



# **DELTA LIFE SKILLS<sup>sm</sup>**

**EMOTIONAL FREEDOM IS IN YOUR HANDS with EFP<sup>sm</sup>**

***Integral Energy Psychology***

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## **AN "ACTIVE INGREDIENTS" ANALYSIS OF THE RADIANT ENERGIES BALANCE (REB)<sup>sm</sup> PROTOCOL©**

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See separate documents for:

**PART ONE: THE RADIANT ENERGIES BALANCE (REB)<sup>sm</sup> PROTOCOL RESEARCH/THEORY BACKGROUND© with Bibliography, References and Resources**

**PART TWO: THE RADIANT ENERGIES BALANCE (REB)<sup>sm</sup> CLINICAL PROTOCOL INSTRUCTIONS©**

**PART THREE: ADDITIONAL APPROACHES, OTHER PRACTITIONERS' USES OF THE RADIANT ENERGIES BALANCE (REB)<sup>sm</sup> PROTOCOL, AND RESOURCES FOR "THE ART OF DELIVERY"©**

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## ABSTRACT AND INTRODUCTION

Abstract: The "Active Ingredients Analysis" approach is analogous to a chemical analysis of natural substances for health which seek to discover, in the complex composition of a natural substance, those ingredients or aspects that create the health promoting effects. The Radiant Energies Balance (REB)<sup>sm</sup> is a psychotherapeutic protocol that incorporates many ingredients or aspects taken from mainstream psychotherapy, trauma therapy, psychophysiology and adds the body's energy system to produce an integrated and comprehensive approach. This paper provides a detailed description of the ways that the REB<sup>sm</sup> protocol incorporates the "active ingredients" into a unified whole.

Introduction: Fred Gallo wrote 2 papers reflecting on the The Active Ingredients in Efficient Treatments of PTSD Conference at Florida State University, 1995 May 12-13. In "Reflections on Active Ingredients in Efficient Treatments of PTSD: Part 2" Fred Gallo wrote *"The following is not intended to be a comprehensive compilation but rather a highlighting of some feasible ingredients. It is hoped that this will prove of heuristic value toward advancing understanding of active ingredients, stimulating research, and promoting the evolution and utilization of effective means of treating trauma-based conditions."* At the end of the article he wrote *"In the interest of assisting in the identification of active ingredients in trauma therapy, the reader is invited to explore the ingredients suggested in the efficiencies of the therapies presented and to evaluate other trauma therapies in accordance with these and other plausible ingredients."* This paper will do this for the Radiant Energies Balance (REB)<sup>sm</sup> Protocol (hereafter abbreviated as REB<sup>sm</sup>), and add some other body based considerations that I think are needed in methods that appear to efficiently treat trauma.

### **A BRIEF DESCRIPTION OF THE RADIANT ENERGIES BALANCE (REB)<sup>sm</sup>: A FLEXIBLE, COMPREHENSIVE, THERAPEUTIC and TRANSFORMATIVE PROTOCOL**

(The description of each of the REB<sup>sm</sup> modules is contained in the appendix)

While attending an energy psychology conference in the spring of 2001, I had an epiphany: I discovered that Donna Eden's Radiant Circuits were the most efficient way to work with the body's energy system. With my colleague, Janet Nestor, I spent the next 3 years researching, developing and refining the Radiant Energies Balance<sup>sm</sup> protocol (the official website, <http://www.REBprotocol.net>, probes a wide range of clinical, neurological, philosophical, and empirical issues). The protocol can be used as both a sophisticated professional therapeutic system incorporating main stream and cutting edge therapeutic methods as well as an easy to use self help technique. It's one of the most user friendly approaches in the field of energy psychotherapy

Engaging the body's energy system accesses some of the most efficient adjunctive therapeutic modalities available since the energetic approaches both resolve psychoenergetic imbalances on their own and also they serve as powerful catalysts for other interventions. The REB<sup>sm</sup> protocol is one of the simplest, most flexible and efficient approaches to tapping into body's energy system. It can easily be incorporated into many more traditional approaches, especially cognitive/imagery methods.

An inflexible and unbalanced Autonomic Nervous System (ANS) is the source of a wide range of mental and physical problems. Heart Rate Variability (HRV) research clearly documents this conclusion. The Radiant Energies Balance (REB)<sup>sm</sup> protocol was created to deal with this widespread problem and provide a flexible, comprehensive, efficient, inexpensive and safe method of correction on the physiological, psychological, and spiritual levels. This simple, fast, unobtrusive protocol is integrative, complementary and adjunctive and can be used practically anywhere anytime with no unwanted side effects. When combined with other therapeutic techniques, it makes them more efficient and powerful. The protocol builds on leading edge approaches from trauma/PTSD therapy and psychophysiology while incorporating approaches from several Energy/Information Psychology systems: Eden's Energy Medicine, HeartMath, EMDR, Brain Gym, Integrative States Therapy, NLP, One Brain, Focusing, and Reiki.

The REB<sup>sm</sup> posture balances the Autonomic Nervous System by balancing the Triple Warmer and Spleen meridians (along with the Central and Governing meridians) These four meridians all have dual functions of regular meridians as well as being Radiant Circuits (curious or extra-ordinary meridians or strange flows). From a Chinese spiritual development perspective, the Radiant Circuits are the principal channels for "Yuan chi" energy which represents "ancestral" energy or the energy of the soul. In addition, since the "Radiant Energies Circuit" system serves as a "hyper link" to all of the body's energy system, with focused intention, you can automatically correct and balance where ever needed, thus eliminating most of the guess work and need for diagnosis. This makes the protocol very user friendly and allows practitioners to use their "art of delivery" skills to their fullest while clients can just trust the wisdom of their energy system to fulfill their "intention to heal."

The Radiant Energies Balance (REB)<sup>sm</sup> protocol provides a bridge between everyday life and the higher (more spiritual) levels of existence. It provides an "elegant" solution for a wide variety of psychoenergetic problems on the physiological, psychological, and spiritual levels. Providing dramatic and rapid relief from "the slings and arrows of outrageous fortune" provides release from the past and opens the potential for the individual to start on a more spiritual life path, facilitating movement to a "witness" and "mindfulness" orientation to life.

## **An "ACTIVE INGREDIENTS" ANALYSIS OF THE REB<sup>sm</sup>: GALLO'S ORIGINAL 8 INGREDIENTS**

Gallo analyzed the four therapeutic methods that were involved in the original Active Ingredient Project: Eye Movement Desensitization and Reprocessing (EMDR) (Shapiro, 1995), Visual/Kinesthetic Dissociation (V/K D) (Bandler & Grinder, 1979), Traumatic Incident Reduction (TIR) (Gerbode, 1989), and Thought Field Therapy (TFT) (Callahan, 1985).

Gallo identified 8 different Active Ingredients categories: 1. Exposure and Attunement; 2. Dissociated Observation; 3. Submodalities and Transmodal Reattunement; 4. Dual Attention; 5. Bioenergy ; 6. Paradox; 7. Comfort; and 8. Positive Expectation. In the following section I quote from his analysis and then add my view of how the REB<sup>sm</sup> fulfills each one. In addition I provide some additional "Body Based Active Ingredients." (numbers 9-17)

# 1. EXPOSURE AND ATTUNEMENT

*"Exposure has been a primary method for treating trauma, clinical experience and research supporting the position that in vivo and imaginal exposure to relevant stimuli over an extended period of time can result in the extinguishing of negative affective responses. So...some degree of 'exposure' appears to be an ingredient in the methods reviewed. Each requires the subject to 'think about' the trauma, this being necessary toward later desensitization or extinguishing of associated symptoms...[E]xposure alone cannot adequately account for the efficacy of these therapies...[T]he degree of exposure induced with some of the methods is so minimal that 'attunement', a term preferred by Callahan (1994), should perhaps be substituted. This term does not indicate intense vivification that is generally implied by 'exposure.' In instances of exposure as generally understood, it should be borne in mind that the subject willingly maintain an unwavering level of attention to the trauma...Conscious choice in this manner may frequently serve to create a sense of self-efficacy that further figures into the resolution formula."*

The REB<sup>sm</sup> starts with the usual request of having clients "tune into" the issue that is troubling them and providing a SUD rating (Subjective Unit of Distress). This serves to put them in touch with how the past event(s) are impacting them NOW as well as providing an informal check on progress as they proceed through the protocol. (The reasoning behind this "tuning in" is that if you are going to do a correction or modification, you must have something available to correct, something "on line", similar to spell checking a document in a word-processing task). We particularly have them focus on their physical bodily sensations (much like Gendlin's Focusing's "Felt Sense"; see also Ogden and Minton, 2000). However, we also ask them to begin to formulate what they would like to substitute for the unwanted material they encounter and want to eliminate (the DO or Desired Outcome). This introduces right at the beginning the additional ingredients 7. Comfort and 8. Positive Expectation.

Bill Harris (2003), the Director of the Centerpointe Research Institute, wrote: "...[W]hat you focus your mind on...is the KEY to what you create in life. What you focus on determines the internal states you experience, and it also determines the external results you get. The trouble is, most people do their focusing unconsciously and without intention. How they focus, and what they focus on, runs automatically--which means that sometimes they focus on what they DON'T want--and get it. And, in addition, focusing on what you don't want creates bad feelings. In fact, I'll make an even more sweeping statement:

"ANY TIME you experience an uncomfortable feeling--any time you feel bad--you are focusing on what you do not want, what you are afraid of, or what you are worried about.

"This is the only way anyone can experience bad feelings. Luckily, you can control what you focus your mind on, which means you can control whether or not you experience bad feelings, too...The first (and, some would say, the most important) of the Nine Principles [of the Holosync/Centerpoint program] is The Principle of Letting Whatever Happens Be Okay. This idea of what you focus on, and this first principle, are closely related--in fact, in a sense, they are two ways of saying the same thing. When you are not letting 'what is' be okay--when you're emotionally resisting the way things are--what you're actually doing inside your head is making pictures or other internal representations of what you don't want, and then emotionally reacting to these internal representations with

resistance. You think of what you don't want, are afraid of, or are worried about, and then try to move away from it or avoid it." See also ingredient 2 "Dissociated Observation." Thus, clients tune into their issue AND formulate a Desired Outcome (goal) at the beginning of the REB<sup>sm</sup>.

## **2. DISSOCIATED OBSERVATION**

*"An 'outside observer' position is promoted directly... [T]he subject is no longer 'in' the memory but 'outside,' looking at it. Such a shift stimulates the acquisition of other understandings while emotionality is reduced. The associated distinction becomes clear as a memory is recalled in a similar manner in which the event was initially experienced. In this instance the image is 'seen' through the individual's eyes, as though it is presently occurring. If affect is associated with such a memory, its intensity is readily perceivable when associated. Dissociation, on the other hand, entails recalling the event with the internal image including the observer, an event that could not have occurred at the time of the original event. This position yields significant decrease in affective intensity relative to associated recall....dissociation is a temporarily induced aspect of the procedure, as the patient is later directed to re-associate and maintain the 'learning's' acquired during the dissociation phase."*

Part of the REB<sup>sm</sup> involves placing awareness on the physical bodily sensations (Felt Sense) but we also instruct clients to take a neutral or witnessing orientation to these sensations (Module 5). Both of these instructions help keep clients "in present time" (not go back to the past traumatic event and become retraumatized). This mode of "just noticing/witnessing" is quite difficult for both healing helpers ("healers") and clients since part of this attitude is not trying to change anything or expect any change or progress ("accept what is" see above "The Principle of Letting Whatever Happens Be Okay."). It is essential for clients to control their thoughts. The old story of the person who was told, on pain of dire outcomes, to NOT think of pink elephants. The more they tried to not think of pink elephants, the more they did so. Eventually, their thoughts were filled with pink elephants!! It's practically impossible to deliberately and consciously NOT think of something. You can only think of something else instead. Thus, the REB<sup>sm</sup> emphasizes developing a Desired Outcome (DO) right at the beginning of a session after clients have evaluated the Subjective Distress (SUD) of the issue when just thinking about it. Also, when dealing with the issue, the REB<sup>sm</sup> asks clients to not get caught up in it or become attached to the effects it is having right now; just notice them. Also, both the healing helper ("healer") and clients are asked not to be attached to any particular outcome or signs of progress or success (this is very difficult to do for both parties!) This emphasis also relates to ingredients 4. Dual Attention, 6. Paradox, and 7. Comfort and possibly 8. Positive Expectation.

## **3. SUBMODALITIES AND TRANSMODAL REATTUNEMENT**

*"Besides viewing from a dis-associated position, trauma neutralization can also be promoted via change in other facets of internal sensory representations, referred to as 'submodalities' (Bandler, 1985).*

We instruct clients to just notice (witness) the changes occurring while they run their "multi sensory review or movie" of the disturbing events, emphasizing the present time sensations as they survey all the aspects and triggers that come up. These sensations and thoughts tend to change and shift in different areas of the body. They are to "follow them" but, most important, they are to give some positive emotion (HeartMath's core heart feeling, see Childre and Martin and Module 7) to their

system in thanks for the systems making progress in the processing of the unwanted aspects of the past.

Using Modules 2 and 6, clients explore how their experiences change depending on which hemisphere is activated (Shiffer) or which eye is used to view the situation (Cook and Bradshaw), or how their experience changes using different head and eye positions/movements. These all tap into aspects of the overall experience of the presenting issue in concrete (sensory) ways.

#### **4. DUAL ATTENTION**

*"Dual focus of attention is assumed to be a primary ingredient of EMDR (Shapiro, 1995) and possibly TFT as well, in that both entail physical stimulation while the subject attends to the traumatic memory. However the manner in which such simultaneous stimulation occurs is likely significant...Specific eye movements, hand tapping and finger snapping (Shapiro, 1995, p. 67), listening to unique bi-lateral sounds (Yourell, 1995), and tapping at specific acupuncture meridian energy points (Callahan, 1985) are modes of stimulation likely to be most effective in this regard."*

The REB<sup>sm</sup> uses a great deal of this. As clients do their "multi sensory review or movie" they maintain the basic posture (right hand under left breast, left hand above their right elbow, tongue resting gently behind their upper teeth, and cross the ankles), gently do a cross-lateral squeezing with their hands, maybe gently move their head left and right, breathe through their nose, and occasionally blink vigorously for stress reduction (Module 3). In addition, they may either close one eye and then the other to test differences in the felt sense (Cook and Bradshaw) or the "healper" may hold a specially designed and personally meaningful stimulus related to the issue being dealt with in one or other of their visual fields (Schiffer) (Module 2).

#### **5. BIOENERGY**

*"TFT is the only therapy represented that addresses the bioenergy system directly by having the client tap on specific acupuncture meridian points in sequence while accessing the trauma (Callahan, 1985, 1995). This procedure is entirely distinct from other methods of simultaneous stimulation and may reasonably account for the rapid treatment effects of TFT as compared to many other methods. Callahan's position is that such stimulation transduces kinetic energy into the bioenergy system, thus removing perturbations or 'active information' (Bohm and Hiley, 1993 [and Pribrim's new approach]) from the specific thought field (i.e., which includes a memory of the trauma). Perturbations are hypothesized codes which cause the energy system to activate negative affects. If all fundamental change entails transformation at the energy level, then other effective methods may also treat the energy system in distinct ways."*

Feinstein (2003) in the article "Subtle Energy: Psychology's missing link," pointed to this aspect which, I feel, is where the true power and efficiency of the REB<sup>sm</sup> lies. The REB<sup>sm</sup> efficiently involves the body's energy system by engaging Eden's "Radiant Circuits." By assuming the REB<sup>sm</sup> posture you connect four special meridians which have dual roles of the regular meridians as well as "radiant circuits": The Spleen, Triple Warmer, Central and Governing meridians. The "Radiant Circuits" are very powerful for two reasons:



1. According to Chinese thinking (Wisneski 2000 pp. 33-34), they are the principal channels for "...Yuan chi energy...which represents the energy we brought onto the planet.... [I]t represents ancestral energy or the very energy of the soul. Yuan chi is the energy of the soul circulating in the curious meridians ["Radiant Circuits" see Eden and Feinstein, 2002]. This energy is housed in the extra-ordinary, or 'curious' meridians. The chi in the principle (more superficial) meridians contains chi from the food we eat and the air we breathe, i.e., from our environmental surroundings." This aspect provides the means for personal transformation or spiritual evolution while fulfilling the therapeutic function of releasing the person from the past which takes place in reason 2 below.
2. According to Eden, the "Radiant Circuits" function as "hyper links" for the energy system and will immediately go to where ever there is a need for balance and integration (Eden and Feinstein). This property automatically does the diagnosis and correction of energy imbalances and the identification and correction of various reversals, which makes the whole protocol much more user friendly.

## 6. PARADOX

*"Choosing to recall a trauma entails paradoxical elements that have been observed to be curative among a variety of therapeutic systems....As the subject attends to the disturbing memory, perhaps there is a suspension of usual ways of experiencing, thus permanently altering the experience of the trauma."*

The whole of ingredient 2, Dissociated Observation, involves the elements of paradox. Depending on the severity of the events clients bring to the session, asking them to not become involved in them but to just notice how these past events are affecting them NOW and then to just let these effects exist without trying to change them or get rid of them (be a witness and neutral observer), is highly paradoxical. They probably have been troubled by the symptoms for a long time and have not been able to "get rid of them" (which is what they want to do and why they are seeing the "healper"). Most people, including "healers" WANT TO DO SOMETHING ABOUT the distress clients are experiencing. It's very difficult to just be a neutral observer and let the process work. The clients want you to "Do Something. That's what you're being paid for!" However, the "healper" just says notice what's happening and when there's a shift in the felt sense (bodily sensation) send your system positive feelings and "keep on trucking" (noticing what's happening as you continue the multi sensory review).

Another paradox of REB<sup>sm</sup> involves the "healers" role. I have done the process without knowing most of the details ("nitty gritty") of the issue since all I ask for is what sensations are coming on line (what and where they are). When there is a felt shift, I have the client send positive emotions to their system for changing the internal representation of the past event. If clients want to tell their story, this is encouraged WHEN THEY CHOOSE TO. Some do and some don't. We encourage clients to express their insights and learnings as they happen just to reinforce their feelings of progress and benefit. It often doesn't matter in terms of therapeutic outcome. Currently, Callahan's

Thought Field Therapy protocol uses practically no discussion or "insight" (no affirmations, no goals, no nothing cognitive; just balancing the meridians via tapping sequences).

Further, the clients are asked to do some rather unusual things as part of their therapy. This is true of many of the energy/information protocols and is a source of ridicule from the "CSICOPian" camp (Committee for the Scientific Investigation of Claims of the Paranormal).

## 7. COMFORT

*"Each method departs from pure exposure to varying degrees, assisting the client in feeling more comfortable during the course of attuning the trauma... Comfort is an important aspect of the most rapid means of alleviating trauma. The more comfort experienced during the procedure, the more rapidly neutralization is prone to occur... While methods such as systematic desensitization inhibit anxiety via progressive relaxation while reviewing segments of the trauma (i.e., reciprocal inhibition), these newer therapies utilize other, more rapid means of interrupting associated negative emotionality.... [They] promote comfort by interrupting the intensity of negative affects. Comfort allows one to attend more easily on the trauma. Additionally comfort becomes associated with the trauma, quelling its effects. Again the reader's attention is directed to the fact that while comfort appears to be a relevant factor, it can hardly account singularly for the results evidenced with these therapies or efficient therapy in general."*

One of the major attractions of the various energy/information therapies was the idea that "You don't have to smell and sort your psychogarbage in order to get rid of it!" Also, what happened in the past is not the important aspect. It's how the past is affecting clients NOW that is the focus. People vary greatly in how they carry their past traumas etc. since the "body remembers" (Rothschild, Scaer, 2001) and our goal is to demonstrate that they are NOT doomed to hold their past in their current lives. In a way we are attempting to create, using the REB<sup>sm</sup> as a tool of transformation, a Resilient Personality (Biscoe 1999; Flach 1988; Wolin and Wolin 1993) (see also ingredient 8. Positive Expectation)

The REB<sup>sm</sup> starts off with developing a preliminary goal or desired outcome and asks clients to enlist healing helpers and explicitly set the intention that all change will be for the collective highest good of the system on ALL levels. The REB<sup>sm</sup> module 7 also involves substituting positive emotions and sensations for the negative, primarily using the HeartMath model. This activity is used throughout the REB<sup>sm</sup> but is very much emphasized at the end of a session and as homework.

As well, REB<sup>sm</sup> uses the "Choices Phrasing" of affirmations (Carrington and Sutherland) since they typically are more believable to clients and lead to thinking in terms of possibilities, goals and desired outcomes. In addition, REB<sup>sm</sup> module 2 using Schiffer's approach, allows clients to process material engaging their more mature hemisphere or eye, thereby indirectly training their less mature hemisphere by example (it's listening in on the process!) and integrating the two halves so that they have the same version of the issue. We also have clients notice the difference in which "view point" is easier or worse by covering one or the other of their eyes (Cook and Bradwhaw's "One Eye Technique"). These two approaches show clients that their experience can be modified by "changing

their point of view" in an almost literal sense. This process reinforces the "smart/social vagus."  
(Porges)

Finally, the REB<sup>sm</sup> has clients symbolically breathe in the good (DO or goal or positive emotion/sensation) and breathe out the bad (disturbing sensations, thoughts, images etc.; what ever comes up that they don't want to keep).

## 8. POSITIVE EXPECTATION

*"Expectations are promoted that the memory will be resolved within the context of the session, rather than perpetuating the notion that extended time is needed. This challenges the subject's belief to the contrary, reinforced by the fact that distress has existed over an extended period of time. As Rosenthal and Frank suggested, 'It may well be that the efficacy of any particular set of therapeutic operations lies in the analogy to a placebo in that they enhance the therapist's and patient's conviction that something useful is being done' (1956, p. 300)."*

As stated, REB<sup>sm</sup> Module 7 involves substituting positive emotions and sensations for the negative, primarily using the HeartMath model. This activity is used throughout the REB<sup>sm</sup> but is very much emphasized at the end of a session and as homework.

Also, right after we identify the issue and its present time impact and have clients identify an initial Desired Outcome (DO), and before we embark on any of the "heavy stuff," we set the intention that whatever occurs during the session is for the clients' highest good. This can be done formerly by the highest healing sources invocation and explicitly setting the intention that all change will be for the collective highest good of the system on ALL levels. "Healers" (i.e., Healing Helpers) use whatever method is acceptable and meaningful for all concerned.

### ADDITIONAL BODY BASED ACTIVE INGREDIENTS

See Appendix B for detailed descriptions of each of the following components.

**Any psychotherapy that doesn't get out of its mind will  
be less effective and efficient!**  
(my major thesis!)

I consider the following Body based Active Ingredients to be significant contributors to a successful intervention. Mainly they involve the use of the body in various ways to access and change the manner in which the past is stored or encoded. Involving the body is very integrative since the body does not function as a machine which is still -- after 350 years-- the most common model used by "scientific psychology and medicine." Rather, it functions more as a "Holonomic Polyphasic Liquid Crystal" (Beal, Ho, Oschman). There is an organization, the US Association of Body Psychotherapy, which promotes this orientation.

Some of these have already been alluded to above. In various combinations, I summarize the therapeutic importance of:

9. Body based active ingredient: The importance of using neuroscience information in therapy (See Part one, section  
 Some lessons from neuroscience for therapists to consider
  - 9.1. Lesson 1: The brain is profoundly interpersonal
  - 9.2. Lesson 2: Emotions organize the brain
  - 9.3. Lesson 3: Tailoring interventions to clients' brain styles can increase therapy's effectiveness
  - 9.4. Lesson 4: Narrative is fundamental to brain function and attachment
10. Body based active ingredient: Sensorimotor Psychotherapy of Ogden and Minton (See Part one, section
11. Body based active ingredient: Touching, tapping, rubbing and moving (Andrade; Oschman; Rothman) (See Part one, section
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    - 11.3.3. Information Flows
    - 11.3.4. Properties of the Living Matrix
    - 11.3.5. Coherence
    - 11.3.6. Cellular Oscillations and Systemic Regulations
    - 11.3.7. Gravity and Physical and Emotional Structure
    - 11.3.8. Some Conclusions
12. Body based active ingredient: The cerebellum and information processing (Bergmann 1999; Leiner and Leiner; Schumahmann and also Courchesne and Allen; Dennison and Dennison; Diamond; Hannaford; Scaer 1997), (See Part one, section
  - 12.1. The cerebellum: The treasure at the bottom of the brain
    - 12.1.1. Resemblance to Computing Machines
    - 12.1.2. Functions of the Cerebellum
    - 12.1.3. The Advantages of Automation
13. Body based active ingredient: eye and head positions and movements and eye blinking (See Part one, section
  - 13.1. Eye and head positions and movements (Furman and Gallo)
  - 13.2. Eye blinking (Teese et al)
14. Body based active ingredient: Accessing the brain hemispheres (See Part one, section
  - 14.1 The right orbitofrontal cortex (Scaer; Schneider; Schore; Stroebel)
    - 14.1.1. Master Regulator of the Brain and Body; Carol J. Schneider, (1997)
    - 14.1.2. Neurobiology of the Self; Charles F. Stroebel, 1997
    - 14.1.3. Observations on Traumatic Stress; Robert C. Scaer, 1997
    - 14.1.4. How are Our 'heartfelt' Feelings Generated?
  - 14.2. Accessing the more resourceful half of the brain (See Part one, section
    - 14.2.1. Schiffer's model
      - 14.2.1.1. Schiffer's model: Theoretical implications
      - 14.2.1.2. Schiffer's model: Clinical implications
    - 14.2.2. Sargent NLP model

- 14.3. The one eye technique of Cook and Bradshaw
- 15. Body based active ingredient: Polyvagal Theory of Stephen Porges (See Part one, section
- 16. Body based active ingredient: Breathing Thorough The Nose (Alder; Shannahoff-Khalsa) (See Part one, section
  - 16.1. Breathing and heart rate variability (HRV)
  - 16.2. Introduction: breath in life and health
  - 16.3. Unilateral Forced Nostril Breathing (UFNB)
    - 16.3.1. Peripheral effects of UFNB (Unilateral Forced Nostril Breathing)
    - 16.3.2. Left-right asymmetry in distribution of sympathetic and parasympathetic (vagal) fibers to the heart
    - 16.3.3. Central nervous system-cognitive effects of ufnb (Unilateral Forced Nostril Breathing)
    - 16.3.4. Clinical applications of UFNB (Unilateral Forced Nostril Breathing)
- 17. Body based active ingredient: Engaging the heart; Heart Rate Variability (HRV), anxiety and the autonomic nervous system (ANS) (See Part one, section
  - 17.1. Traditional psychology/psychiatry research
  - 17.2. HeartMath research and methods (Armour; McCraty, Atkinson, Tomasino et al of HeartMath Institute; Paddison; Pearce; Pearsall; Tiller)

There are a number of approaches which emphasize the body in the process of psychotherapy. Focusing (Gendlen), which still has not made it into many mainstream practices, has been around since before 1978 and as indicated in the previous sections, REB<sup>sm</sup> uses this focus on the "felt -sensory- sense" as a doorway into the issues clients present and as a way to track change. The importance of the body is not new in therapy and transformation since it is a proposed mechanism in the practice of Kundalini meditation (Krishna and von Weizäcker). The body is increasingly involved in the treatment of trauma and PTSD (Ogden and Minton, Rothschild, Scaer 2001, Stroebel etc.) I maintain that any psychotherapy that "doesn't get out of its mind" will be ineffective and inefficient (Wylie 2002, 2004a, Wylie and Simon). See the US Association of Body Psychotherapy which promotes this orientation ( <http://www.usabp.org/> ).

## **9. BODY BASED ACTIVE INGREDIENT: THE IMPORTANCE OF USING NEUROSCIENCE INFORMATION IN THERAPY**

(See Part one, section 16.2. for details of the rest of the analysis)

In the comprehensive REB<sup>sm</sup> protocol Module 5 we emphasize the importance of noticing the emotional and body sensations that arise when you contact the issue you are dealing with. One advantage of this approach is that the person dealing with a trauma is less likely to be sucked back into the trauma (re-traumatized) since you are encouraging them to concentrate on the physiological effects and stay in present time. In addition, in Module 2 on accessing the hemispheres, we test to discover whether the felt sense of the issue is different depending on which hemisphere or eye is "viewing" it. In Module 6 we use eye and head positions and movements to do a type of brain/body scan to discover any hidden aspects of the issue.

The brain and nervous system is changing and growing continuously throughout life as result of experience. We believe that the intense interpersonal experiences of REB<sup>sm</sup> therapy, with its use of the body's energy system in conjunction with the various body based interventions, will have a profound effect.

## **LESSONS FROM NEUROSCIENCE FOR THERAPISTS TO CONSIDER**

### **9.1. LESSON 1: THE BRAIN IS PROFOUNDLY INTERPERSONAL**

"Siegel [author of The Developing Mind, 1999] coined the term *interpersonal neurobiology* to describe how advances in research have created a conceptual bridge among biology, attachment research, developmental psychology, brain science, and systems theory...'[E]volution has designed our brains to be shaped by our interpersonal environment.' Siegel posits a 'multiskull view' of the brain, a way of understanding that brain processes take place through people's interactions with one another..." (Wiley and Simon, 2002, p. 30)

The REB<sup>sm</sup> version of client-"healer" relationship occurs while the client focuses on the bodily sensations which arise when tuned into negative emotional experiences. This emotion-sensation connection is processed by the sensory cortex of the brain. The brain's orbitofrontal cortex (especially the right), an area strategically located behind the eyes, mediates between the thinking areas and the sensory emotional areas of the brain. Thus, in Modules 2 and 6, the REB<sup>sm</sup> protocol directly links the interpersonal and neurobiological realms by having the client notice differences in the felt sense of the issue while accessing different brain areas and hemispheres.

Siegel says that the "cultural transmission of meaning ultimately comes down to neuronal processes." (Wiley and Simon, 2002, p. 30)

### **9.2. LESSON 2: EMOTIONS ORGANIZE THE BRAIN**

"...[N]euroscientists have learned that, on a neurobiological level, emotions are integral to such mental processes as cognition, perception, memory, and physical action...[E]motions are regulated along the same brain circuits that govern social relationships and the processes of making meaning. Emotions are neurologically intertwined with the experience of selfhood..." (Wiley and Simon, 2002, pp. 31, 33) Neuroscientists "...propose the existence of seven discrete neural systems...brain 'circuits,' each of which activates a specific emotion along with its accompanying, self-perpetuating thoughts and behaviors." (Atkinson, 2002, p. 41)

Since "...emotions are basically bodily responses triggered by brain circuitry...[a] stimulus-eliciting fear...bypasses the cognitive centers and goes straight to the amygdala...the brain's 'early warning module...The amygdala sets off a full-body hormonal response that can bypass the conscious brain..." (Wiley and Simon, 2002, pp. 33) This process is called "emotional hijacking." This is a term used in trauma therapy when an emotion, usually negative, overloads and takes over the

person's thoughts and behaviour without any appropriate modulation (they feel helpless and out of control).

When the client confronts various aspects of their issue while performing their "multi sensory survey," this same process of "emotional hijacking" can happen again and again unless there is intervention. The REB<sup>sm</sup> uses a "counter conditioning" approach using various aspects of the protocol such as: taking the witnessing stance (Module 5), balancing the autonomic nervous system by the pose and engaging the cerebellum by alternating squeezing and rocking (Module 3), deep breathing (Module 4), and symbolically breathing in the desired outcome as they breathe out the unwanted sensations (Module 5), among other things.

Pure cognitive approaches have a built-in limit since "...more connections run from the amygdala to the cortex than the other way around -- which means that the amygdala has more power to control the cortex than vice versa..." (Wiley and Simon, 2002, pp. 33) This is the neurological basis for the "emotional hijacking" phenomena.

The basic neurology of "emotional hijacking" imposes a limitation on the effectiveness of positive and rational thinking, self talk, affirmations, and the like. The neocortex is less powerful than the amygdala and so multiple approaches provided by the REB<sup>sm</sup> protocol are required. If improvements occur in the functioning of the emotional processing areas of the brain (many of which have been identified) using energy/information psychotherapy methods then we have hope that the traumatic memories are NOT neurobiologically indelible, contrary to the belief of Joseph LeDoux (1996, 2000).

"Recognizing the centrality of emotion in brain functioning underlines the profoundly collaborative nature of therapy." (Wiley and Simon, 2002, p. 34) If true, this makes the "no talk" and "rapid release" aspects of some energy/information therapy approaches an anomaly. "At the level of the brain, therapy changes the mind by changing neuronal connections." (Wiley and Simon, 2002, p. 34)

### **9.3. LESSON 3: TAILORING INTERVENTIONS TO CLIENTS' BRAIN STYLES CAN INCREASE THERAPY'S EFFECTIVENESS**

"...[M]any people are more at home in non-rational, nonverbal modes of communication (visual, kinesthetic, tactile, metaphorical), particularly with the material that therapy often seeks to address." (Wiley and Simon, 2002, p. 35) REB's<sup>sm</sup> multi sensory interventions seek to address this issue. Clients observe (with curiosity) whatever sensory modality (modalities) or image (images) the issue takes when it presents itself to their awareness and they proceed from that point.

### **9.4. LESSON 4: NARRATIVE IS FUNDAMENTAL TO BRAIN FUNCTION AND ATTACHMENT**

"[T]he neurological subplot...of the well-made story involves the integration of the brain's left and right hemispheres. 'Coherent stories are an integration of the left hemisphere's drive to tell a logical story about events and the right brain's ability to grasp emotionally the mental processes of the

people in those events'..." (Wiley and Simon, 2002, p. 37) There is a great deal of cross lateral activity in the REB<sup>sm</sup> protocol. Clients are encouraged to survey ("multi sensory") their issue and then actively deal with it by telling their insights and learnings as well as give their system core heart feelings when there is a felt shift. This is accompanied by the various cross lateral activities and the checking of the agreement between hemispheres on the issue.

"People tell their stories in therapy. That's how they explain themselves. But they also learn to tell stories, learn how to organize and make something whole from sometimes chaotic feelings...and confusion. The enterprise of therapy is itself a kind of story." (Wiley and Simon, 2002, p. 68)

This aspect tends to be a weakness with the several Energy/Information psychotherapy approaches which emphasize "quick fixes" and "one session wonders"; i.e., they do not encourage clients to "tell their story." Frequently the client's choice; once they have eliminated their "psychogarbage" and become clearer on their desired outcome they don't feel the need to "tell their story. Case closed!"

## **10. BODY BASED ACTIVE INGREDIENT: SENSORIMOTOR PSYCHOTHERAPY** of Ogden and Minton

(See Part one, section 16.2.2. for details of the rest of the analysis)

Ogden and Minton (2000) have developed Sensorimotor Psychotherapy, a therapeutic protocol emphasizing the neutral awareness of physical sensations, an approach which we have included in the REB<sup>sm</sup> protocol (Module 5)

"Traditional psychotherapy addresses the cognitive and emotional elements of trauma, but lacks techniques that work directly with the physiological elements, despite the fact that trauma profoundly affects the body and many symptoms of traumatized individuals are somatically based. Altered relationships among cognitive, emotional, and sensorimotor (body) levels of information processing are also found to be implicated in trauma symptoms. Sensorimotor Psychotherapy [and REB<sup>sm</sup>] is a method that integrates sensorimotor processing with cognitive and emotional processing in the treatment of trauma.... By using the body (rather than cognition or emotion) as a primary entry point in processing trauma, Sensorimotor Psychotherapy [and REB<sup>sm</sup>] directly treats the effects of trauma on the body, which in turn facilitates emotional and cognitive processing... [These]... techniques which can be integrated with traditional approaches that treat these symptoms." In REB<sup>sm</sup>, we encourage clients to explicitly state their ongoing insights and learnings as they progress through the sessions.

"Sensorimotor Psychotherapy [and REB<sup>sm</sup>], is a comprehensive method that utilizes the body as a primary entry point in trauma treatment, but one which integrates cognitive and emotional processing as well." The REB<sup>sm</sup> protocol includes these aspects but the body's energy/information system is brought into the picture. We believe that this adds greatly to the efficiency of the procedure. "These body sensations are similar to Gendlin's (1978) 'felt sense' in that they are physical feelings, but while the felt sense includes emotional and cognitive components, the



sensations we refer to are purely physical." The REB<sup>sm</sup> protocol does not restrict the focus but accepts what ever comes up, with special emphasis on the physical sensations.

"In Sensorimotor Psychotherapy [and REB<sup>sm</sup>], top-down direction is harnessed to *support* rather than *manage* sensorimotor processing [which is the intention of Cognitive Behaviour Therapy and similar cognitive approaches. Again, REB<sup>sm</sup> protocol uses all of these and introduces the body's Energy/Information System into the process]. The client is asked to mindfully track (a top-down, cognitive process) the sequence of physical sensations and impulses (sensorimotor process) as they progress through the body, and to temporarily disregard emotions and thoughts that arise, until the bodily sensations and impulses resolve to a point of rest and stabilization in the body." [emphasis added]

The REB<sup>sm</sup> includes all levels of the issue as described in Module 5 in the comprehensive REB<sup>sm</sup> protocol and introduces the body's Energy/Information System into the process ( Module 3). We believe that this will make the process much more efficient and complete. The REB<sup>sm</sup> protocol asks clients to notice, watch, and witness in a neutral manner the various sensations that arise in their "multi sensory review."

## **11. BODY BASED ACTIVE INGREDIENT: TOUCHING, TAPPING, RUBBING AND MOVING**

(See Part one, section 16.5. for details of the rest of the analysis)

### **11.1. CLIENT-COACH/"HEALPER" TOUCHING (PHYSICAL CONTACT)**

"Touch has long been associated with out-of-control sexuality and emotional dependence. As a result, it's been more or less exiled from many psychotherapists' offices. [so much so that in some jurisdictions it is illegal except with a special license]. Yet touch and contact are basic to our experience of security, connection, separateness and solidity... [E]arly touch, or lack of it, influences neurological development and biochemistry... Touch is imbued with communication... For some clients, early [abusive] touch and lack of touch formed an internal reality that can't be changed by words alone... Dissociation -- the split between the head and the body -- can result from the absence of touch, just as it does from abusive touch... Touch can humanize and ground the therapeutic relationship. The educated use of touch can remediate severe forms of abuse and neglect, and normalize the most basic of our human experiences -- that of being in a body"(Goodrich-Dunn, 2004, pp. 40-41, 64)

McCraty et al. (1998) experimentally demonstrated the impact of touching between people. They measured the heart rhythm (ECG) of the sender and the brain wave rhythm (EEG) of the receiver. When there was no contact between the two the heart-brain rhythms were independent and uncorrelated. However, when they held hands, the sender's heart rhythm entrained the receiver's brain wave. This happens because the electromagnetic influence of the heart is much stronger than that of the brain. Thus, when people embrace they are literally influencing each others bio-rhythms. Watch out who you hug! Their "stuff" can definitely affect your "stuff" and both bad (incoherent

rhythms) and good will have an impact. The "healer" thus needs to be in a coherent state to actually help the client via touch.

The REB<sup>sm</sup> protocol doesn't require any touching and, since it doesn't use any diagnostics of manual muscle (energy) checking like some energy-information protocols (e.g., Swack's Healing from the Body Level Up - HBLU, and Gallo's Energy Diagnostic and Treatment - EDxTm), it has an advantage for psychotherapists who are not allowed or are reluctant to touch clients. It relies primarily on noticing for tracking the process of the session.

However, there are two described touching activities in the REB<sup>sm</sup> protocol: Module 3f and 3g which were initiated and recommended by Janet Nestor. This "educated use of touch" is very therapeutic and transformative. Module 3f is the "Reki harmony position" which physically connects the front brain with the back (occipital lobe, cerebellum, and brain stem). Touch in the front brain areas involves the traditional "Stress Release Points" located on the bumps just above the eyes. The natural spontaneous gesture of putting your hand on your forehead when under stress is very common and when done by another person with a healing intention, it has a powerful calming effect. Module 3g is the "Brow/crown holding posture" and connects two energy plexus (Chakras). According to Janet Nestor it has more spiritual effect facilitating a stillness, resting of thoughts, a feeling of being in the presence of something holy. Both of these postures can be done by the client alone as well, but their power increases when done by a "healer" with a healing intent.

Although not part of the written instructions of the REB<sup>sm</sup> protocol, other touching activities are certainly possible. In an E-mail (2004 Aug 17), Janet Nestor wrote the following: "I am learning that for some people who are more spiritually and energetically aware [I can't make this universal at this time], ...that when they are in the REB<sup>sm</sup> position and I am using reflexology type pressure on points or muscles that the client is able (when instructed to go to the intuitive) to identify the issue buried in the tissue and release it via REB<sup>sm</sup>. This is amazing really! Fast. Accurate. etc. I say while pressure is applied to a point: 'What is this saying to you... what do you hear?' and they are able to come up with deep profound insight into their issue, then release it with REB<sup>sm</sup> and the bi-lateral squeezing. They integrate change quickly when working this way."

## **11.2. NEURO-HUMORAL MODEL** of Joaquín Andrade

(See Part one, section 16.6 for details of the rest of the analysis)

Joaquín Andrade provides this **NEURO-HUMORAL** model of the mechanisms of effectiveness of therapies. The 2004 March 22 posting to the "Energym" discussion group list is an updated version of Neurohumoral Mechanism of Tapping first posted to the group list on 2003 January 28 by Joaquín Andrade, M.D.

"There are different metaphors that try to explain why tapping [and other energy/information psychotherapy methods] works. We prefer to call tapping 'Brief Multi Sensory Emotional Interventions.'

"Brief, because rapid responses are one of its characteristics.

"Multi Sensory, because most systems use at least three senses: somato, sensory and kinesthetic, when we tap, hold, rub or adopt certain positions and do some movements of limbs and trunk and do some breathing, visual, external or internal and auditory, also external or internal when we hum, count, do affirmations, etc.

"Emotional, because those sensory stimulations are aimed at treating emotions, and

"Interventions, because there are intention driven maneuvers that we do to the patient or teach her/him to do to him/herself."

### **Different Metaphors to Explain 'why.'**

The Neurallhormonal metaphor "... has strong empirical evidence since the tremendous recent development of neuroimaging and explain[s] about 80% of clinical effects."

In my (PWW) opinion, Andrade's model provides a bridge between Eastern and Western views of the mechanisms of intervention. It doesn't provide a complete explanation of the power and efficiency of the energy/information psychotherapies. The current research in China on Traditional Chinese Medicine (TCM) focuses on the correlations between the two approaches. I hope that this project does not throw out the very useful methods of TCM so that the unfamiliar (to Western science) metaphors of TCM can be in agreement with the Western (mainly 19th century materialistic reductionism) metaphor.

[2003 post] "These techniques use the somato sensory system, that we have known for fifty years. In different skin areas there are zones that present a particular density of mechano receptors... Mechanical stimuli on those areas (tap, touch, hold, rub, etc.) is transduced into digital signals mediated by the Ca [calcium] ion ...that travel by the afferent somato sensory pathways to the brain."

[2004 post] "From a neurohumoral perspective, all tapping systems have two distinct components: 1. Reactivation of the memory to make it vulnerable to distortion, and 2. Simultaneous sensory overload, that sends... modulated signals, also sensory in nature, but with zero emotional meaning. Those signals probably disorganize, overload, interfere, and add entropy to the memory [see M.E. Furman and F.P Gallo], which loses its power to generate symptoms, even when it is never deleted. Different eye movements, auditive and verbal inputs, as well as olfactory and gustatory signals follow a similar model, traveling by shorter and less complicated neural paths."

The REB<sup>sm</sup> explicitly seeks to integrate approaches from both traditional body based and energy/information psychotherapies.

### **11.3. ENERGY MEDICINE MODEL of Oschman**

(See Part one, section 16.7. for details of the rest of the analysis)

When I finished reading Oschman's brilliant synthesis I came away with the belief that no therapy (cognitive, hypnotic, energetic, or what have you) would be complete without some form of body work or movement treatment. At least I think that all therapists, of whatever persuasion, must

seriously consider including movement, stretching, etc. as an adjunct to their regular therapy. This is the view of the US Association of Body Psychotherapy, which promotes this orientation.

The REB<sup>sm</sup> uses squeezing, blinking, rocking, head and eye movements, postures and we recommend stretching at the end of a session to anchor the changes more completely in the body. While doing the various movement and stimulus activities, clients are tuned into the sensations experienced, maintaining a witness orientation and when there is a change in the felt sense (an indication of energy shifting and thus of progress) they are instructed to send a positive emotional feeling sense to their system (especially the heart) for making this change.

As my main thesis stated above:

**Any psychotherapy that doesn't get out of its mind will be less effective and less efficient!**

The following are some of the more relevant quotes taken from his extensive and detailed examination. (pages refer to Oschman, 2000)

### **CELL STRUCTURE AND THE "LIVING MATRIX"**

This topic deals with the structure and energetics of the material substrate of the body.

#### **11.3.1. The Cell is NOT a Bag**

"... [T]he cell is... filled with filaments and tubes and fibers and trabeculae -- collectively called the cytoplasmic matrix or cytoskeleton." (p. 45)

#### **11.3.2. Continuum**

"... when you touch a human body, you are touching a continuously interconnected system, composed of virtually all of the molecules in the body linked together in an intricate webwork... Effects on one part of the system can, and do spread to others..." (pp. 45-48)

#### **11.3.3. Information Flows**

"The biology of wholeness is the study of the body as an integrated, coordinated, successful system. No parts or properties are uncorrelated, all are demonstrably interlinked... The entire living matrix is simultaneously a mechanical, vibrational or oscillatory, energetic, electronic, and informational network... [T]he living matrix itself is a high-speed communication network linking every part with every other." (pp. 49-51)

#### **11.3.4. Properties of the Living Matrix**

"The living matrix continuum includes all of the connective tissues and cytoskeletons of all of the cells, throughout the body... The connective tissue fabric is a semiconducting communication

network that can carry the bioelectronic signals between every part of the body and every other part." (p. 55)

### **11.3.5. Coherence**

"Each activity in the body creates a characteristic field pattern. Moreover, the whole body is polarized, ...Vibrations of the water molecules can couple to the coherent energy patters within the protein array. The resulting coherent water system has laser-like properties, and is likely to retain and release electromagnetic information, i.e., have a form of memory." (pp. 130-131)

### **11.3.6. Cellular Oscillations and Systemic Regulations**

"Since the living matrix extends into every nook and cranny of the body, it forms a systemic energetic continuum.... [T]he underlying problem is electromagnetic. Hence balance can often be restored by providing the correct or 'healthy' frequency, and entraining the oscillations back to coherence." (p. 135) This is why the REB<sup>sm</sup> continually asks the clients to replace the negative with the positive.

### **11.3.7. Gravity and Physical and Emotional Structure**

According to Ida Rolf (structural integration) "Any trauma to the body is recorded as changes in internal structure... [E]ven slight displacements have cumulative and long-term effects, especially if there is a shift in the way weight is carried (a change in the relation to gravity)... [G]ravity is a part of the whole that has been given relatively little attention [in therapy]... A physical trauma... can influence the emotional state. A relatively simple accident which nevertheless leaves the body maligned and out of balance can affect the psychological sense of the individual. The kinesthetic body feels inadequate, and the physical structure projects and image of inadequacy." (pp. 160-161)

Body work and movement therapies can extend range and efficiency of motion, flexibility, resiliency, balance, timing, precision and **emotional integration**. Thus to change a chronic emotion, change the way you move, sit, stand and be.

### **11.3.8. Some Conclusions**

"On the basis of what is now known about the roles of electrical, magnetic, elastic, acoustic, thermal, gravitational, and photonic energies in living systems, it appears that there is no single 'life force' or 'healing energy' in living systems. Instead, there are many energetic systems in the living body, and many ways of influencing those systems." (p. 219)

"There is an emerging new definition of living matter which incorporates the 'new' physics and chemistry (solid state, semiconduction, quantum mechanics, liquid crystals, and biological coherence). [T]iny amounts of energy at the appropriate frequency can produce profound biological effects... [C]ells maintain their organized society by 'whispering together' in a faint and private

language. The 'whispers' travel as both chemical and electromagnetic messages... [W]hen it comes to triggering healing responses, 'small is powerful,' or 'less is more.' " (pp. 250-251)

## **12. BODY BASED ACTIVE INGREDIENT: THE CEREBELLUM AND INFORMATION PROCESSING** of Bergmann (1999), Leiner and Leiner, Schumahmann. (See Part one, section 16.8. for details of the rest of the analysis)

The Publishers description of the 1997 volume edited Schumahmann, The Cerebellum and Cognition, reads "Cerebellar function has traditionally been understood as being confined to the control of voluntary movement. Recent research revises this narrow view and suggests that the cerebellum is critically involved in a number of nonmotor behaviors and cognitive operations. The Cerebellum and Cognition is a comprehensive work that defines this emerging field of investigation into the nature and extent of the cerebellar involvement in nonmotor processing, including thought, language, memory, and mood. Authoritative and in-depth discussions by a preeminent group of authors who have helped shape this field of inquiry..."

### **12.1. THE CEREBELLUM: THE TREASURE AT THE BOTTOM OF THE BRAIN** by Henrietta Leiner and Alan Leiner 1997a (quoted from the web site in it's entirety without pictures)

"... [T]he human cerebellum is an enormously impressive mechanism. First of all, it contains more nerve cells (neurons) than all the rest of the brain combined. Second, it is a more rapidly acting mechanism than any other part of the brain, and therefore it can process quickly whatever information it receives from other parts of the brain. Third, it receives an enormous amount of information from the highest level of the human brain (the cerebral cortex), which is connected to the human cerebellum by approximately 40 million nerve fibers."

#### **12.1.1. Resemblance to Computing Machines**

"... [T]he cerebellum...consists of longitudinal modules containing similar neural circuits, which are arrayed in parallel zones throughout the entire extent of the structure... [S]uch organization enables the cerebellum to communicate with the cerebral cortex at a high level of discourse, by using internal languages that are capable of conveying complex information about what to do and when to do it."

#### **12.1.2. Functions of the Cerebellum**

"[T]he cerebellum... is involved in skilled mental performance, and... in various sensory functions including sensory acquisition, discrimination, tracking and prediction... [T]he cerebellum does the following basic processing: It makes predictions (based on prior experience or learning) about the internal conditions that are needed to perform a sequence of tasks in other regions of the brain, and it sets up such internal conditions in those regions automatically, thus preparing those regions for the optimal performance of the tasks."

### **12.1.3. The Advantages of Automation**

"The cerebellum also is known to be involved in the mental rehearsal of motor tasks... [I]t can automatize not only motor but also mental and sensory skills in the human brain."

The above approach is a major reason Educational Kinesiology says "Movement is the door to learning" and movement will facilitate integration of personal discoveries in psychotherapy. REB<sup>sm</sup> involves cross lateral movements (squeezing and rocking and blinking (Module 3d, 3e) as well as various head and eye movements (Module 6) all done while the client is tuned into the issue. As well REB<sup>sm</sup> has clients consciously and deliberately send positive feelings to their system for any change in the felt sense and express any insights and learnings they have while doing the process. This integrates the physical and cognitive/mental aspects.

Our hypothesis is that the Radiant Energies Balance (REB)<sup>sm</sup> protocol seems more direct, easier and faster (i.e. more elegant) than the standard HeartMath methods. HRV may be an ideal dependent variable in evaluating the effectiveness of any form of therapy.

## **13. BODY BASED ACTIVE INGREDIENT: EYE AND HEAD POSITIONS AND MOVEMENTS AND EYE BLINKING**

### **13.1. EYE AND HEAD POSITIONS AND MOVEMENTS** (Furman and Gallo) (See Part one, section 18.1. for details of the rest of the analysis)

From its inception, the NLP (Neuro Linguistic Programming) approach has used eye positions (eye accessing cues) to determine how an individual is processing information. In a sense, the eyes were considered a "joy stick to the brain." (Brooks, 1989, ch.7; Lee, 1990, pp. 93-97; and Lewis and Pucelik, 1982, ch 4). In addition, the One Brain system (Stokes and Whiteside, 1984/1987, 1986) attributes specific broad emotions or states of being to specific eye positions. The research being done by Don Elium's Integrated States research group added head positions as another indicator ("joy stick") for assessing what they refer to as neuro-energetic dissociated aspects of the person/system. With 9 each of eye and head positions, there are a total possible 81 combinations (9x9).

From Kundalini Yogic tradition there is an Pranayam meditation technique, described as the ultimate by Shannahoff-Khalsa. It involves a sitting posture (asana), hand position (mudra), and breathing pattern. "The eyes are open and focused at the tip of the nose -- the end that you cannot see. This eye posture is also called Ajna Band which means mind lock and one effect of this eye posture is to stabilize the frontal lobes... Focusing the eyes in this way pressurizes the optic nerve and helps to stabilize thought processes. It is a common element with meditation techniques that are used to tranquilize the mind." (Shannahoff-Khalsa, 2001/2002, pp. 99-100)

Furman (Furman and Gallo, 2000, pp. 239-251) has summarized how eye and head movements are related to the brain functioning and information processing. The following discussion refers to a normally right handed person.

"...[B]rain functions are... responsible for the reconstruction of the external world as an internal representation. It allows us to reproduce that world in an accurate, body-centered, spatial representation... [O]ur eye movements both help activate the correct cortical area via the vestibular [balance] system as well as maintain spatial location of the representation via the visuoparietal-prefrontal cortices... [E]ye movement activates the vestibular system to move the head in certain optimum positions so that increased blood flow and oxygen can be maintained to the part of the brain being activated..."(Furman and Gallo, pp. 241)

"Neurophysiologically, it is nearly impossible to internally replicate certain [sensory] mode-dependent information without the appropriate eye and head movement... much of this movement is controlled via the brain stem. [E]ye positions indicate initial activation, maintenance, and transmission of an image... [A]n image initially generated in the upper portion of the visual field can be expanded or contracted and moved to virtually any location... Without this flexibility, thinking as we know it would not be possible." (Furman and Gallo, p. 244) This is the basis for my saying "the eyes are a joy stick to the brain" and why eye and head movement work (Module 6) is so effective in cleaning up remaining aspects of the issue.

"Eye movement is the lead system for vestibular functioning. Our eyes help us maintain head position and balance, and wherever our eyes move, our head and body follow....[T]he brain is divided into right and left hemispheres. Each hemisphere has a different cellular structure allowing for different types of function. Our eyes will move left and right depending upon the cortical function...we need to perform..."(Furman and Gallo, pp 247-8)

### **13.2. EYE BLINKING** (Teese et al)

(See Part one, section 18.2. for details of the rest of the analysis)

Elium's approach uses eye blinks to defuse distress. This is also used by the Rapid Eye Technology (RET) approach (Johnson). According to the RET website "Recent [I downloaded 2001 Dec] research has found that blinking creates a momentary increase in alpha brain waves, which are associated with relaxation. Some eye movement researchers [Tece, 1992] theorize that blinking provides a moment in which the brain stops taking in information in order to reflect upon or process what is has just perceived or experienced."

Most of these researches do not deal with using eye blinking as a method of distress reduction although the finding of increased blink rates under stress implies that it serves as a natural mechanism for dealing with the stress. The REB<sup>sm</sup> Module 3e has eye blinking as an additional way to reduce stress along with the squeezing and rocking (3d) and deep breathing through the nose (Module 4).

In North America, Joseph J Tece (Tece 1989, 1992; Tece, Savignano-Bowman and Cole 1978] has done considerable research on the phenomena of spontaneous eyeblink activity. "The average human rate is approximately 15-20 bpm [blinks per minute]... Since normal adults need only 2-4 bpm to keep the eyeball moist, most blinks are physiologically unnecessary. Furthermore, since



blind individuals have the same blink rate as sighted individuals, the significance of blinks goes beyond visual functions... Activities requiring complex thinking... tend to increase blink frequency. Doing two tasks at once... increases blinking. An important aspect of these tasks is the inward direction of attention to cognitive functions. Vocalization also increases blinking... Blinks also occur just before or after difficult parts of a task, possibly facilitating an erasure function by eliminating remnants of older information and preparing the brain for newer information." (Teece, 1992, pp 376-377)

"Increased blink frequency generally reflects negative mood states... Eyeblink storms [rapid bursts of blinks] reflect underlying nervousness and fear... Slower blink rates are observed during positive mood states... [I]ncreased blinking accompanies unpleasant feelings and decreased blinking accompanies pleasant feelings... [A] two-factor theory of blinking: (1) Blink frequency is increased during unpleasant mood states and is decreased during pleasant mood states (hedonia hypothesis). (2) Blink frequency is increased when attention is directed inward and is decreased when attention is directed outward (attention hypothesis)." (Teece, 1992, p. 377)

"[E]yeblink frequency is a simple, reliable, and accurate indicator of anxiety and other negative hedonic experiences associated with psychological disturbance... Negative hedonic state (negative arousal) involves increases in both heart rate and eyeblink frequency. Positive hedonic state (positive arousal) involves increased heart rate and decreased eyeblink frequency. (Teece, Savignano-Bowman and Cole, 1978, p. 757)

## **14. BODY BASED ACTIVE INGREDIENT: ACCESSING THE BRAIN HEMISPHERES**

REBS<sup>sm</sup> Module 2 introduces this intervention. The overall goal of a session or a course of therapy is to have both halves of the brain achieve a similar felt sense of the issue. Thus, one of things to check for is a dissimilar experience either when checking the hemisphere (Schiffer) or eye (Cook and Bradshaw, One Eye Technique).

### **14.1 The Right Orbitofrontal Cortex**

The right orbitofrontal area is a major focus of theory and research  
(See Part one, section 19.1. for details of the rest of the analysis)

#### **14.1.1. Master Regulator of the Brain and Body; Carol J. Schneider, (1997)**

"[T]he right orbitofrontal area... is crucial to the regulation of our emotions and our autonomic nervous system as well as to the executive regulation of the entire right brain itself...."  
(Schneider,1997, p.8)

"The intact right orbitofrontal cortex has the most comprehensive and integrated map of the body-state available to the brain... [It is] a convergence zone which is privy to signals about virtually any activity taking place in our beings' mind or body at any time... It is the center where appraisals are made of social and sensory data." (Schneider,1997, p.9)

### **14.1.2. Neurobiology of the Self; Charles F. Stroebel, 1997**

"Allen Schore...has developed a coherent and integrated neuropsychological mode of the *location*, *development*, and *mechanism* of the self. The primary *location of self* is in the slightly enlarged right orbitofrontal cortex which is on the underside of the brain immediately above the nasal olfactory tract, and is intimately connected as the anterior [front] aspect of the limbic system." (Stroebel, 1997 p.1)

"The *development of self* takes place in the memory banks of a child's right orbitofrontal cortex... [T]his orbitofrontal locus of emotions and their memories has extensive interconnection with cognitive, sensory and motor neocortex elsewhere in the brain..." (Stroebel, 1997 p.11)

"A biologically distorted self, riddled with developmental lacunae has major implications for treating what will become viewed as disorders of self-regulation, including anxiety, panic, phobias, hypochondria, somatization, affect dysregulation, and psychosomatic conditions...." (Stroebel, 1997 p.12)

### **14.1.3. Observations on Traumatic Stress; Robert C. Scaer, 1997**

"...[U]nresolved trauma results in continuing ANS [autonomic nervous system] imbalance involving sympathetic or parasympathetic arousal or both at the same time." (Scaer, 1997, p.7)

"Peter Levine developed a... model of the fight/flight/freeze response seen in animals in response to life-threatening experiences... If the animal survives the attack, it will go through a dramatic period of discharge of this high level autonomic arousal through the motor system.... [T]he human species... usually will not discharge this high state of autonomic arousal after the freeze response in the face of severe trauma, but will suppress this discharge phenomenon, resulting in storage of a high state of autonomic arousal probably in orbitofrontal, limbic and procedural memory systems of the brain." (Scaer, 1997, p.4) Thus movement in some manner is critical in psychotherapy.

### **14.1.4. How are Our 'heartfelt' Feelings Generated?**

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"...[T]he continuous interplay between emotion and the organ systems innervated by the vagus nerve create an interactive environment that changes both the regions of the brain involved, and the visceral organs that provide sensory input, including, but not restricted to the heart. The body and the brain are one organ in this model, and the heart may play a special role, but many other organ systems likely also contribute to this process in exactly the same manner... Childre and McCraty argue that the heart is the *source* of feelings of love, care and compassion... However... the ability to have empathy, care and compassion for others is profoundly impaired by damage to the right orbitofrontal cortex." (Scaer and Schneider 2002, p. 4)

The question becomes how best to re-educate the right orbitofrontal cortex and in general the right brain's emotional processing system including the "smart vagus." The REB<sup>sm</sup>, in agreement with the

HeartMath approach, feels the most powerful approach involves bringing the heart into coherence. Since the heart is the most powerful bio-oscillator in the body, its psychophysiological state has the most impact on all areas of the body, including the brain. This is why the REB<sup>sm</sup> emphasizes giving positive sensations/emotions to the system, especially the heart, whenever there is a shift in the felt sense (Modules 5 and 7).

## **14.2. ACCESSING THE MORE RESOURCEFUL HALF OF THE BRAIN**

(See Part one, section 19.2. for details of the rest of the analysis)

REB<sup>sm</sup> Module 2 introduces this intervention. The overall goal of a session or a course of therapy is to have both halves of the brain achieve a similar felt sense of the issue. Thus, one of things to check for is a dissimilar experience either when checking the hemisphere (Schiffer) or eye (Cook and Bradshaw, One Eye Technique).

In Ogden and Minton (2001) Somatic Sensory method, the coach/therapist, by facilitating the client's mindfulness of bodily symptoms and sensations, fulfills the role of Porges' Social Engagement System which gives humans immense flexibility of response to the environment; in other words, the coach/therapist ("healper") becomes an 'auxiliary cortex' for the client. This cortex, it seems, is lateralized into more and less competent or mature modes of functioning which depend on the issue being dealt with in a session. The goal is to identify this in the individual and use it to facilitate transformation. Again, the overall goal of a session or a course of therapy is to have both halves of the brain achieve a similar felt sense of the issue.

### **14.2.1. SCHIFFER'S MODEL**

Schiffer (2000, quotes are from the web) developed a simple and elegant method whereby the person can perform this function for themselves. Again, this has been incorporated in the comprehensive REB<sup>sm</sup> protocol in Module 2. Sargent (1999) provides protocol using NLP approaches. This is introduced later in this section.

"[M]any patients... have two very different, intact ways of seeing themselves and their world, each with congruent cognitions and affects. One view is generally similar to the way the patient saw the world as a distressed child; the second is generally a more mature, more realistic view of the present world

#### **14.2.1.1. SCHIFFER'S MODEL: THEORETICAL IMPLICATIONS**

"... [L]ateral visual stimulation will on one side evoke a relatively mature psychological perspective and that stimulation of the opposite side will evoke a relatively immature perspective related to traumatic experiences the patients had in their childhoods... [T]he lateral visual stimulation alters hemispheric dominance which leads to a change of psychological status."

#### **14.2.1.2. SCHIFFER'S MODEL: CLINICAL IMPLICATIONS**

"... [M]ost people have a mature and an immature part to their personalities... Psychotherapy is... the teaching of this troubled, immature aspect, that it is in fact safer and more valued than it has realized. ... The therapist can help the patient find and use this more mature part of the patient's personality to help the troubled part... The resolution of clinical problems can be achieved when the therapist and patient's mature side successfully teach the immature part that it is now in fact safer and more valued than it had believed based on past traumatic experiences."

"In patients who are responsive to the lateralized stimulation,... allowing them to dramatically alter their perceptions of themselves and their world within seconds of switching the side of lateral stimulation is often remarkably helpful... [S]uch experiences force the patients to challenge their entrenched negative perceptions, for if perceptions can be so easily altered, their veracity requires reconsideration... [S]timulating the positive aspect of the patients will offer them a direct experience of their positive value and safety."

"... [T]he hemispheres become more harmonious or balanced, but such improvement is possible only after the troubled side becomes healthy enough to begin to engage in that relationship."

### **14.2.2. SARGENT NLP MODEL**

(See Part one, section 19.2.2 for details of the rest of the analysis)

In the book The Other Mind's Eye: The Gateway to the Hidden Treasures of Your Mind, Sargent (1999) writes "you will learn how your brain codes information for emotional responses, and how to consciously access information stored in both hemispheres. You will also learn simple step-by-step techniques to help you use your entire brain to get what you want in life."

In the preface to the book, Sargent writes (quoted from web):

"When we recall an event with the right hemisphere's 'mind's eye' our response will be very different than if we recall it with the left hemisphere's 'mind's eye.' Each hemisphere of the brain records and recalls useful information. If we consistently utilize the perceptions from only one side of our brain, our choices are limited, often leaving personal issues unresolved... Learning how to have conscious control of which hemispheric image to utilize broadens the range of choices and responses available to us. Additional benefits result from being able to integrate information from both hemispheres when dealing with an issue."

Again, the comprehensive REB<sup>sm</sup> protocol uses the above findings, incorporated in Module 2, to more efficiently facilitate the transformation of negative to positive, immature to mature, and thus give people the freedom to progress in their lives.

### **14.3. THE ONE EYE TECHNIQUE** of Cook and Bradshaw 2000

(See Part one, section 19.3. for details of the rest of the analysis)

The "One Eye Technique," described in the manual Toward Integration: One Eye at a Time, (Cook and Bradshaw, 2000) is an outgrowth of the use of EMDR. Cook discovered around 1995 that

having clients tune into their issue with just one or the other eye often produced dramatically different narrations. So she began experimenting with doing EMDR on one eye at a time and eventually developed the "One Eye Technique." The technique involves first discovering if there are differences in the clients' experience when "viewed" from one or the other eyes. If so, there is a need to integrate these two "viewpoints" into one consistent view. This is possibly related to Porges' "smart vagus" model discussed in part 15 and the issue of the right orbital frontal cortex discussed above in part 14.1.

The technique emphasizes paying close attention how the eye tracks the lateral movement stimulus. If there is anything but smooth tracking, then this indicates a disturbance has been identified for the presenting issue.

Because of the sensory anatomy of the retina, the One Eye Technique does not isolate the cortex when you close one eye. The left half of the sensory fibers of EACH eye go to the left hemisphere and the opposite for the right half. Thus, in terms of sensory input, each eye goes to each hemisphere. Interestingly, the motor control of the eye is controlled by its opposite hemisphere. Thus, the interesting question is: Why is there such a difference in some clients when they view their issue with one or the other eye closed? I don't know.

Cook states "I believe the value of exploring one eye at a time is not to explore personality within the mind [which Schiffer proposes] but to explore perspectives, emotions, body sensations and different SUDs [Subjective Units of Distress] levels from one side to the other... [When clients have different experiences with the different eyes] they may begin to understand *objectively* some of the experiences they are having *internally* around particular events... I find that integration is a natural outcome of exploring the covering of one eye at a time." (Cook and Bradshaw, p. 62)

In the REBS<sup>sm</sup>, when this difference between "viewpoints" arises, we can stop and check it and do some integration using relevant aspects of the protocol (Module 3d, 3e, 3f, 3g, and Module 6), The goal is to have both "viewpoints" in agreement and equally in touch with the issue. It will be especially useful in Module 6 where the eye/head movements are explored.

## **15. BODY BASED ACTIVE INGREDIENT: POLYVAGAL THEORY**

of Stephen Porges: (See Part one, section 15.2. for details of the rest of the analysis)

This summary is taken from Ogden and Minton (2001):

Stephen Porges "...concludes that hypoarousal... is due to a specific branch of the parasympathetic nervous system, the 'dorsal vagal complex,' which causes the organism to conserve energy by drastically slowing heart and breath rates. The other branch of the parasympathetic nervous systems, the 'ventral vagal complex,' which Porges calls the 'Social Engagement System,' is the 'smart' vagal because it regulates both the dorsal vagal and sympathetic systems. This 'smart' system is much more flexible than the other two more primitive levels of the autonomic nervous system, which if unregulated, tend to the extremes of hyperarousal or hypoarousal. The Social Engagement System gives humans immense flexibility of response to the environment (Porges, 1995, 1997, 2001)...In

effective modulation, the Social Engagement System regulates the more extreme behavior of the autonomic nervous system."

One outcome of the comprehensive REB<sup>sm</sup> protocol will be the restoration of Porges' Social Engagement System's control over autonomic functioning. This will be demonstrated with the person's ability to rationally respond to triggers that previously would throw them into a reactive automatic response (the phenomena of "emotional hijacking"). They will be able to "access their own ability to regulate arousal"). This is also the intended outcome of HeartMath's protocols (Childre's work) which we incorporated into the comprehensive REB<sup>sm</sup> protocol as well. ( Module 7)

## **16. BODY BASED ACTIVE INGREDIENT: BREATHING THOROUGH THE NOSE**

### **16.1. BREATHING AND HEART RATE VARIABILITY (HRV)**

(See Part one, section 17.6. for details of the rest of the analysis)

In Module 4 of the REB<sup>sm</sup> protocol, we introduce the practice of deep diaphragmatic breathing through the nose. The impact of breathing patterns on physiological functioning is also now widely acknowledged. Hirsch and Bishop state: "At rest the heart rate increases on inspiration and decreases on expiration... [T]his phenomenon is called the respiratory sinus arrhythmia (RSA)..." (Hirsch and Bishop, 1981, p. H620). "Controlled respiration at frequencies within the resting physiological range provides a convenient tool to enhance the vagal [parasympathetic] modulation of heart period... [T]he power of the HF [High Frequency] component [which reflects parasympathetic control] becomes predominant at rest during metronome [paced] breathing... If the frequency of controlled breathing is decreased enough to approach LF [Low Frequency] rhythm, the two components [sympathetic and parasympathetic] merge into one more powerful oscillation. In general, all of the studies that have been performed under controlled respiration in the broad range of 0.20 to 0.30 Hz were likely to be characterized by a sympatho-vagal balance shifted in favor of the vagal [parasympathetic] component." (Malliani, 1995, p. 180-181)

Since the Heart Rate Variability measure is considered an indication of the autonomic nervous systems functioning, it seems useful to include breathing patterns to help the balance described in Module 4.

### **16.2. INTRODUCTION: BREATH IN LIFE AND HEALTH**

(See Part one, section 17. for details of the rest of the analysis)

"We are reviving an ancient technology of the mind [using specific patterns of breathing]... The implication of this technology is that we are not helpless victims of a given emotional state... The nose is an instrument for altering cortical activity... [A]lternating cycles of sympathetic and parasympathetic activity are tightly coupled with the nasal cycle... The nasal mucosa is one of the most abundant tissues...innervated by both the sympathetic and parasympathetic branches of the autonomic nervous system." (Brain/Mind Bulletin, "Breathing cycle linked to hemispheric dominance")

"Zajonc, of the University of Michigan, has found... that breathing through the nose cools the hypothalamus, which affects brain chemicals that influence mood. Changing the temperature of the hypothalamus may affect the release and synthesis of a variety of neurotransmitters... [T]emperature changes are known to affect all biochemical processes... The hypothalamus is involved in regulating the temperature of the brain and in controlling aggression, eating and sex, all of which have large emotional components... 'Anything that allows you to change hypothalamic temperature will have subjective effects... [Breathing] 'cold air puts people in a much better mood than warm air.'" (Alder, 1990) (see also Ingber, 1981)

There are two tiny clusters of neurons in the front part of the hypothalamus (the suprachiasmatic nuclei) which are connected by a neural hotline (straight with out any synaptic connections) from the eyes. Apparently [...there are two pathways from the eyes to the brain: one for conscious vision and the other for circadian entrainment." (Strogatz, p. 100) This area of the hypothalamus is the master clock/circadian pacemaker for alertness and body temperature cycles. The body temperature cycle is a reliable marker of its actions. Alertness, sleep duration and the presence of REM (Rapid Eye Movement sleep) is regulated by this nerve center. "The propensity for REM is synchronized to the body temperature cycle, not to sleep itself... [O]ur rhythms of short-term memory, the secretion of the brain hormone melatonin, and several other cognitive and physiological functions also run at the same period and maintain constant phase relationships to the temperature cycle and to one another." (Strogatz, p. 87)

This provides a possible mechanism for the calming effect of breathing through the nose to cool the hypothalamus: when the master circadian and body temperature control center is cooled down it might send a message to the other body temperature regulators to warm up, thereby producing in turn less alertness and sleepiness. Alertness goes hand in hand with body temperature: low body temperature goes with low alertness (sleepiness) and high body temperature goes with high alertness.

### **16.3. UNILATERAL FORCED NOSTRIL BREATHING (UFNB)**

(See Part one, section 17.7. for details of the rest of the analysis)

Although the REB<sup>sm</sup> protocol doesn't explicitly use alternate nostril breathing, it could easily be incorporated. In the core REB<sup>sm</sup> documents, "Part Three: Additional approaches...", there are instructions for it.

#### **16.3.1. PERIPHERAL EFFECTS OF UFNB (UNILATERAL FORCED NOSTRIL BREATHING)**

"... [R]ight nostril dominance correlates with the 'activity phase' of the BRAC [Basic Rest-Activity Cycle], the time during which sympathetic activity in general exceeds parasympathetic activity throughout the body... [R]ight UFNB reduced blink rates and... left UFNB increased involuntary blink rates... [R]ight UFNB increases the generalized sympathetic tone of the body, thus correlating

with the 'active phase' of the BRAC [Basic Rest-Activity Cycle]." (Shannahoff-Khalsa, 2001/2002, pp. 82-83)

### **16.3.2. LEFT-RIGHT ASYMMETRY IN DISTRIBUTION OF SYMPATHETIC AND PARASYMPATHETIC (VAGAL) FIBERS TO THE HEART**

"[T]he right sympathetic trunk... has relatively greater effect on HR [heart rate] while the left has relatively greater effect on left ventricular function. There are also right and left vagal [parasympathetic] differences; the right vagus has a greater cardiac deceleratory effect compared to the left vagus, and right vagal transection [cut] causes a greater cardiac acceleration than left transection [cut] suggesting the right vagus exerts greater restraint on the sino-atrial (SA) node than the left vagus. And the heart period is more prolonged when a stimulus is given to the right vagus compared to the left... [T]he sympathetic nervous system drives the ultradian [daily] rhythms of the heart... [T]he ultradian rhythms of HR [heart rate] are also governed by the alternating rhythmic influences of the right and left branches of the ANS [Autonomic Nervous System] with increased HR resulting from right sympathetic with left parasympathetic dominance... [R]ight UFNB [Unilateral Forced Nostril Breathing] increases heart rate compared to left UFNB which lowers HR..." (Shannahoff-Khalsa, 2001/2002, p. 84-85)

### **16.3.3. CENTRAL NERVOUS SYSTEM-COGNITIVE EFFECTS OF UFNB (UNILATERAL FORCED NOSTRIL BREATHING)**

"The [Nasal Cycle] NC is a marker of a rhythmic and alternating shift of lateralized autonomic function that co-regulates lateralized rhythms of the central nervous system (CNS)... The nasal mucosa are highly innervated with fibers from the autonomic nervous system (ANS) and the dominance of sympathetic activity on one side produces vasoconstriction, while the contralateral nostril exhibits a simultaneous parasympathetic dominance causing partial occlusion... Yogis called this... a marker of the balance of 'ida and pingala' and in Chinese medicine it is described as the balance of 'yin and yang.'... [R]eceptors in the nasal mucosa register the flow of air across the membranes (unilaterally) and transmit this signal ipsilaterally to the hypothalamus... the highest center for autonomic regulation." (Shannahoff-Khalsa, 2001/2002, pp. 80-81) When the mucosa are anesthetized these selective effects on EEG are eliminated.

UFNB can selectively stimulate the opposite hemisphere producing relatively greater EEG power. "... [L]ateralized EEG activity can be affected by unilateral nasal airflow... [R]ight nasal dominance is coupled to relatively greater verbal performance or left brain activity, and left nasal dominance with spatial or right hemispheric skills... [R]ight UFNB increased left hemispheric cognition and... left UFNB increased right hemispheric cognition as predicted by yogis..." (Shannahoff-Khalsa, 2001/2002, pp. 86-87) The research results show a mixed results regarding the influence on cognitive tasks and across sex. Maybe breathing patterns only increase spatial rather than verbal skills.



### **16.3.4. CLINICAL APPLICATIONS OF UFNB (UNILATERAL FORCED NOSTRIL BREATHING)**

ANGINA PECTORIS: "... [T]he alternate nostril breathing technique... may help to reset the electrical patterns affecting the heart muscle and also to help achieve more normal blood flow to the heart muscle." (Shannahoff-Khalsa, 2001/2002, p. 88)

OBSESSIVE COMPULSIVE DISORDER (OCD): OCD people have right hemisphere abnormalities so left nostril specific UFNB breathing, which has a strong effect on the frontal and prefrontal right cortex (and maybe the right orbital frontal cortex which is the site of much emotional control in the limbic complex), may help to compensate for the OCD-related defect. (Shannahoff-Khalsa, 2001/2002, p.92) (See part 14.1 of this paper)

## **17. BODY BASED ACTIVE INGREDIENT: ENGAGING THE HEART HEART RATE VARIABILITY (HRV), ANXIETY AND THE AUTONOMIC NERVOUS SYSTEM (ANS)**

(See Part one, section 15.1. for details of the rest of the analysis)

### **17.1. TRADITIONAL PSYCHOLOGY/PSYCHIATRY RESEARCH**

HRV research from the traditional psychology/psychiatry has demonstrated the importance of balance between the sympathetic and parasympathetic branches (and the associated "Autonomic Nervous System responsitivity, sensitivity, and flexibility"). In general, the sympathetic branch of the autonomic nervous system speeds heart rate, constricts blood vessels, and stimulates the release of stress hormones in preparation for action (the Fight-Flight, "inner warrior" reaction) while the parasympathetic branch slows heart rate and relaxes the body's inner systems (the "Freeze" response from an overactive primitive vagus) and generally maintains optimum daily functioning ("inner peace keeper" reaction). Research done in 1994 states that a pattern of decrease in HRV and cardiac vagal activity (the vagus nerve controls the parasympathetic branch) "... is common to a variety of disorders... as well as the condition of worry... and may represent the chronic state of autonomic cardiovascular control found in GAD [Generalized Anxiety Disorder]." (Thayer, Friedman and Borkovec, 1996, p.262).

Traditionally, up to about 1994, emphasis was focused on the overactive sympathetic branch. While this is a problem, the balance between the two branches appears more critical. The research reported in the article concluded "Parasympathetic control is more effective in modulating beat-to-beat changes in... [Heart Rate] and would allow for enhanced responsitivity and sensitivity [of the Autonomic Nervous System]... The loss of complexity and variability in physiological systems in general, and in the cardiovascular system in particular, has... been linked with a number of diseases and dysfunctions.... such as acute and chronic smoking, acute and chronic alcohol ingestion, sedentary lifestyle, depression, panic disorder, and aging " (Thayer, Friedman, and Borkovec, 1996, p.262) "[D]iminished autonomic flexibility was found in all examined anxiety disorders. It will be interesting to see whether this decreased autonomic flexibility is specific for anxiety disorders or if it can occur in other psychiatric disorders as well." (Hoenh-Saric and McLeod, 1993, p. 248)

## 17.2. HEART MATH RESEARCH AND METHODS

I've been looking at the HeartMath research (on HRV -- Heart Rate Variability) and the methods (e.g. "FreezeFrame" and "Heart Lock In") they use to bring coherence to the heart and thus the autonomic (automatic) nervous system. HRV -- Heart Rate Variability -- seems to be a direct indicator of the responsiveness, sensitivity, balance and flexibility of autonomic nervous system functioning. Our hypothesis is that the Radiant Energies Balance (REB)<sup>sm</sup> protocol seems more direct, easier and faster (i.e. more elegant) than the standard HeartMath methods. HRV may be an ideal dependent variable in evaluating the effectiveness of any form of therapy.

Scaer and Schneider (2002) (see section 14.1.4), criticize the HeartMath research claim that the heart is the major source for "heartfelt" feelings and point out that a non-functioning Right Orbital Frontal Cortex prevents people from experiencing positive or negative emotions. They question whether the heart can be considered the *source* of the positive feelings of love, care and compassion. The REB<sup>sm</sup> does not consider this an either/or question. The protocol addresses the issue of the hemispheres in Modules 2 and 6 as well as continually providing the whole system, especially the heart, with positive core heart feelings whenever there is a change in the felt sense of the issue (Modules 5 and 7). As stated in section 14.1.4 the question becomes how best to re-educate the right orbitofrontal cortex and in general the right brain's emotional processing system including the "smart vagus." The REB<sup>sm</sup> protocol assumes the most efficient approach is via the heart and the core heart feelings (Module 7).

"[T]he source of the heartbeat is within the heart itself... although its beat rhythm can be modulated by other segments of the body. Both sympathetic and parasympathetic nerve links connect the brain to the heart allowing one-way signal communication. Reverse direction signals also flow along nerves of the baroreceptor system to the brain making it a two-way communication system. The sympathetic nerve link of the ANS (autonomic nervous system) causes the heart rate to increase while the parasympathetic causes the heart rate to decrease... It is the interaction between these two signal links that produces what is technically called heart rate variability (HRV), the periodic time variation in number of heart beats per minute found in an individual's electrocardiogram (ECG)." (Tiller 1997, pp. 213-214)

"[T]he reverse direction signals [to the brain]... profoundly influence brain function (the cardiovascular system is the only known nerve input to the brain that will inhibit the activity of the brain's cortex)... Thus, although the heart has its own basic rhythm, this rhythm appears to be modified by how we mentally or emotionally perceive events in the moment..." (Tiller 1997, p. 214)

"[R]epeated practice of the HeartMath [and other] inner self-management techniques produces a balanced mental and emotional nature that, in turn, manifests a set of uniquely defined physiological states as seen via analysis of HRV and ECG data." (Tiller 1997, p. 214)

"[I]n normal individuals, small to near zero HRV is thought to be a potentially dangerous condition as it connotes a loss of flexibility in the system. However, for those trained subjects [in skills using

the various Emotional Freedom Processes (EFPs) methods], it is an indication of exceptional self-management because their resting HRV is quite large." (Tiller 1997, p. 217)

In sum, "...a set of relatively simple techniques [FreezeFrame and other Emotional Freedom Processes] exist whereby otherwise normal individuals can, in a reasonably short period, gain a sufficiently high level of inner self-management at mental and emotional levels to automatically manifest conscious ordering of their ECG and HRV." (Tiller 1997, p. 218)

Our hypothesis is that the Radiant Energies Balance (REB)<sup>sm</sup> protocol seems more direct, easier and faster (i.e. more elegant) than the standard HeartMath methods. HRV may be an ideal dependent variable in evaluating the effectiveness of any form of therapy.

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## **APPENDIX: A SUMMARY DESCRIPTION OF THE FEATURES INCORPORATED INTO EACH MODULE OF THE REB<sup>sm</sup> PROTOCOL**

Parts 1 and 3 of the REB<sup>sm</sup> package provide much more information on the research/theory (Part 1) of elements of the protocol and suggestions for additional balancing activities and the "art of delivery" (Part 3).

In practice, Modules 1 - 5 are done in sequence whereas Modules 6 and 7 can be introduced at any time during a session as needed or appropriate. Module 2 on Brain Hemispheres (identifying your most resourceful hemisphere and eye) is also optional and used when either the person is too stressed by the event (then use the more resourceful hemisphere/more integrated eye) or not able to contact the event (then use the less resourceful hemisphere/less integrated eye).

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### **Module 1. Identify an issue**

- a. Quantify the amount of distress
- b. Formulate a goal statement or affirmation, a Desired Outcome (DO). and quantify its degree of truthfulness

Module 1 involves both identifying the issue to be balanced using the usual quantification of distress (SUD) as well as some initial formulation of a goal with a quantification of it's degree of truthfulness or attainment. Suggested descriptions of each of the 10 units of these scales are provided. Throughout the protocol, we emphasize identifying the physical/body sensations for all aspects of the issue. The general idea is that it is not really important what happened in the past. What is important is how the person has recorded this past and how it effects them NOW.

We seek to firmly establish by clear intention, that all balancing and corrections will honour the total system with all its aspects and parts and all its levels (body, mind, spirit). We also seek to firmly establish by clear intention, that the process will also honour the optimum order of the various aspects and parts of the issue presented for balancing and correcting.

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### **Build yourself an "Energy Shield"**

Call upon all your highest healing sources

We begin with a protection activity. When working with the body's energy system, this activity of building a protective "energy shield" is advisable. This can be done in any

acceptable manner and this protocol provides instructions for calling upon your highest healing sources.

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**Module 2:** Working with the brain Hemispheres. This work is fascinating but optional. However, it is important to identify if there are felt sense differences between hemispheres/eyes when tuned into the issue and if so to eventually integrate them into closer agreement. Both approaches described below work with the differences between the brain's hemispheres in how they process and view the world. Schiffer stimulates each hemisphere separately whereas the "One Eye Technique" includes both hemispheres as seen through one or the other eyes. Both approaches might provide valuable information to the client on how they are processing and internalizing their experience.

**a. Schiffer Approach:**

Identifying the most resourceful hemisphere is optional and used when either the client is too stressed by the event (then use the more resourceful hemisphere) or not able to contact the event (then use the less resourceful hemisphere).

The two halves of the brain differ in terms of their present time resourcefulness with one being more "stuck" in the past at a more primitive or less resourceful approach to problems (more information in Part 1 of core REB<sup>sm</sup> documents; Schiffer and Sargent). We identify this and use this information to show people they have control over how they feel (physically and emotionally) about their issues by simply accessing the more mature and resourceful hemisphere. We also use it to monitor the "emotional load" being felt at any time in the balancing session. If there is a disconnection from the impact of the issue (emotional blunting) it might be useful to increase its "emotional charge" in the present time session by accessing the more primitive or less resourceful hemisphere. If there's too much "emotional charge" then we enlist the more mature hemisphere until this becomes more manageable and then go to the less mature hemisphere and work there. The aim is to have the whole brain (both halves) be mature and in present time. In a sense, the therapist can become a partner with the more resourceful half to re-educate the less resourceful.

**b. The "One Eye Technique" (Cook and Bradshaw)**

This unique approach has the client cover or close one eye and notice if their experience of the issue changes. The goal is to eventually have both sides the same indicating an integration of the experience; While having one eye closed/covered the therapist can do the EMDR type eye movements on the open eye and notice, very closely, any fluttering, stops, or other unusual non smooth eye movements. When these anomalies are noticed the disturbance is diffused using the REB<sup>sm</sup> posture or eye blinking or Reiki harmony/front-back holding or deep breathing or massaging (going gently back and forth over the area that shows the disturbance) etc. Whatever works!

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**Module 3:** Assume the Triple Warmer/Spleen/Central/Governing meridians Posture

**a. Engage your thymus and heart**

- b. Cross your ankles
- c. Place your tongue in the roof of your mouth just behind your upper teeth
- d. Alternate squeezing with your hands and gently rocking side to side
- e. Blink your eye lids
- f. Use the reiki harmony position
- g. Use the brow/crown holding posture

In module 3 we enlist the body's energy system, more particularly, Eden's "Radiant Circuits", by assuming the REB<sup>SM</sup> posture which connects four special meridians which have dual roles of the regular meridians as well as "radiant circuits": The Spleen, Triple Warmer, Central and Governing meridians. The "Radiant Circuits" are very powerful for two reasons:

1. According to Chinese thinking (Wisneski 2000, pp. 33-34), they are the principal channels for "...Yuan chi" energy...which represents the energy we brought onto the planet.... [I]t represents ancestral energy or the very energy of the soul. Yuan chi is the energy of the soul circulating in the curious meridians ["Radiant Circuits"]. This energy is housed in the extra-ordinary, or 'curious' meridians. The chi in the principle (more superficial) meridians contains chi from the food we eat and the air we breathe, i.e., from our environmental surroundings." (more information in Part 1 and see Eden and Feinstein's "Wired for Joy" article). This aspect provides the means for personal transformation or spiritual evolution while fulfilling the therapeutic function of releasing the person from the past which takes place in reason 2 below.
  2. The "Radiant Circuits" function as "hyper links" for the energy system and will immediately go to where ever there is a need for balance and integration. This property automatically does the diagnosis and correction of energy imbalances and the identification and correction of various reversals, which makes the whole protocol much more user friendly.
- a. Assuming the client's anatomy allows it, the special right hand placement engages the heart centered aspects from HeartMath as well as connecting the thymus gland (John Diamond's source of life energy) and the liver and spleen meridians in one simple hand placement.
  - b. Crossing the ankles is borrowed from the Wayne Cook posture to engage more energy circuits across the mid-line.
  - c. The tongue position connects the central and governing meridians which provides a front-back and top-bottom connection.
  - d. The cross lateral squeezing and rocking incorporates approaches from EMDR and Brain Gym. This activity also creates a very relaxed and receptive state. (it engages the cerebellum, an important brain center for cognition as well as balance.)
  - e. The eye blinking procedure incorporates approaches from Eilum's Integrative States Therapy and Johnson's Rapid Eye Technology approaches. Some find this helpful and others do not. If it helps the balance use it. It is known that people under various kinds of stress blink far above the rate required for maintenance of eye moisture etc. The general idea is that blinking somehow aids information processing in a general sense, especially stressful information. (It may help strengthen Porges' "Smart Vagus" or "Social Engagement System." See Porges' "poly vagal theory." in Part 1 of the core REB<sup>SM</sup> documents)

- f. The Reiki harmony position is a version of the Front/Back holding approach. This posture engages the forehead stress release points and back brain and brain stem in order to relax, calm, balance and solidify the changes taking place during the balancing process.
- g. The brow/crown holding posture has a different, more spiritual effect facilitating a stillness, resting of thoughts, a feeling of being in the presence of something holy, possibly involving the Kundalini energy (Krishna and von Weizäcker ) of the spine and related neurology.

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**Module 4.** Do deep diaphragmatic (belly) breathing through your nose. Symbolically breathe in the good and out the bad

Deep diaphragmatic (belly) breathing through the nose regulates the heart, cools the blood flow to the hypothalamus (the main brain control center for emotions and basic biological drives), and balances the autonomic nervous system's branches (sympathetic and parasympathetic), especially if the person uses alternate nostril breathing (more information in Parts 1 and 3 of the core REB<sup>SM</sup> documents).

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**The following modules are made easier with the help of a coach (Healing Helper or "Healper"):**

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**Module 5.** Stay in contact with the issue and its triggers and aspects; notice the emotional and body sensations; the thoughts, sensory images, sensations, memories and words.

Module 5 is the key one to eliminate distress. The practitioner's skill enters here in the "art of delivery." (more information in Part 3 of the core REB<sup>SM</sup> documents). The instruction is to run a "multi-sensory review or movie" of the disturbing issue with emphasis on present time sensations as the person surveys all the aspects and triggers that come up. To avoid becoming "caught up in the past" the protocol instructs the person to do two things: (a). Maintain a neutral/curious (witness) attitude to anything that may come up (more information in Part 3 of the core REB<sup>SM</sup> documents see Mensing's "EmoClear") and (b). Stay in present time and focus on what is happening RIGHT NOW, especially physical body sensations (more information in Part 1 of the core REB<sup>SM</sup> documents; Ogden and Minton). Whenever there is a release or shift of energy we recommend that the person acknowledge this event with feelings of thanksgiving and gratitude offered to their system, especially their heart. Also, we ask the person to express any insights and learnings that happen in the process of the session.

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**Module 6.** If desirable, do eye movements, eye positions and head positions and combinations

Module 6 can be used any time it might be useful. The use of eye/head positions and movements provides a powerful way to go deeper into the issue and locate any hidden aspects (from NLP, One Brain, Elium's iSt9x9, and other sources). This activity can bring up more disturbance and so must be used with caution. The general aim of the two approaches described in the protocol is to make a survey of the brain and notice where any disturbance remains hiding ("psychoenergetic

dissociation"). To these eye/head activities, you can also add humming (gestalt-right brain) and counting (sequential-left brain), and eyes open (external ) and eyes closed (internal) activation. Instructions are given for both a general approach and Elium's basic iSt9x9 model. (also may help strengthen Porges' "Smart Vagus" or "Social Engagement System." See Porges' "poly vagal theory" in Part 1 of the core REB<sup>sm</sup> documents).

In addition, the client can close/cover one eye while the "healer" guides them through the various eye movements/positions to release any tensions that manifest themselves. The goal is to have all movements in both eyes smooth and relaxed.

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**Module 7.** Finish the balance with a Positive Replacement of the negative. Focus on your heart and give it lots of core heart feelings.

Module 7 also can be used any time it might be useful. Indeed, it SHOULD be used during the balance session whenever there is an energetic shift. However, it is especially important to do this at the completion of a session. The idea behind it is that eliminating the negative effects ("emotional charge") of the issue leaves an emotional/energetic "vacuum" which should be filled with a positive energy, emotion, or goal. We especially encourage the use of the Carrington/Sutherland "choices" phrasing since it is more empowering (more information in Part 3 of the core REB<sup>sm</sup> documents). Say with conviction something like: "I choose to be free of this (state the nature of your issue) from now on." Then formulate a positive goal/affirmation or Desired Outcome and say something like: "I now permanently replace (this issue, describe it) with (your goal or Desired Outcome, describe it)." Summarize any insights and learnings that happened during the session.

Finally, focus on your heart and give it lots of core heart feelings.

At the end of the session we **strongly recommend you DO SOME STRETCHING** such as Eden's "Heaven Rushing In." This will help anchor the changes into your total system. The "Heaven Rushing In" exercise also has the additional advantage of capitalizing on the power of imagination.

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**Home activity:** Do the at home daily life activity especially the HeartMath "REB<sup>sm</sup>-Freeze Frame" and/or the more meditative "REB<sup>sm</sup>-Heart Lock-In" techniques, preferably using Module 3 pose.

The home (in vivo) activity involves the HeartMath REB<sup>sm</sup>-Freeze Frame and/or the more meditative REB<sup>sm</sup>-Heart Lock In techniques (using the pose described in Module 3) of giving your physical/symbolic heart positive core heart feelings. This reduces the activity of the sympathetic branch of the autonomic nervous system (fight-flight) and increases the activity of the parasympathetic "smart vagus" or "social engagement system" (more information in Part 1 of the core REB<sup>sm</sup> documents).