Dreaming and its Relationship to Energy Psychology

by Robert J Hoss, M.S. and Lynne Hoss, M.A., CEHP

presented at the 12th Annual International Energy Psychology Conference
June 4-6, 2010 San Diego California

Abstract

The dream state and Energy Psychology (EP) share some common response and healing mechanisms in dealing with emotional stress and trauma and the altering of fear associations. For one, many of the centers of the brain which deal with stress, fear and trauma are common to dreams and energy work – including the limbic system which is responsible for memory consolidation and emotional processing, the anterior cingulate which is involved in conflict processing and resolution based on emotionally rewarding outcomes, and areas of the visual cortex related to processing the meaning of visual associations. Many of the self-healing mechanisms in dreams and those of EP also have similar characteristics. EP appears to decouple old stimulus-response patterns by recalling dysfunctional fearful memories and replacing the stressful reaction with a calming sensation. Dreams approach the problem in a similar manner, surfacing emotional memories and revealing dysfunctional misconceptions, then testing new perceptions (subsequent dream plots), and emotionally rewarding those with pleasing outcomes (positive dream endings). Pairing EP protocols with dreamwork is therefore a naturally synergistic approach. Dreamwork can quickly surface the salient emotional aspects of an issue and Energy Psychology (EP) complements dreamwork by providing a method for reducing emotional stress, and reducing the emotional barriers to healing, once an issue is identified. An approach called the **Dream to Freedom Technique** is offered for integrating the two.

Table 1 - Dreaming and its Relationship to Energy Psychology (Hoss & Hoss, 2010)

Stress Response	Dreaming	Energy Psychology
Limbic System and Stress Response: Amygdala and limbic system triggers the stress response by associating a sensory image/event with an emotional memory. It activates the pituitary and autonomic nervous system in response to external or internal (memory of a trauma) stimuli.	The amygdala 'orchestrates' the cortical activity, selectively processes emotionally relevant memories in dreams, integrates dream emotion with actions, and forms dream image-to-emotional memory associations. Dream plots are emotion driven and the images picture the dreamer's emotions. A function of dreams is adaptation to stress (Koulack,1991; Stewart & Koulack, 1993) and threats (Revonsuo 2000)	Acupoint stimulation releases cortisol, serotonin and other pain-reducing biochemicals which calm the midbrain and signal it to shut off the alarm response, while inducing a relaxation response (Feinstein, 2004; Swack & Ulett in Lane, 2009) and activating stress-dampening and regulatory genes in the hippocampus and hypothalamus (Church, 2009). The net result is "extinction" (Lane, 2009)
Memory Mechanisms: Networked clusters of information ("fear structures" per Foa & Kozak, 1986/1998), including the stimuli, the stress response and the meaning of the relationships between them, are formed serving as a pre-programmed routines to escape a threat. Dysfunctional structures contain excessive response elements, unrealistic beliefs about the probability of harm, misconceptions about the nature of the threat and resultant anxiety that leads to resistance to change.	Dreams (anterior cingulate, limbic, basal ganglia and OFC) modify the fear structure by first activating and revealing the elements in the dream, also revealing misconceptions or conflicting perceptions, then providing corrective information or testing alternate scenarios (rewarding those with pleasing outcomes) to dissociate (uncouple) the stimulus and response elements, change the meaning of the relationships, and decrease anxiety.	EP appears to decouple old stimulus-response patterns by recalling dysfunctional fearful memories (elements of the fear structure) then through the process of stimulating (EFT, TAT etc.) acupoints imposes an incompatible calming sensation, which in turn uncouples the stress response from the memory stimulus or replaces the stressful feelings with a calming sensation.

Role of Emotional Healing vs Rational: The increased blood flow to the midbrain is accompanied by a decreased blood flow to the prefrontal cortex (Amen, 2000) limiting the rational mind's ability to control the stress response.	Prefrontal cortex is inactive. Dreams deal with resolution and base ongoing behavior on the emotional value of eventual rewards. Enthorhinal cortex is active in dreams -playing an important role in extinction learning. The Gestalt based DTF protocol pairs the negative fear with the positive desire.	The EFT protocol pairs the negative emotional memory with a positive affirmation and tests progress via emotional stress level (Craig, 2008). Extinction is influenced by language as well as expectancy and anticipation about the outcome (Lovibond, 2004).

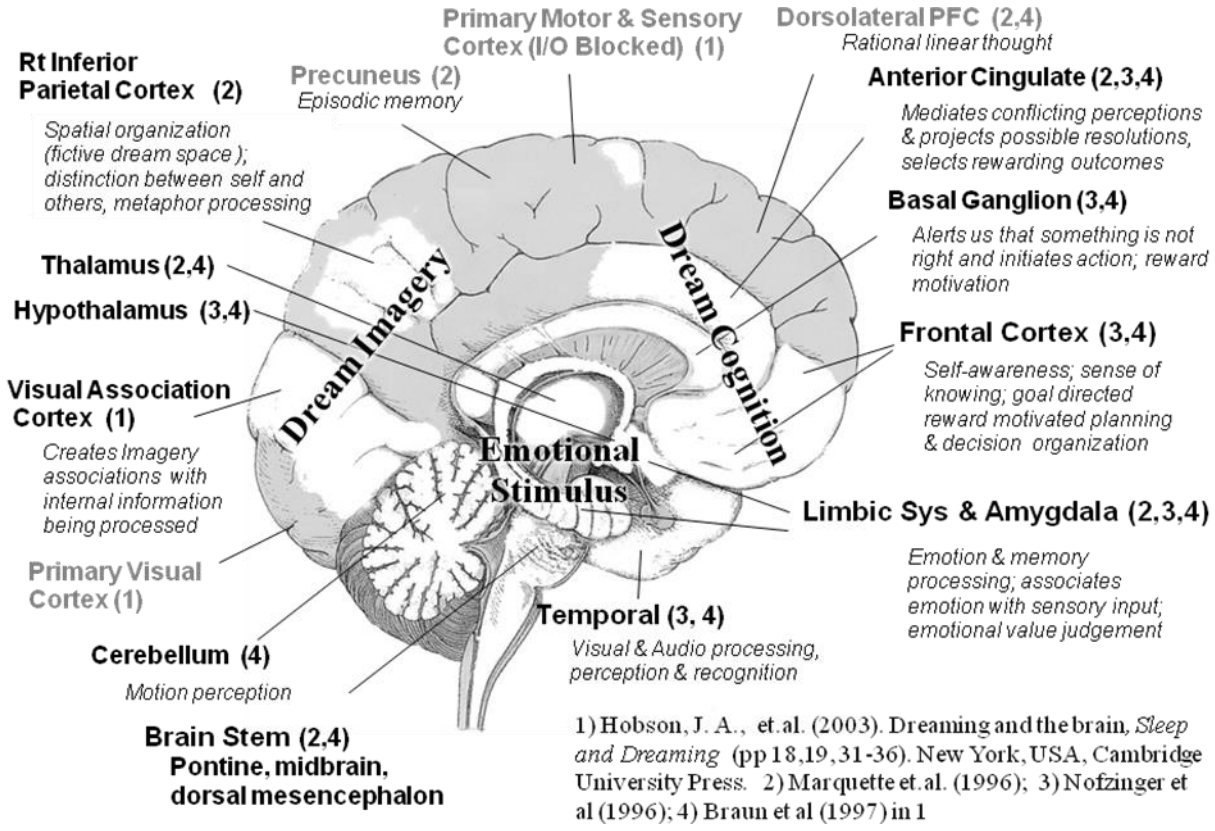
Dreaming

In the dream state, executive functions remain inactive or "asleep," including functions such as rational thought, linear logic, and episodic memory, as well as sensory and motor functions. However a unique combination of centers become active including: the limbic system (including the amygdala hypothalamus, the hippocampus) which processes memory and emotions; the association cortex which forms the visual and sensory associations we recall as the dream; the medial pre-frontal cortex which initiates self-focused goal-directed behavior, and the anterior cingulate which mediates conflict.

The high activity in the limbic system (the emotional brain) has lead many researchers to conclude that dreams are involved in processing emotional memories as is often hypothesized by psychologists and neuroimaging groups (Braun, Cartwright, Kramer, Marquet, Franck, Nofzinger, Perlis & Nielson in Hobson et. al., 2003). Although the de-activation of episodic memory all but eliminates the re-enactment of the waking episode that stimulated the dream, the emotional memories associated with that event remain accessible and are processed. The exception is post-traumatic nightmares, where the event may play itself out verbatim in dreams and only change as the dream begins to reveal change in the form of mastery over the events, either due to the effects of therapy or self-healing.

Dreams may seem bizarre, but they are simply our becoming conscious of an unconscious inner processing of information, taking place in a communications "language" native to those brain centers. Since the prefrontal cortex (the rational brain) is inactive, the bizarre non-linear experiences continue as if "normal". The active association cortex interprets the internally generated signals it receives as "associations" – visual representations of the emotions, concepts and memories that are being processed within. The amygdala plays a role in associating emotion with visual images. The right inferior parietal cortex, which processes our perception of the visual space, forms the visual space in our dreams, and is cross-modal in nature thus establishing meaningful picture-metaphors or superpositions of dream elements, even though the combinations may appear bizarre to the waking mind It is these representations which we see and experience as the dream.

Figure 1 – The Dreaming Brain

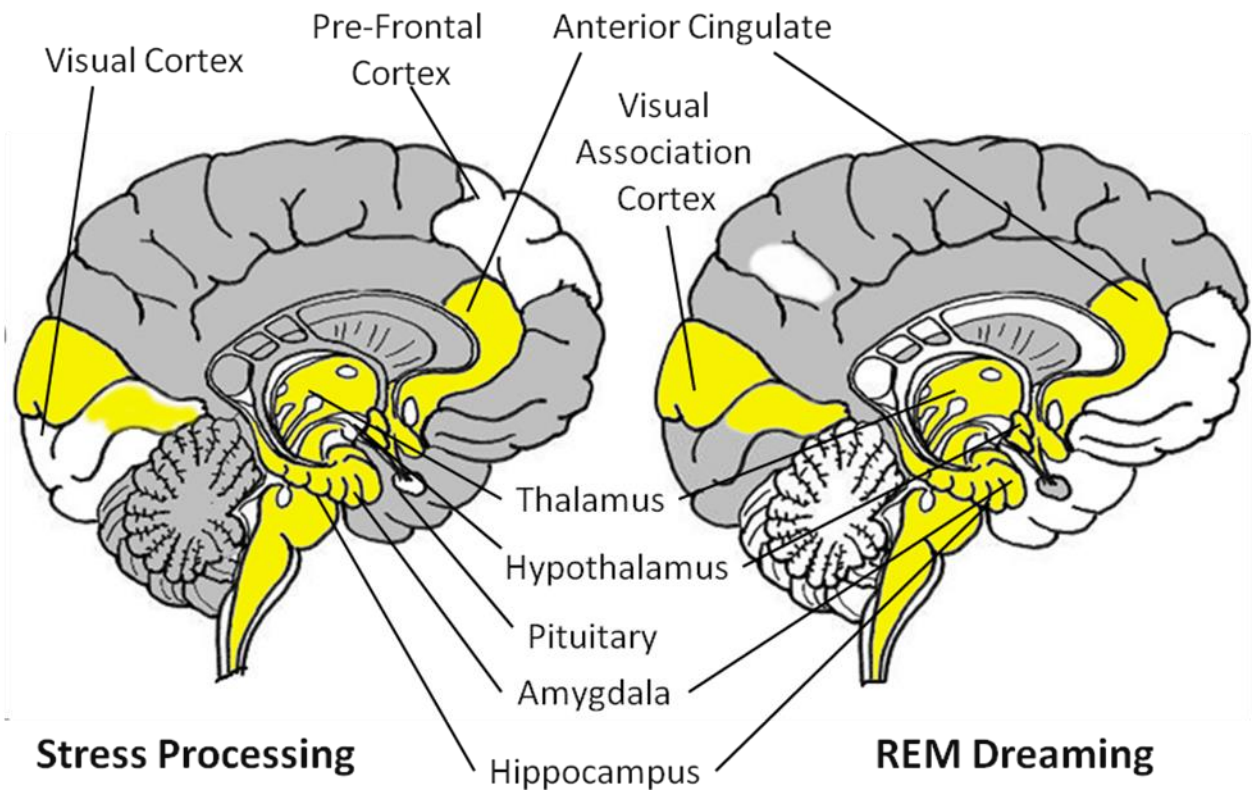


1) Hobson, J. A., et.al. (2003). Dreaming and the brain, *Sleep and Dreaming* (pp 18,19,31-36). New York, USA, Cambridge University Press. 2) Marquette et.al. (1996); 3) Nofzinger et al (1996); 4) Braun et al (1997) in 1

Table 2 - Therapeutic Functions of Dreaming

Theory	Research/Biological Support
Dreams are "involved in **processing of emotional memories** as is often hypothesized by dream psychology theorists and by neuroimaging groups" (Braun, Cartwright, Kramer, Marquet, Franck, Nofzinger, Perlis & Nielson in Hobson et. al., 2003).	The findings of Nofzinger, Braun, and Marquet, suggest that REM sleep plays a role in the **processing of emotion** via a cortical interplay with the limbic system (Hobson et. al. 2003, p17). Marquet proposes that the amygdala functions **to selectively process emotionally relevant memories** in dreams (Hobson, 2007, p16). The Amygdala 'orchestrates' cortical activity (Dang-Vu et. al. 2007).
Dreams: have a purposeful structure and an underlying intention, the general function being to **restore psychological balance** (Jung); are an adaptive rehearsal mechanism to **simulate (and adapt to) threats** (Revonsuo, 2000)	A function of dreams is **adaptation to stress** (Koulack, 1991; Stewart & Koulack, 1993). Enthorhinal cortex is active in dreams -playing an important role in memory consolidation and optimization in sleep as well as in **extinction learning**.
Dreams: reveal our **misconceptions** (Jung); deal with **conflicts** and **impasses** (Perls); process **anomalies** encountered during waking (Cippoli)	The active Basal Ganglion **alert us that something is not right** (conflict/anomaly /novel/adverse/ unexpected) and initiate action.
Dreaming: reprograms cortical networks to **maintain psychological individuality** despite adverse waking experiences (Jouvet, 1998); **develops the ego** (Jones, 1962); **maintains the self** (Fiss, 1986); evolves the whole SELF through integrating the conscious with the unconscious/ instinctive (Jung); evidences a drive to unify the alienated fragments of our personality (Perls)	The active medial prefrontal cortex is involved in: goal-directed behavior and focusing attention on **self-referential activities, involving the many aspects of the multifaceted "self**" (Gusnard, 2001)1; self-monitoring of learning and thus the 'sense of knowing' (Marley, 2009). The basal ganglia coordinates learned (conscious) behavior as well as instinctive (unconscious) behavior (Aldridge & Berridge, 1998). The Insula influences perception, self-awareness, cognitive functioning, and interpersonal experience.
Dreaming: is a creative recombination of memories and knowledge…not simple replay of global units from past experience" (Foulkes, '82); is an adaptive, emotion guided, hyper-connective mental function, which is in part how the brain learns by **creating new connections and weaving new material into established memory** (Hartmann); compensates for misconceptions, in order to bring the conscious mind back to reality or warn of the dangers of our present course (Jung); transcends our present state by **bringing the conscious & unconscious together to arrive at a new attitude** (Jung); is driven by a natural tendency to bring resolution and **closure to unfinished emotionally important problems of the day** (Jung, 1973; Perls, 1974, Ullman, 1959; Greenberg & Pearlman, 1975); is an adaptive rehearsal mechanism (Revonsuo, 2000)	The amygdala functions **to selectively process emotionally relevant memories** (Hobson, 2007) . The active Hippocampal and Enthorhinal structures **provide learning and memory functions** playing a role in memory encoding and retrieval, recollection and the detection of familiar and novel events, and memory consolidation and optimization in sleep. The active Basal Ganglion **alert us that something is not right** and initiate action. The active MPFC provides self-monitoring of learning (Marley, 2009). The Anterior Cingulate monitors conflict and anomalies, mediates action by providing cues to other areas of the brain to problem solve or choose between conflicting perceptions; selects an appropriate response based on anticipating and valuing rewards and monitors the consequences, whether the outcome is from recalled experience, or imagined outcomes (dream scenarios) and adapts or changes behavior based on the outcome (Bush , 2002; Apps, 2009; Hayden, 2009, Botvinick,1999; Luu, 2004; Allman, 2001; Posner,1998).
New connections are expressed in **picture-metaphor, reveal new perspectives** which can help us make new decisions (Hartmann).	The amygdala 'orchestrates' cortical activity and the **Visual Association Cortex creates image associations** (dream imagery or picture-metaphors) **representative of the emotional material being processed within**. Comprehension of metaphors is associated with the middle temporal gyrus which is active in dreams.

Figure 2 - Common Areas of Activation – Dreaming and Stress



Ref: Hoss & Hoss (2010) "The Dream to Freedom Technique**",** *Energy Psychology Journal***,** pending vol 2

Table 3 - Common Areas of Activation – Dreaming and Stress

Brain Center	Stress Response	Dream State
Amygdala	Triggers the stress reaction by associating a sensory image with an emotion or emotional memory.	Selected emotional memories stimulate the dream via a cortical interplay with the limbic system, and integrate dream emotion with actions. Forms dream imagery associations with emotion and emotional memories.
Thalamus	Switches sensory information directly to the amygdala (fast path) and to processing centers in the pre-frontal, visual and other cortical regions (slow path).	Connects midbrain processes with active cortical regions creating a state of arousal or dream "consciousness".
Hypothalamus	Relates, distills and assembles all the attributes of an experience into one consolidated memory. Provides emotional understanding and judgment and primes the amygdala to rapidly consolidate fearful memories. Triggers the pituitary to set up the stress response.	Organizes many complex emotions as well as motivational states (including fear and escape themes), the concept of reward and goal direction into the dream story, and lends emotional understanding and judgment to the dream experience.
Hippocampus	Involved in forming long term memory, contextual learning and emotional processing. Pre-processes sensory input for familiarity. It's 'learning' can be influenced and weakened by long term stress.	Creates mental models or "maps" which the dream references when faced with a conflicting emotional experience. Plays a role in memory consolidation and optimization in sleep, including consolidation of dream "resolutions."
Anterior Cingulate	Involved in mediating and choosing between conflicting perceptions and deciding on actions based on the most rewarding anticipated outcome. Involved in mediating an emotional stress response versus a rational analysis from the pre-frontal cortex.	Mediates conflicting perceptions (perhaps an internal conflict or an external experience of the day that is counter to our internal mental model). Projects resolutions based on past experience or imagined outcomes (dream scenarios) and lending a problem-solving nature to the dream.
Prefrontal Cortex	Rationalizes the nature of the sensory information received plus emotional memories that are no longer relevant, and determines the appropriate action. Reduced blood flow during stress can reduce its effectiveness in calming or overriding a stress response.	Relatively inactive in the dream state, thus irrational events, image combinations, scene changes, and cause-and-effect relationships, as well as loss of will and reflective awareness, are seen as normal in the dream yet considered irrational upon waking. Dream decisions are not referenced to a rational model but motivated by instinct and emotion (reward).
Visual Cortex	The visual cortex receives sensory information from the thalamus (part of the "slow path") which performs a higher level recognition processing of the image which is shared with the prefrontal cortex for decision making.	The primary visual cortex is inactive, however the visual association cortex is very active and forms visual associations (dream images) related to the information being processed within. Dream images are picture-metaphors representing emotional memories, concepts and new connections.

The Dream to Freedom™ Technique

Integrating Energy Psychology and Dreamwork
(worksheet available on www.dreamscience.org)

The therapeutic process often starts with recognizing surface-level symptoms or problems, then peeling away emotional layers until the core issue surfaces. If energy psychology is integrated with the dreamwork, however, it is possible to begin at a deeper level. Dreams tend to focus on the more salient unresolved emotional issues of the day, thus dreamwork can quickly surface the core emotional aspects of an issue that a person is dealing with at a subconscious level. On the other hand, dreamwork alone - in the absence of other therapies - is not necessarily effective in reducing the emotional stress or for moving through the emotional impasses that may surface from the dreamwork. Energy Psychology (EP) therefore complements dreamwork by providing a method for reducing emotional stress, and reducing the emotional barriers to healing, once an issue is identified.

The Dream To Freedom (DTF) technique provides a complementary combination of approaches from the disciplines of Energy Psychology (EP) and Dreamwork, in order to provide a unique protocol which can be used for rapidly identifying a salient unresolved emotional issue that the subconscious is working on, and for rapidly reducing the stress around that issue so that a person may progress beyond it. The technique is a three part protocol: 1) it first incorporates a simple scripted Gestalt-based approach for identifying and addressing salient emotional and psychological issues which the subconscious is dealing with in a dream; 2) once the stressful situation is identified and given a stress rating, a version of the Emotional Freedom Techniques (EFT) protocol (Craig, 2008) is applied to reduce the stress level to at (or near) zero; 3) after the stress level is reduced, and the emotional barriers to progress reduced, the dream is once again used as an aid in defining what action the person can now take to progress beyond the situation (Hoss, 2005).

The complete procedure and worksheet (shown below), suitable for personal or clinical work, is available on www.dreamscience.org under the Energy Psychology button or by contacting lynnemhoss@aol.com and details may be found in Hoss & Hoss (2010) "The Dream to Freedom Technique**",** *Energy Psychology Journal***,** pending vol 2; www.energypsychologyjournal.org .

Dream to Freedom™ - Worksheet

Name: _____ Contact: _____ Date: _____
Title of the Dream: _____

Part #1 Dream Exploration and Issue Identification

Step #1 - Dream Summary (or most emotionally impacting segment): _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Step #2 – Waking Life Emotional Situations/Issues at the time: _____
_____
_____

Step #3 – Obvious Analogies between the two (Metaphors/Associations/Feelings) _____
_____
_____

Step #4 – Scripted Gestalt (let the dream speak):
4**a)** Choose a dream Image or Element (X) that draws your attention _____
4 b) Role-Play –"become" the dream element 'X' and finish these 6 statements (first person, present tense) as you imagine that the dream element 'X' would express them from its perspective in the dream:
1) I am X (describe yourself & how you feel in that role; if X is a known person describe their personality):
_____
_____

2) As X, my purpose or function is:_____
_____

3) What I like about being X is: _____
_____

4) What I dislike about being X is: _____
_____

5) What I fear most is: _____
_____

6) What I desire most is: _____
_____

Step #5 – Read each statement as if it is YOU saying it about something in YOUR life. Note (put a check mark by) any statement(s) that sounds like it also describes a feeling or situation in your waking life.

Step #6 – Which statement relates to the most stressful feeling or situation? Describe the waking situation in general and if necessary reword the statement above to better fit that situation. _____
_____
_____
_____
Reworded statement: _____
_____

Part #2 Energy Psychology Application and Stress Reduction

Step #7 – Recall and describe a specific incident when you felt this way: _____
_____
_____

Step #8 – Initial SUDS (subjective units of distress) rating; 0-10, 10 being the most stressful: _____

Step #9 - Set-up Phrase & shorter Reminder Phrase:

a) "Even though I (negative feeling statement based on situation in step #6): _____
_____

…...I know that I can or I choose to (hint: consider a positive statement from the imagery work in step 4b):
_____

b) Reminder Phrase (abbreviated negative statement): _____

Step # 10 - Round #1; using the EFT technique and acupoints illustrated on emofree.com:
a) Rub chest "sore spots" 3 times using the **Setup Phrase**; b) Tapping/Bridging /Tapping Sequence using the **Reminder Phrase**; c) think about the incident and give it a new SUDS Rating _____

Step # 11 - Subsequent Rounds: continue step #10 with revised phrases until stress level goes down to or near 0*
Note: revise by adding "still" to the **Set-Up**, and "remaining" to **Reminder Phrase**: a) Rub chest "sore spots" 3 times using the revised **Set-Up**. b) Tapping/Bridging /Tapping Sequence using the **Reminder Phrase**.
c) Re-rate SUDS Level by round (untill near or at 0): _____ ; _____ ; _____; _____; _____

Step # 12 Other Aspects (optional) - if other aspects arise, note them for additional work (using procedure above):
_____
_____
_____

Discussion Notes: _____
_____
_____

Part #3 Using the Dream for Closure

Step #13 – **Dream Guidance:** review how it ended and what lead up to it, then follow the exercises that apply:
a) Did it end positively? If so what specifically happened to bring it about. b) Did you experience a surprise or a guiding event or words? If so how did it differ from your expectations or reveal a new awareness, discovery or direction? c) If the dream was unresolved or had a negative ending, place yourself at the end and review the situation and your feelings. Spontaneously imagine a new ending that works out for everyone in the dream.
_____
_____
_____
_____
_____
_____

Step #14 –How might the above be seen as a metaphor or analogy for a solution to your waking life problem?
_____
_____
_____

Step #15 – a) **Check it Out:** Is it a healthy, appropriate and practical solution or does it leave you stuck again?
b) If all check out OK, then Define **Next Steps:** what specific first step(s) can you take to bring it about?
_____
_____

Step #16 – 'Token': pick a positive dream image as a reminder of the solution: _____

BIOGRAPHIES

Robert Hoss, MS is Executive Officer and former President of the International Association for the Study of Dreams, and author of *Dream Language*. He is on the Board of the Soul Medicine Institute, the Director of the DreamScience foundation for research grant funding, and a faculty member of the Haden Institute for dream leadership training. Formerly a corporate VP at American Express and IBM, he has also lectured on dreams & dreamwork for over 30 years. www.dreamscience.org

Lynne Hoss, M.A., CEHP, is Energy Psychology Program Director for Innersource, and a former counselor and journalist. She is trained in EFT-ADV, EPI Basic and Advanced, TAT and certified as an energy health practitioner by the Association for Comprehensive Energy Psychology. She is instrumental in bringing the field of Energy Psychology forward through articles, CE exams, public presentations and individual instructional sessions on energy psychology methods.

References

Aldridge & Berridge (998) "Sequence Coding in Rat Neostriatum". J. Neurosci., April 1998, 18(7):2777–2787
Allman et. al. (2001). "The anterior cingulate cortex…" Ann N Y Acad Sci. 935: 107–17
Amen, D. (2000). *Change Your Brain, Change Your Life*, Random House
Apps M, et al, (2009) ACC: Monitoring The Outcomes Of Others' Decisions, www.medicalnewstoday.com/
Botvinick M, et al (1999). "Conflict monitoring versus selection-for-action in ACC". Nature 402 (6758): 179–81
Bush G, et. al. (2002) Dorsal ACC a role in reward-based decision making , NAS, Jan 2002 vol. 99
Cippoli et al (2004) in Luu et al (2004)
Church, D. (2009). *The Genie in Your Genes*, Energy Psychology Press, Santa Rosa: 223
Craig, G. (2008). *The EFT Manual.* Energy Psychology Press, Fulton, CA Dang-Vu et. al. 2007
Feinstein, D., Eden. D, Craig, G. (2004) *The Promise of Energy Psychology*. Innersource, Ashland, OR.
Fiss, (1986)., "An experimental self-psychology of dreaming" Journal Of Mind And Behavior 1986, 7, 161-191. ,
Foa, & Kozak (1998). Understanding anxiety and its treatment. *Behavior Therapy*: 29, 675– 690
Foulkes, (1982) "Dream reports from different stages of sleep," Journal of ... Kamiya (1982). 150. Ibid., p. 242. 151
Greenberg, R., Pearlman, C. (**1975**). "Rem Sleep and the Analytic Process", Psychoanal Q., 44:392-403
Gusnard et. al. (2001)MPFC self-referential mental activity. PNAS March 27, 2001 vol. 98no. 7 4259-4264
Hayden, B et al, (2009) Fictive Reward Signals in the ACC Science Vol. 324. no. 5929, pp. 948 – 950
Hobson, J. et.al.(2003) *Sleep and Dreaming* (pp 18,19, 31-36). New York, USA, Cambridge University Press
Hobson, J. (2007) in *The New Science of Dreaming*, Westport Connecticut, Praeger: Vol. 1. Bilogical Aspects, p 16
Hoss, R. (2005). *Dream Language: Self-Understanding through Imagery and Color*. Ashland: Innersource
Hoss & Hoss (2010) "The Dream to Freedom Technique**",** *Energy Psychology Journal***,** vol 2
Jouvet, (1998) in Luu et al (2004)
Jones, R. M. (1962), Ego Synthesis in Dreams. Cambridge, Mass
Jung, C. (1973). *Man and His Symbols*, New York, Dell Publishing
Koulack, D. (1991). *To Catch a Dream* U of New York Press.
Lane (2006), Bridging the Gap betw Behavioral Psych and EP, presented at the ACEP conference, Jan., 2006
Lovibond, P., (2004). Cognitive processes in extinction, *Learning and Memory*: 2004 Sep-Oct;11(5):495-500.
Luu et al (2004). "ACC: Regulating actions in context" in Posner Cognitive neuroscience of attention. NY Guilford
Marley (2009). MPFC ..Role in 'Feeling of Knowing' Psychology/Psychotherapy psychiatry Feb 24, 2009
Marquette et.al. (1996) in Luu et al (2004)
Perls, F. (1974) *Gestalt Therapy Verbatim*, New York, Bantam Books: pp. 27-76
Posner & DiGirolamo (1998) "Executive attention" in Parasuraman *The attentive brain*. Cambridge, MIT Press
Revonsuo & Valli (2000) Testing the Threat Simulation Theory of the Function of Dreaming. *Psyche*: 6 (8)
Stewart, D. & Koulack, D. (1993). "The function of dreams in adaption to stress over time," Dreaming, 3, 259-268
Ullman, (1959), "Adaptive Significance of the Dream" Journal of Nervous and Mental Disease:,Vol 129 - Issue 2