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R. Adam Crane

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Guest Editorial

Slow Waves, Profound Attention, A Compass for the Gifted Thinker

R. Adam Crane

The late W. Edwards Deming is arguably the most inspiring statistical engineer and business thinker of the century. He introduced the term "Profound Knowledge" in order to differentiate between the kind of knowledge which really breeds quality and healthy growth, and far less effective, even counter productive forms of knowledge.

The historian Oswald Spengler said that a hypothesis does not have to be absolutely correct as long as it is useful. A number of people have told me they consider the following hypothesis useful.

This hypothesis holds that thought is matter and (like movies) thinking is a material and image-making process based on memory. Furthermore, high order thinking, what could be termed the capability for "Profound Attention," is probably the most important asset a human being can have.

The capacity for "Profound Attention" can in many, if not most, human beings be enhanced. This enhanced "Profound Attention" carries with it the capability of conscious observation of thought, and the implications of this are that this ability to watch oneself think is the healthiest possible way to manage and improve the quality of thought. This observation itself is a kind of "field". Einstein said, "The field is the soul governing agency of the particles". In this case the particles are thought. The implication follows that one of the most effective ways in the history of learning to enhance this "Profound Attention," and improve the quality of thought, is slow wave, relatively synchronous Neurofeedback training.

This hypothesis further asserts that as cartographers of consciousness, we are now being forced to define much more carefully the terms that have hitherto been taken far too much for granted. We must now come to much more precise definitions of intelligence, thinking, and imagery which transcend thinking, attention, etc. in order to clarify what we really want to reach for.

If the ancients (and many of the modern masters) are correct that the problem is that psychothenia (over thinking, "unconscious" or unobserved thinking) is the fundamental barrier to the natural intelligence and creativity latent in humans, and if it is also true that in most "normal" slow wave (ALPHA/THETA), but mostly mid-range ALPHA training, can enhance the ability to profoundly attend to internal (thought, archetypical imagery, etc.), and external phenomena simultaneously, in real time, then indeed ALPHA/THETA Neurofeedback, skillfully managed, is one of the most valuable educational tools ever developed.

This hypothesis is not prejudiced against fast wave training (SMR/BETA); however, it does hold that the type of "attention" enhanced by SMR/BETA training should be redefined as a kind of "seize and hold" attention—a kind or class of attention highly impregnated by thought and very useful in its own right. This kind of attention is not the "Profound Attention" enhanced by ALPHA/THETA; it can, however, lead to "Profound Attention". And that should be a goal of advanced Neurofeedback training.

English is only five hundred years old. An

incredibly young language, it lacks words to describe subtle perceptual and consciousness phenomena. So often, we must borrow these words from more mature languages or create new words; biofeedback and neurotherapy are examples.

“Profound Attention” may be general or focused, and carries with it a quality of depth, or emotional integration, as though one is attending with the heart as well as the brain.

The following model has considerable appeal to some. Brain cells perhaps in combination with surrounding glial cells, etc. have at least two major capabilities—thinking and attention. These capabilities produce signals in the range of ALPHA for “Profound Attention” and BETA for thinking. The kind of attention developed by SMR/BETA training is what might be called data-capture-and-hold attention. Eventually I believe this kind of attention will be redefined as a subset of thinking.

Therefore, ALPHA training (perhaps other frequencies under different conditions allowing for individual idiosyncrasies) enables the individual to substantially increase the number of brain cells that are attending. They are attending to “what is”. That is, these brain cells are reflecting (like smooth water) subtle signals (vibration). One of the most important material “things” they are watching is thought.

This thought is in the form of movie-like images being generated by other brain cells radiating energy in the form of approximately BETA. In short, ALPHA Training can, in at least some people, enhance the ability to watch thought more clearly. The more clearly thought is attended to, the less subject to error it is.

This hypothesis further holds that brain cells (and their field) either are attending or thinking. The idea that a single brain cell both attends and thinks at the same time seems uncomfortable to me; although it may, in fact, turn out to be the way it is, especially when we can observe thinking and attention with much greater precision, holographically and from a true fourth dimensional perspective.

Many are talking about, and sensing that a paradigm shift is occurring in psychology. Some are already naming it the “Psychology of Awareness.”

The notion that awareness itself breeds both optimal mental health and enhanced performance. This awareness and Profound Attention are the same or inter-dependent.

There is no question that these high orders of awareness/attention can be learned without Neurofeedback. Indeed, the biofeedback field unfolded largely from the study of people who had developed these mind skills without technological feedback as we know it.

But the most gifted ones are often quick to see the value of Neurofeedback. They are also quick to point out how mind-numbing, and difficult is the treacherous path to discrimination between high-order attention and thinking one is attending. Herein lies the awesome potential of brain wave biofeedback.

If Neurofeedback can be used to help an individual discriminate between thought and attention/awareness, then it is a technological breakthrough as important to the explorer of the mind as the compass is to navigation.

Over thinking, error prone thinking, and inappropriate conditioning are barriers to health and creativity. Therefore this model integrates the popular notion that almost any Neurofeedback training works as long as it moves the over conditioned brain out of its “Parking Place.”

This notion could be termed the steel filings and the magnet principle. Breaking the conditioned patterns apart with Neurofeedback is like breaking a hunk of steel into filings. The brain is better able to reorganize itself, like the filings, along the natural lines of force of the magnet or attractor, if you will.

However, this hypothesis holds that ALPHA training in many subjects goes much further because it teaches the difference between active, memory-based image making and true relative neural silence. This neural quietness is essential for the healthy management of

thought.

Fear is a form of thought and is at the root of most, if not all, psychological disorders. When adequate masses of brain cells are quieted, fear in general is cut off.

This means that attention/awareness deals with fear now, in real time, replacing it with increased sensitivity to what is—and creative or as Jung would say “Archetypical Imagery”.

Many of you are aware of the work of the late David Bohm, the genius physicist, who devoted his incredible talents to the integration of the physics, and math of consciousness, perception and those principles by which the mind naturally unfolds itself.

We became friends towards the end, and I am still wrestling with all he taught me. But one most interesting thing is his way of categorizing thinking as types A, B, and C. In my efforts to claim it as my own, I changed the terminology to thinking of the first kind, second kind, and third kind. Sort of a play on the movie *Close Encounters*, because thinking of the third kind implies contact with relatively high orders of intelligence.

Thinking of the first kind is the condition in which a person is lost—not a good thing. The individual is not aware he is thinking and cannot observe himself think.

Therefore contact with “what is” is lost. All that she sees or hears or feels is distorted by this condition of unconscious over-think (“psychothenia”) usually leading to one form of disaster or another.

Thinking of the second kind is the condition in which the thinker begins to watch himself think. This begins the capability for the thinker to discriminate. The good engineer emerges because he can reject those thoughts that do not conform to natural law as he understands it. Of course, when his wife asks him to take the trash out, his ego is activated and he falls back into thinking of the first kind.

Thinking of the third kind is an extremely high order of thought. In this condition a kind of quickening of thought occurs as thought becomes aware of its own structure. This leads

to awareness by the thinker that his self-image or ego is constructed of images based on memory and that he is not who he thought he was.

Further, thought becomes aware of its own limitations. At this point thought stops trying to be all things. For example, being limited, it stops behaving as though it were unlimited. This produces a kind of shock, and in this shock relative neural silence, greatly enhanced sensitivity and creative or archetypical imagery emerges.

A relatively small group of us became incredibly committed to EEG biofeedback about twenty five years ago. We then struggled with a long period of rejection by most of the biofeedback community and even worse suffered enormous frustration because Neurofeedback did not work with our patients as quickly as we thought it should. It seems to me Peniston was enormously productive in helping us to realize that we had been too impatient. Most of us who became so convinced that Neurofeedback was the grand breakthrough it is now believed to be, did so because we had personally experienced impressive insights and changes linked to our EEG training.

This might be termed the “Primed Pump Syndrome”. We were all tremendously involved in our own mind explorations—the meditation model, if you will. Therefore, a small amount of training produced a big result. Most of the clients we trained were not in the same place. Therefore, many more sessions over a longer time were required.

In addition, unconscious fear of the exposure of the image of the me as unreal, a kind of fraud, and fear of being forced to face repressed material produces a further obstacle to many, if not most.

One of the problems of definition that exists is the confusion over THETA. It appears that there is healthy THETA and unhealthy THETA. This model holds that unhealthy THETA relates to a kind of trancelike behavior the result of which is a kind of detachment from “what is”. Walinsky, a psychologist has written a book entitled, “Trances People Live”.

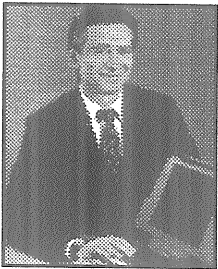
These are not all good trances. This disassociative trancelike phenomena may be broken out of by "Profound Attention".

On the other hand, "Profound Attention", increases sensitivity to subtle internal imagery such as the fast moving archetypical imagery associated with healthy THETA.

ALPHA training prolonged produces the "window". This window appears to be a condition where healthy THETA emerges, constructed visualizations have enhanced effect

and consciousness contaminating repressed psychological material rises up—to be, as it were, burned up by insight, energy, a kind of fire in the mind.

SMR/BETA protocols may have greater economic power at this moment. However, the ALPHA/THETA protocols are basic to our field. "Peak Performers do the basics very well." Many patients will come home to "Profound Attention" better by using the compass of ALPHA/THETA training.



R. Adam Crane is president of American BioTec and CapScan Corporation. He is certified by the Academy of Certified Neurotherapists and Certified Diplomate by the National Registry of Neurofeedback Providers. Mr. Crane is founder of Health Training Seminars which provides BCIA, APA, and NRNP accredited training for health care and mental health professionals.