, Raio, Johnson, LeDoux, & Phelps, 2010; Schiller, Kanen, LeDoux, Monfils, & Phelps, 2013) demonstrated a nonpharmacological manipulation of memory reconsolidation in order to reduce fear. In their 2010 study, these authors demonstrated that contradictory information (otherwise known as "novelty/mismatch" or "prediction error") from experiential learning will block conditioned fear under certain conditions. One condition is that the contradictory experience takes place

within 5 hours after a brief reminder of the conditioned fear stimulus. A second condition is that the contradictory experience is somewhat delayed following the reminder. Without such a delay, the blockade effect did not take place as evidenced by the occurrence of spontaneous recovery and accelerated reconditioning.

The HRG strategy has been designed to effect memory reorganization via recontextualization as suggested by Beckers and Kindt. New contextual information can come from a primed and activated resource memory. However, it is theorized that much of this information can be unconscious. To understand why, it is best to refer to some early Soviet research.

### **Contexts**

Ukhtomski (1926) pioneered the research regarding dominant focus. Dominant focus may be understood as an area of activation in the brain that occurs when a subject is presented with a stimulus. When the subject is presented with a different stimulus a different part of the brain will be activated. Ukhtomski and others started their research on animals. They discovered that a) the prevailing dominant focus will control the organism's reflexes b) the dominant focus may become a "latent dominant" when a new stimulus creates a new dominant; and c) the latent dominant will still retain some activation afterwards. Rusinov (1973) found that slow wave activation often endures up to 40 minutes in a latent dominant. Rusinov and others studied the interaction between multiple dominants, both latent and dominant. Unfortunately, the tradition of studying multiple foci has been lost in current Western research. However, one can easily see the relevance of multiple foci in ego-state therapy (Phillips & Frederick, 1995; Van der Hart, Nijenhuis & Steele, 2006; Watkins & Watkins, 1997).

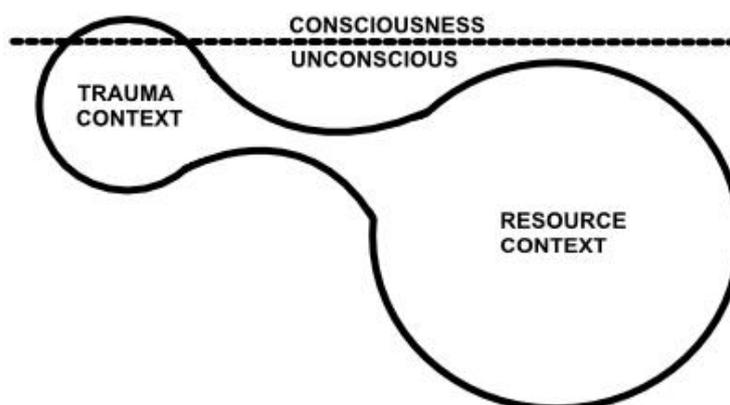
Western researchers have studied the equivalent of dominant focus by studying the P300 event-related potential after a sensory event. The P300 magnitude is a measure of the brain updating the model of its operating environment with administrative information rather than operational information processing (Donchin, Gratton, Dupress, & Coles, 1988). The P300 research is important because P300 magnitude has been shown to correlate with learning from mistakes and the accuracy of updating context expectancy (Donchin & Coles, 1988; Donchin et al., 1984). The concept that novelty mismatch or prediction error stimulates new learning can be found in both P300 research (Johnson, 1984, 1986, 1993) and Orienting Response research (Sokolov, 1963, 2002). However, the P300 research focuses on the prevailing dominant focus and does not study interaction of different foci. In Western research, the term "dominant focus" has been abandoned while reference to a singular "context" prevails.

The relevance of dominant focus to human psychology has been demonstrated by Luria and Vinogradova (1959) who showed how reflexes to the same stimulus change depending on which background focus is dominant. The takeaway from all this early research is that reflexes are best viewed as occurring within a dominant focus (prevailing implicit context) and not an overall personality. It also shows us that we need to be aware that multiple implicit contexts can be activated at the same time and manipulated in clinical practice. We are not limited to working with only one implicit context at a time.

The advantage of working with multiple contexts (dominant and latent foci) is that

one implicit context can be used to stimulate novelty mismatch with another. It is theorized that such a mismatch can do more than merely stimulate memory reorganization. It may stimulate integration of one context with another. Anokhin (1974) pointed out that dominant and latent foci ordinarily cross inhibit each other via coordinative inhibition. The alternative to this concept appears when a functional relationship can be created between them. HRG is designed to accomplish the latter by catalyzing learning reflexes to connect the resource context with the fear-laden context. Increased discrimination can then take place so that overgeneralization is reduced. Sevenster, D., Haesen, K., Vervliet, B., Kindt, M., & D’Hooge (2017) have already experimentally reduced overgeneralization of fear through interactive contextual learning. The short version is "desensitization by integration." Fear may then be recontextualized.

Figure 2 illustrates a way to conceptualize the integration of trauma and resource memory systems during HRG. The illustration refers to associational space and is not anatomical. In the illustration, associational distance refers to separation of memory systems due to lack of dendritic connections and neuropeptide “tagging” in state-dependent memory.



**Figure 2. Conceptual model of integrating contexts in associational space**

## **A Case Example of HRG De-traumatization**

Mr. X was a 42-year-old male who had been seen previously in the clinic for anger management problems. He had successfully completed an auto-hypnotic training regimen and was no longer having temper outbursts with his wife. Several months after his anger management work, he was shot in a racially motivated shooting. He had been stopped at a stoplight when another driver yelled racial epithets and shot him in the leg, shattering his/her femur. The extreme shock and pain of the shooting as well as the pain of subsequent EMS interactions formed his traumatic memory constellation.

The patient was seen four months after his shooting but claimed his symptoms were receding. However, the patient’s symptoms had intensified when seen again seven months after his shooting. The patient scored 73 (high post-traumatic stress range) on the PTSD Checklist (PCL) (Weathers et. al, 1993) experiencing flashbacks, nightmares, increased

startle, severe anxiety and emotional numbing. As a result, the patient agreed to try HRG trauma reduction.

In the first HRG session, the patient wept when revisiting the sensory image of the shooting. The eidetic sensory elements were as follows: the sight of the black gun, a piercing white flash, the echo of the blast and tunnel vision of the driveway in front of the patient. The negative trauma belief was "I'm helpless." The somatic association was constriction in his chest. The initial SUD was nine out of ten. Three resource memories were defined from the patient's desired positive cognition ("I'm strong"): an inspiring drum solo he once played in a concert, a memory of rescuing his sister's dog who had been hit by a car, and a moment during physical therapy when he was able to perform a painful exercise for the first time. These three resource memories were each cross-associated with the target memory for two minutes each. Hypnotic suggestion and somatic associations were used in the HRG manner. The SUD dropped from nine to one by the end of this first one-hour session. At the beginning of the next session, the SUD was still one. It declined to zero after three more resourced hypnotic/somatic interweaves.

Toward the end of the first HRG session the patient reported a VOC-PC rating of six out of seven for the desired replacement belief ("I'm strong"). Inquiry revealed a blocking belief of "How could I be strong if I was in so much pain?" The therapist then discussed mental strength and used the HRG technique to associate the patient's resource memory of feeling inspired when he accomplished his painful physical therapy. The final VOC-PC rose to seven and the SUD level declined to zero. While performing this latter association in trance, the therapist noticed that the patient's hand twitched. Inquiry revealed that the patient had suddenly seen an image of the perpetrator's license plate. He subsequently reported the plate numbers to the police.

At the start of the next session, the patient reported no disturbance when recalling the initial target memory of the shooting. Therefore, the session employed HRG on the memory of his pain when he was pulled from his truck. The SUD level started at seven with a VOC-PC of three when sensory, negative belief and somatic components of the target memory were recalled. Two resourced hypnotic/somatic interweaves were used to drop the SUD to zero while the VOC-PC rose to seven out of seven. Toward the end of this session the patient reported simultaneously experiencing two frames of viewing the target: one was first person and the other in third person. The therapist guided the patient to use a sympathy state posture and to request for both self-parts to form a friendship and share information. Immediately after this the patient reported dizziness and a sense of another self-part (third person case) looking through his eyes. It was interpreted that two systems were mismatching and in the process of reorganizing.

In the next session and after the second target had been processed the patient said he was feeling confident. He reported there had been no triggering events evoking his former fear. He did not think he needed to process his experience in the ambulance. However, subsequent events revealed this to be untrue. He was retriggered while putting on the same jacket he had worn during his traumatic experience. Therefore, another HRG session was spent on the patient's traumatic memory of riding in the ambulance. The initial SUD was eight with a VOC-PC of two. After two HRG resource interweaves of three minutes each the patient's SUD declined to zero and his VOC-PC rose to seven.

In subsequent marriage counseling sessions and a follow-up meeting with the patient,

Mr. X reported no more triggering of anxiety, no fear when passing through the location of the shooting, and no more sleep disturbance or night sweats. Two months after his last treatment session, the patient scored eight (almost no post-traumatic stress) on the PCL. When a lightning bolt struck right next to the patient's house, the patient experienced a normal startle response with no panic like he experienced before treatment. He also reported having had a felt-sense of the color that had been associated in his HRG treatment. It is interesting that such HRG color associations are common in response to post treatment triggers. The preceding case is typical of the results obtained by the current authors. With single traumas from adulthood, fast desensitization has been followed by subsequent comfort when the patient recalled the trauma scene.

## Conclusion

The five-factor strategy of HRG involves a synergy between 3 factors: a hypnotic placebo expectation of an internal relationship, a sympathy metamotivational state and the novelty/mismatch of information between the fear and resource memories. The purpose is to catalyze more integration between the latter 2. The current authors have observed very rapid desensitization of fear and rapid healing of negative schemas using this approach. However, well-controlled studies would be needed to make any definitive conclusions of how the current strategy compares in effectiveness with other strategies.

There are several important questions that can be distilled from the HRG strategy and our current observations:

- 1) Does the HRG methodology truly evoke a metamotivational sympathy state in the patient?
- 2) Does such a sympathy state elicit oxytocin release?
- 3) Does such an oxytocin release free up activation in the vmPFC to accelerate recontextualization as it seems to do for simple extinction (Hu et al., 2019)?

If the answer is yes to these questions, then the door is open for a potentially effective nonpharmacological methodology for healing traumas and dysfunctional schemas.

## References

- Ahsen, A. (1973). *Basic Concepts in Eidetic Psychotherapy*. Los Angeles, CA: Brandon House.
- Anokhin, P. (1974). *Biology and Neurophysiology of the Conditioned Reflex and its Role in Adaptive Behavior*. New York, NY, NY: Pergamon Press.
- Apter, M. (2007). *Reversal Theory: The Dynamics of Motivation, Emotion, and Personality*. Oxford: Oneworld Publications.
- Beckers, T., & Kindt, M. (2017). Memory Reconsolidation as an emerging treatment for emotional disorders: strengths, limitations, challenges and opportunities. *Annual Review of Clinical Psychology*, 5(13), 99-121.

- Bosch, O. & Young, L. (2018). Oxytocin and social relationships: from attachment to bond disruption. *Current Topics in Behavioral Neuroscience*, 35, 97-117.
- Brehm, J. (1966). *A Theory of Psychological Reactance*. New York: Academic Press.
- Cozzolini, M., Iannotti, S., Castiglione, S., Ciatelli, A. & Rossi, E. (2014). A bioinformatic analysis of the molecular-genomic signature of therapeutic hypnosis. *The International Journal of Psychosocial and Cultural Genomics, Consciousness & Health Research*, 1(1), 6-11.
- De la Fuente-Fernandez, R., Phillips, A., Zamburlini, M., Sossi, V., Calne, D., Ruth, T. & Stoessl, A. (2002). Dopamine release in human ventral striatum and expectation of reward. *Behavioral Brain Research*, 136(2), 359-363.
- De la Fuente-Fernandez, R. & Stoessl, A. (2004). The biochemical bases of the placebo effect. *Science and Engineering Ethics*, 10, 143-150.
- Delorenzi, A., Maza, F, Suarez, L., Barreiro, K. Molina, V. & Stehberg, J. (2014). Memory beyond expression. *Journal of Physiology – Paris*, 108, 307-322.
- Donchin, E. & Coles, G. (1988). Is the P300 component a manifestation of context updating? *Behavioral & Brain Sciences*, 11(3), 357-427.
- Donchin, E., Gratton, G., Dupress, D. & Coles, M. (1988). After a rash action: Latency and amplitude of the P300 following a fast guess. In M. Kieszman, (Ed.) *Neurophysiology and Psychophysiology: Experimental and Clinical Applications*. Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Donchin, E., Heffley, E., Hillyard, S., Loveless, N., Maltzman, I., Ohman, N., Rosler, F., Ruchkin, D., & Siddle, D. (1984). Cognition and event-related potentials: II. The Orienting Reflex and P300. *Annals of the New York Academy of Sciences*, 425, 39-57.
- Ecker, B., Ticic, R., & Hulley, L. (2012). *Unlocking the Emotional Brain: Eliminating Symptoms at Their Roots Using Memory Reconsolidation*. New York: Routledge.
- Eckstein, M., Becker, B., Scheele, D., Scholz, C., Preckel, T., Schlaepfer, V., Kendrick, K., Maier, W. & Hurlmann, R. (2015). Oxytocin facilitates the extinction of conditioned fear in humans. *Society of Biological Psychiatry*, (78)3, 194-202. <https://doi.org/10.1016/j.biopsych.2014.10.015>
- Eckstein, M., Markett, S., Kendrick, K., Ditzen, B., Liu, F., Hurlmann, R. & Becker, B. (2017). Oxytocin differentially alters resting state functional connectivity between amygdala subregions and emotional control networks: Inverse correlation with depressive traits. *NeuroImage*, 149, 458-467.
- Foa, E., Hembree, E., & Rothbaum, B. (2007). *Prolonged Exposure Therapy for PTSD: Emotional Processing of Traumatic Experiences*. New York: Oxford University Press.
- Foa, E., & Kozak, M. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99, 20-35.
- Gordon, I., Zagoory-Sharon, O., Leckman, J. & Feldman, R. (2010). Oxytocin and the development of parenting in humans. *Biological Psychiatry*, 68(4), 377-382.
- Gray, R., & Bourke, F. (2015). Remediation of intrusive symptoms of PTSD in fewer than 5 sessions: a 30-person pre-pilot study of the RTM Protocol. *Journal of Military, Veteran and Family Health*, 1(2), 13-20.
- Greenwald, R. (2013). *Progressive Counting within a Phase Model of Trauma-Informed Treatment*. New York: Routledge.
- Groves, P., & Thompson, R. (1970). Habituation: a dual-process theory. *Psychological Review*, 77, 419-450.
- Hebb, D. (1949). *The Organization of Behavior*. New York: Wiley.
- Hu, J., Wang, Z., Feng, X., Long, C. Schiller, D. (2019). Post-retrieval oxytocin facilitates next day extinction of threat memory in humans. *Psychopharmacology*, 236(1), 293-301. <https://doi.org/10.1007/s00213-018-5074-6>.

- Hurlemann, R. & Scheele, D. (2016). Dissecting the role of oxytocin in the formation and loss of social relationships. *Biological Psychiatry*, 79(3), 185-193.
- Johnson, R. (1984). P300: A model of the variables controlling its amplitude. *Annals of the New York Academy of Sciences*, 425, 223-229.
- Johnson, R. (1986). A triarchic model of P300 amplitude. *Psychophysiology*, 23(4), 347-384.
- Johnson, R. (1993). On the neural generators of the P300 component of the event-related potential. *Psychophysiology*, 30, 90-97.
- Jovasevic, V., Corcoran, K., Leaderbrand, K., Yamawaki, N., Guedea, A., Chen, H., Shepherd, G. & Radulovic, J. (2015). GAGAergic mechanisms regulated by miR-33 encode state-dependent fear. *Nature Neuroscience*, 18(9), 1265-71.
- Kaye, B. (1977). Reactance to freedom elimination: Social characteristics of the elimination and efficacy for evoking reactance. Graduate dissertation at the University of Illinois, Urbana, Illinois: <http://hdl.handle.net/2142/66501>
- Koch, S., van Zuiden, L., Nawijn, L., Frijling, J., Veltman, D. & Olf, M. (2016). Intranasal oxytocin normalizes amygdala functional connectivity in posttraumatic stress disorder. *Neuropsychopharmacology*, 41(8) 2041-2051.
- Korn, D., & Leeds, A. (2002). Preliminary evidence of efficacy for EMDR resource development and installation in the stabilization phase of treatment of complex posttraumatic stress disorder. *Journal of Clinical Psychology*, 58(12), 1465-1487.
- Lane, R., Ryan, L., Nadel, L. & Greenberg, L. (2015). Memory reconsolidation, emotional arousal, and the process of change in psychotherapy: New insights from brain science. *Behavioral and Brain Sciences*, 38, 1-64.
- Levine, P. (2008). *Healing trauma: a program for restoring the wisdom of your body*. Boulder: Sounds True.
- Linehan, M. (1993). *Skills Training Manual for Treating Borderline Personality Disorder*. Guilford Press. New York, NY.
- Luria, A. & Vinogradova, O. (1959). An objective investigation of the dynamics of semantic systems. *British Journal of Psychology*, 50, 89-106.
- Manfield, P., Lovett, J., Engel, L. & Manfield, D. (2017). Use of the flash technique in EMDR therapy: four case examples. *Journal of EMDR Practice and Research*, 11(4), 195-205.
- Nadel, L. & Moscovitch, M. (1997). Memory consolidation, retrograde amnesia and the hippocampal complex. *Current Opinion in Neurobiology*, 7(2), 217-227.
- Norcross, J. & Lambert, M. (2018). Psychotherapy Relationships that work III. *Psychotherapy*, 55(4), 303-315.
- Ochberg, F. (1996). The counting method for ameliorating traumatic memories. *Journal of Traumatic Stress*, 9, 873-880.
- Phillips, M., & Frederick, C. (1995). *Healing the Divided Self: Clinical and Ericksonian Hypnotherapy for Post-Traumatic and Dissociative Conditions*. New York: W.W. Norton & Co.
- Resick, P., Monson, C., & Chard, K. (2017). *Cognitive Processing Therapy for PTSD: A Comprehensive Manual*. New York: The Guilford Press.
- Rossi, E. (2002a). *The Psychobiology of Gene Expression*. New York: W. W. Norton & Co.
- Rossi, E. (2002b). A conceptual review of the psychosocial genomics of expectancy and surprise: Neuroscience perspectives about the deep psychobiology of therapeutic hypnosis. *American Journal of Clinical Hypnosis*, 45(2), 103-118.
- Ruden, R. (2011). *When the Past Is Always Present*. New York: Routledge.
- Rusinov, V. (1973). *The Dominant Focus: Electrophysiological Investigations*. New York: Consultants Bureau.
- Schauer, M., Neuner, F., & Elbert, T. (2011). *Narrative Exposure Therapy: A Short-Term*

- Treatment for Traumatic Stress Disorders*. Cambridge: Hogrefe Publishing.
- Schiller, D., Monfils, M., Raio, C., Johnson, D., LeDoux, J. & Phelps, E. (2010). Preventing the return of fear in humans using reconsolidation update mechanisms. *Nature*, 463, 49-53.
- Schiller, D., Kanen, J., LeDoux, J., Monfils, M., & Phelps, E. (2013). Extinction during reconsolidation of threat memory diminishes prefrontal cortex involvement. *PNAS*, 110(50), 20040-20045.
- Sevenster, D., Haesen, K., Vervliet, B., Kindt, M., & D'Hooge. (2017). Prevention and treatment strategies for contextual overgeneralization. *Scientific Reports*, 12, 1-14.
- Shapiro, F. (1989). Eye movement desensitization: a new treatment for post-traumatic stress disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, 20, 211-217.
- Siegel, P., Warren, R., Wang, Z., Yang, J., Cohen, D., Anderson, J., Murray, L. & Peterson, B. (2017). Less is more: Neural activity during very brief and clearly visible exposure to phobic stimuli. *Human Brain Mapping*, 38(5), 2466-2481.
- Siegel, P. & Weinberger, J. (2009). Very brief exposure: the effects of unreportable stimuli on fearful behavior. *Conscious Cognition*, 18(4), 939-951.
- Stewart-Williams, S. & Podd, J. (2004). The placebo effect: Dissolving the expectancy versus conditioning debate. *Psychological Bulletin*, 130(2), 324-340.
- Svebak, S. (1985). Psychophysiology and the paradoxes of felt arousal, in M. Apter, D. Fontana and S. Murgatroyd (Eds.), *Reversal Theory: Applications and Developments*. New Jersey: Erlbaum, pp. 42-58.
- Ukhtomski, A. A. (1926). Concerning the condition of excitation in dominance. *Novoev Refleksologii I Fiziol. Nervoi Sistemy*, 2, 3-15. Abstr. in *Psychol Abstr.* 1927 No. 2388. (182)
- Van der Hart, O., Nijenhuis, E., & Steele, K. (2006). *The Haunted Self: Structural Dissociation and The Treatment of Chronic Traumatization*. New York: W. W. Norton & Co.
- Walters, J., Apter, M., & Svebak, S. (1982). Color preference, arousal and the theory of psychological reversals. *Motivation and Emotion*, 6(3), 193-215.
- Watkins, J. & Watkins, H. (1997). *Ego States: Theory and Therapy*. New York: W. W. Norton & Company.
- Weathers, F., Litz, B., Herman, D., Huska, J., & Keane, T. (1993). The PTSD checklist (PCL): reliability, validity, and diagnostic utility. Paper presented at the Annual Convention of the International Society for Traumatic Stress Studies, San Antonio, TX.
- Wicklund, R. (1974). *Freedom and Reactance*. New York: John Wiley & Sons.
- Wolpe, J. & Lazarus, A. (1966). *Behavior Therapy Techniques: A Guide to the Treatment of Neurosis*. Oxford: Pergamon Press. 55-66.
- Young, L., Lim, L., Gingrich, B. & Insel, T. (2001) Cellular mechanisms of social attachment. *Hormones and Behavior*, 40, 133-138.