

Complementary Modalities

When Neurofeedback Fails

One of the implicit assumptions of Neurofeedback is that the physiology of the trainee can support the work being done. Nearly all of the studies on Neurofeedback find some degree of success with various conditions, and the failure of the rest is deemed to scope out the limitations of Neurofeedback itself. However, there are many other reasons why Neurofeedback may fail in a particular case.

Now that the broad efficacy of Neurofeedback is coming to be recognized, it is appropriate to turn the above posture around. Operant conditioning of the EEG does work in considerable generality; learning does occur in the usual case; and long-term functional improvement is in prospect for most. So we should expect to succeed with Neurofeedback under all ordinary circumstances. When we don't, it is an indication that we should look for an explanation beyond simply saying that "the Neurofeedback isn't working."

Neurofeedback doesn't just happen to work. It works; and when it doesn't, there must be a good reason. The failure of Neurofeedback when success is expected serves for us as a significant data point to be pursued further.

The reasons tend to fall into a manageable set of categories:

- 1) Allergic reactions cause the effect of Neurofeedback training to be highly variable, and to fluctuate with the severity of the allergic challenge;
- 2) Food intolerances present a physiological challenge to the trainee that we cannot fully overcome with Neurofeedback;
- 3) Dietary insufficiencies don't allow the full benefit of Neurofeedback training to be felt;
- 4) Digestive malabsorption impinges negatively on function, including in particular brain function
- 5) Heavy metal toxicities or excesses in certain minerals frustrate our efforts
- 6) Irlen Syndrome, and other disturbances in visual processing, limit our gains
- 7) Primary auditory processing disorder can tax the brain
- 8) Deficits in blood glucose regulation (dysglycemia) impinge directly on brain function
- 9) Poor sleep or poor sleep hygiene is detrimental to learning of the process and the

consolidation of gains.

- 10) Degenerative conditions prevail, such as among the elderly, leading to fading of the Neurofeedback gains on some time scale after the sessions.
- 11) Structural injury in the brain limits what can be accomplished in the training. This is an obvious one that we usually know about in advance: stroke injury; brain tumor; arteriovenous malformations; hydrocephalus; history of meningitis, etc.
- 12) Cerebral under-perfusion. This may result from the use of anti-hypertensive medications in the elderly, leading to compromised brain function.
- 13) Environmental factors within the home or school that militate against training success: emotionally unsettled or even a traumatizing home environment; being subjected to bullying behavior at school, etc.

In each case there is usually a small number of hypotheses to pursue, and the most common relates to dietary issues. This is not a topic that can be dealt with briefly. The best we can do is refer to more extensive sources. But we hit the high spots in the following:

Food-related issues

The first thing to be said is that fast food tends to be a bad idea particularly for the vulnerable brain. Soft drinks of all kinds are to be avoided. They are loaded with sugar, and the sugar substitutes have their own sets of problems. Aspartame is not meant for our brains. Even sugar substitutes can trigger a glucose dysregulation cascade just as if actual sugar had been consumed. Carbonated drinks are also acidic, and that takes our bodies in the wrong direction in terms of acid-base balance. Soft drinks displace the many better ways we should be getting our calories—and our nutrients.

Monosodium glutamate is to be avoided, and it should be recognized that what makes spices so enticing is that they act to stimulate or tease the nervous system. They may not be well tolerated by the brain vulnerable to seizures or other instabilities. Unfortunately, chocolate may be on that list as well.

Food additives and food colorings may be a problem, and it is difficult to chase all of these down. Once again, it may be advantageous just to avoid the usual temptations of sweets and of commercial ice cream. (Over 3,000 additives have been approved by the FDA for ice cream alone.) There is refuge in eating the old-fashioned way, with lots of vegetables. If children will

categorically not eat vegetables, there is the option of juicing.

If food sensitivity is suspected, an elimination diet can help to make a determination. This should be done with the involvement of a professional.

Vitamins and Supplements

It can almost be assumed that the unmodified diet of an American is going to be deficient in Omega-3 fatty acids, unless it happens to be a native American living in Alaska on a diet of seafood. And in the latter case, he is becoming toxic with mercury. Anyone who refrains from eating too much fish because of mercury should supplement with Omega-3 fatty acid. This is of particular importance for the vulnerable brain.

There also seems to be a systematic tendency toward depletion of magnesium in the diet. Magnesium supplementation is something that can be recommended quite generally. It is a calming substance, and that can help us meet our goals in Neurofeedback, particularly with behaviorally challenging children. It is usually delivered together with calcium. Magnesium should be taken in conjunction with Vitamin B6. In fact, supplementation with B-complex vitamins is to be recommended as well for the compromised brain, although that need may be met in a multi-vitamin. Too much magnesium leads to diarrhea - an easy call.

Children with rage disorder or any kind of epileptic susceptibility may also benefit from zinc supplementation, in addition to magnesium. That affects the copper-zinc balance, which has implications for behavioral control. A trace mineral analysis is probably worthwhile for any behaviorally challenging child or adolescent. If the copper levels are elevated, the Neurofeedback training cannot meet its goals.

Our modern environmental exposures make supplementation with anti-oxidants advisable. This would mean Vitamin C first and foremost, to which should be added a mix of Vitamin E tocopherols and Co-factor Q 10 (Co-Q10).

Finally, there is the issue of digestive absorption. Both digestive enzymes and probiotics should be considered if the bowel movements are highly irregular, small or hard in consistency. Not all available probiotics are equally potent, so one may need to evaluate several sources. Bowel movements should be fairly frequent (at least daily); they should be large, but soft.

Neurofeedback can be profoundly helpful here, incidentally, but if this problem exists the Neurofeedback training should be faithfully augmented with enzymes and probiotics.

Anyone with compromised brain is likely to benefit from consultation with a nutritional expert. The above is just the most obvious recommendations that have fairly universal applicability. Other resources are Andrew Weil's website (www.drWeil.com), Dr. Mercola's (www.drmercola.com), and Dr. Hyla Cass's website (www.CassMD.com). An additional worthwhile resource is the Life Extension Foundation (www.lef.org).

Allergies

Allergic sensitivity can severely limit what can be accomplished with Neurofeedback. Conversely, Neurofeedback can also reduce allergic sensitivities. In this mixed state of affairs, it is best to take a multi-pronged approach to the problem of allergies, and not place the burden of relief entirely on the Neurofeedback. In addition to conventional medical approaches, candidates might also might consider NAET (Nambudripad Allergy Elimination Technique), which is based on acupuncture. (NAET website: <http://www.naet.com/>)

Sabotage

Sometimes families actually end up sabotaging the Neurofeedback work. This is most likely to happen in divorce situations, where both parents cannot agree on the merits of the work. But such disagreements are common. There is the subtle implication that there is something wrong with the child's brain. Better to blame the parenting shortcomings of the other party. Or the family pattern that has emerged is one of blaming the child. When the child then recovers, he or she is quickly withdrawn from training before further progress demolishes this construction.

In an infinite variety of ways, complex family dynamics can get in the way of what is obviously possible through Neurofeedback. In such cases, family therapy or other intervention must come first, or we are just setting ourselves up for failure.

When Neurofeedback is Not Enough

Quite often we are confronted with very difficult clinical challenges in which the issues go beyond mere dysregulation of cerebral function. We may also encounter tough cases where the dysregulation goes beyond what present Neurofeedback techniques can readily address.

It has served us well to cultivate the largest, most integrating perspective on the conditions that challenge us. Neurofeedback promotes an integrative perspective, but we need to take this even farther. We have found a number of modalities helpful in complementing what we do in the office and in home training with EEG training. The technologies below are listed roughly in the order of their importance to our clients.

Cortical Electrical Stimulation (Alpha-Stim)

The simple expedient of passing a very low current from one ear to the other may have a profound effect on agitation, anxiety, sleep onset difficulties, and chronic pain. The original technology goes back to a Russian invention, where it was known as Electro-Sleep. Here in the US we use the Alpha-Stim, by the company that pioneered the technology domestically. Clients try the method in the office, and if it is helpful, the unit is rented on a trial basis for a couple of weeks. If the device continues to be helpful, it is purchased by the client. (Alpha-Stim website: www.alpha-stim.com)

Irlen Syndrome

Children and adults often give indication of having difficulties with certain kinds of visual processing. Most often this surfaces as a kind of dyslexia in which the words may swim on the page, or the brain locks onto patterns of spacings rather than on the text itself. It may be difficult to track lines on the page. If we probe further, we might confirm all kinds of related issues: Stable, repeating graphical patterns may move or flicker on the page. Patterns on hotel carpets may be seen as irritating. There may be difficulty tolerating fluorescent lights. A child may have difficulty getting on escalators because everything seems to move.

A simple remedy was discovered more than twenty years ago by Helen Irlen. Simply limiting the spectrum of light that reaches the eye, the disturbances in visual processing can be sharply diminished. If this is not remedied, then the disturbances in the visual processing area ripple through cortex and limit our progress with Neurofeedback. Now it is also possible that successful Neurofeedback reduces the visual disturbance. But one would not want to count on that. It is best just to have the problem dealt with, which involves wearing glasses that have been coated to transmit the light that is best tolerated and reflect the rest.

If a reader has observed some of these problems in themselves, he or she may also have

observed that some colors of sunglasses seem much more pleasing than others. This is a demonstration of what we are talking about. A person wearing the right glasses will see an essentially immediate impact on their ability to benefit from EEG Neurofeedback. (www.Irlen.com)

Developmental Vision Training

Developmental vision training has to do with the brain, not with the eyes. For decades now, developmental vision training has been disparaged by ophthalmologists and other specialists on the eye who declare that “the eyes are fine” and send the patient home. That’s just not what it is about. Most of vision is the burden of the brain, not of the eyes. We can be profoundly helpful with the organization of vision using Neurofeedback. This might be particularly the case after stroke or minor traumatic brain injury, or in the case of developmental deficits. But it might also be very helpful indeed to come at the problem the other way with explicit visual challenges and exercises. By the same token, Neurofeedback can be very helpful with neuromuscular disorders, but the technique does not displace physical therapy.

The dilemma for clinicians is which technique to do first. Clinicians typically resolve that dilemma in their own favor. A child coming for vision training will be offered vision training. A child coming for Neurofeedback will get Neurofeedback. The dilemma therefore gets shoved down to the level of the paying client. So, what advice do we give the client? It is our inclination always to do the most general technique first, which in this case is Neurofeedback. And it is our further inclination to do the least effortful thing first, which is also Neurofeedback. Vision training is work. One needs to be rewarded for work by success. Neurofeedback sets the person up for success in vision training, and it does so relatively effortlessly.

The Listening Program

Auditory processing disorders have not yielded readily to the kind of EEG Neurofeedback we have been doing. Some additional help is needed here, and we have found it in The Listening Program. After starting out in the office with trials of various training options, the work continues on a home-training basis. It nicely complements the Neurofeedback and speeds the work. (Advanced Brain Technologies: http://www.advancedbrain.com/tlp_overview.asp)

Brain Builder

Brain Builder is a program for the building of cognitive skills that we are also finding to be helpful in complementing Neurofeedback. There are some secondary benefits as well, in that the program

gives the client tangible measures of progress. Now that progress may have come to a certain extent from the exercise of the program rather than from the Neurofeedback. We care about that as scientists, but this is of less concern to the client as long as progress is made. (Advanced Brain Technologies)

Enermed

Having discovered the benefit of challenging the brain toward better regulation through the EEG, is there a way to give the brain a continuous reminder, if necessary, on an ongoing basis? It turns out that there is. Tiny waves of magnetic fields repeated at the right EEG frequencies can serve to challenge the brain almost continuously toward reorganization. This is helpful in first instance with people who suffer from chronic degenerative conditions, such as M/S. In these cases Neurofeedback can be very helpful, but clearly we cannot be curative.

In other cases, such as migraines, the Enermed can serve an interim role to keep the brain well-behaved over the weeks to months that the EEG training is ongoing. And if the results of the training fall somewhat short of our goals, then the person can keep the Enermed device around for the long term. (www.Enermed.com)

ROSHI

The ROSHI is a device that very lightly stimulates the brain either through repetitive visual stimuli or through low-level electromagnetic waves that are modulated at EEG frequencies. Just as with the Enermed, the brain reacts to the subtle influences, with the result that over time the brain regulates itself better. By switching EEG frequencies constantly, the device is suitable for use with anyone. Each brain will encounter what it needs, and the rest is irrelevant.

The device is tried in the office to see whether the client finds it helpful. If so, then the unit can be employed either as an entrée into the Neurofeedback session, as an accompaniment to the Neurofeedback session, or as a home use training aid. (www.roshicorp.com)

Audio-Visual Stimulation

The development of the ROSHI came out of a long prior history with audio-visual stimulation. This technology is still very popular, and it has not stood still over the years. Recent developments provide for the use of swept rather than fixed stimulation frequencies. This makes the technology more broadly applicable. Historically, the dilemma has been that the ready affordability of this

technology led to casual use rather than intelligent use. Whereas many benefited, it was essentially a matter of luck. The technology can be far more useful when it is properly targeted to the individual, but that means the involvement of a knowledgeable clinician. (Mind-Alive: <http://www.mindalive.com/>, Photosonix: <http://www.photosonix.com/>)

Passive Infrared Thermal training

A new wrinkle on the standard temperature training that has been done in biofeedback for decades now is to use an infrared sensor to detect brain temperature. Training this measure up serves to activate the brain and bring it to a better state of regulation. The device can be used just before EEG training to prime the brain for the work, and it can also be readily employed in home use between sessions. This technology has been found to be extremely helpful with the autism spectrum, for example. (Jeff Carmen's website: <http://www.stopmymigraine.com/>)

Near-Infrared Sensing of Blood Oxygenation (Hemoencephalography)

Use of an infrared probe of the brain allows us to measure the degree to which the blood is oxygenated. Subjecting this measure to up-training is also clearly helpful in activating the region in which the measurement is being made. We can therefore somewhat selectively activate those brain regions that don't seem to be pulling their weight. Again, the technique appears to be particularly helpful with autism, as well as with cases of chemical injury of the brain. (www.biocompresearch.org)

Hyperbaric Oxygen Therapy

Making more oxygen available to the compromised brain can clearly be helpful in many cases. Applications to date have focused on traumatic brain injury, on chemical injury, and on the autism spectrum. The original work with high-pressure oxygen took place in hyperbaric chambers built for use with divers suffering from the bends. Applications were to wound-healing. Subsequently it was found that high pressure, requiring reinforced metal chambers, were not necessary for many applications. The technique has therefore become accessible to the individual practitioner without entailing safety concerns.

In all of the applications of lower-pressure hyperbaric exposure, we can also benefit the client by use of the passive infrared thermal training and the near infrared blood oxygenation training. It therefore remains to be seen whether we get to the same place, or whether there remains a distinct role for the hyperbaric chamber.

Biofeedback

In the glare of the fancy new EEG biofeedback the traditional biofeedback modalities have slipped out of the limelight over the years. This is a shame because they are also very effective in the right circumstances. If an anxious person comes in with cold hands, cold feet, and a cold stomach, simple temperature training is a ready remedy, and it is one that is easily doable at home where one is not paying for clinician time.

Similarly, tracking and training galvanic skin response is very helpful in cases of emotional dysregulation and instabilities in brain function. This can also readily be continued at home.

One of the worst diseconomies of our American health care system is that the third-party payers have increasingly forced biofeedback therapists off their reimbursement schedules. This is the grossest of blunders, since so many of our most intractable ills can yield so readily to low-tech solutions that are available to any budget. But this information does not propagate to the public unless there are clinicians involved. Absent reimbursement, it takes about one generation for the wisdom to disappear out of the culture, and that is what has been happening.

Heart Rate Variability Training

A healthy heart has a rhythm that is immediately responsive to a variety of influences. Under benign circumstances, the dominant influence is our breathing rhythm. The heartbeat is in a continuous dance with our breath, tracking the in- and out-breath with some slight delay. This relationship is particularly prominent in our youth, and fades to an extent with age. We can help our heart status considerably by training the heart to maintain its variability. This objective has recently become a lot more popular again with the availability of user-friendly commercial devices for personal use: The EmWave and Stress-Eraser. We use the Heart Math program at our office, and there are a number of others.

Heart Rate Variability training has beneficial consequences for self-regulation in general. It influences the balance of sympathetic and parasympathetic nervous system activity. It is usefully combined with training of the breath. See below.

Carbon Dioxide in the Breath

Sensing carbon dioxide in the out-breath turns out to be very revealing of the state of our

physiology. Anxious people in particular tend to get into trouble in this area. A state of agitation causes them to breathe more quickly. This prevents the carbon dioxide level from returning to its proper level with each outbreath. The brain then reacts to the dearth of CO₂ by constricting its blood vessels, thus reducing its functional efficiency. The brain may well then become even more anxious, in a kind of disregulation cascade. Other physiological effects ripple through the body.

Over the long term, the anxious person begins to experience this state as normal. Entirely inappropriate breathing habits are then reinforced. These problems tend not to get well by themselves. Anti-anxiety medications are also not the answer for this problem.

The answer is to retrain the habits of breathing. For the affected person, no single remedy can be as availing as the simple expedient of breath training. But sometimes the simple process is not simple. It is best aided by a measure of one's success, as given by a CO₂-monitor, known as a capnometer. It is not sufficient merely to breathe more slowly. One also has to avoid getting into the trap of breathing much more deeply, which also may have the consequence of hyper-ventilation, or hypocapnia, which is what the deficiency in blood CO₂-level is called. Finally, it is necessary to be mindful about doing abdominal breathing rather than chest breathing. This favors the transition toward parasympathetic dominance, where we need to spend a good part of our lives. (www.betterphysiology.com)

Interactive Metronome

This technology has emerged in recent years to help with ADHD and related ills. It trains brain organization through a rhythmic or timing challenge. In that regard, it is an analogy to Neurofeedback, and if we weren't doing Neurofeedback with everybody, we would probably be doing the Interactive Metronome with them. As it is, the Interactive Metronome is an adjunctive technique that can be used when more help is needed. It can also be used to monitor progress in Neurofeedback.

There is another aspect to the IM that has not been much talked about. By compelling a person to respond approximately once a second, the brain does not have a chance to take flight into other realms. The technique disciplines the brain into quietude. This is the challenge of meditation. With the IM, technology is brought in to help with what is otherwise a rather difficult and tedious learning of a mental skill. The busy brain is constrained by having to focus on a particular task, thus suppressing the tendency to move on to other preoccupations. We would not want to deprive

our brains of the capacity of flights of mental exploration. But it is important also to have the capacity to just focus on one task.

By bringing in a simple motor task and challenging the brain in the simple business of holding a rhythm, even young children can be aided in the maturation of brain self-regulation. (IM website)

Fast ForWord

This is yet another technique that can nicely complement Neurofeedback when reading difficulties are the issue. It is a highly demanding technique consuming many hours, so it would again be our inclination to put EEG Neurofeedback first before taking up Fast ForWord. As one practitioner said who offers both, not everyone who needs Neurofeedback also needs Fast FoWord, but everyone who needs Fast ForWord also needs Neurofeedback. (FastForWord website: <http://www.scilearn.com/>)

Emotional Freedom Technique (Thought Field Therapy)

A number of emerging techniques may strike people as bizarre. But that is only because the underlying mechanism is not understood. The Emotional Freedom Technique, an off-shoot of the original Thought Field Therapy, is a technique that involves tapping certain parts of the body in a repetitive routine in order to dissolve phobias, anxiety patterns, trauma formations, and associated pain syndromes.

The basis for this is quite straight-forward: Challenging emotional states involve the whole body-mind. Whereas the cognitive behavior therapist will use the skills that he or she knows in order to effect a reframing, one can also get at the problem from the other end, that of physiology. While one is focusing on the object of phobia, shame, inordinate fear, or anxiety, the resulting state of the body-mind is repeatedly disrupted by the tapping. Eventually it will be found that the sting of the emotion is simply gone. Matters can be viewed more calmly.

The technique is so powerful and rapid in its effect that it almost seems counter to nature that even profound suffering should have such a straight-forward remedy. And once the technique is learned from a clinician, it is available for the person to use as needed.

Other Neurofeedback alternatives

Our approach to Neurofeedback is simply a highly individualized version of the original technique

that launched the field many years ago. Individualization has both strengthened the training and broadened its clinical reach. It is in our estimation the most efficient technique for achieving overall self-regulation objectives.

Nevertheless, alternative Neurofeedback modalities have emerged that nicely complement our basic approach.

Low Energy Neurofeedback System (LENS)

The first to be mentioned is the LENS, which uses very low-level electromagnetic waves modulated at EEG frequencies to stimulate the brain at appropriate moments. This compels the brain to react, with the effect of moving the brain toward more functional states. The stimulation takes the form of a slightly dissonant “note” in the brain, and the brain cannot help but react any more than we can ignore a dissonant note in music.

The strength of this technique lies in the direction of restoration of function that has been lost, as in brain injury or other trauma, or a variety of other acquired dysfunctions. Disrupting the adverse brain behavior restores the brain to better functioning. We assume that it is somewhat less appropriate for training the brain into new patterns of functioning, which is a process requiring time and persistence. (www.Ochslabs.com)

Neurocognitive Approach

In this approach the EEG is measured while the brain is undergoing a variety of cognitive challenges. Deviations are noted from the way the brain is expected to react. These deviations are then focused on with targeted EEG training. This method is particularly appropriate and effective with cognitive deficits and specific learning disabilities. (See www.chp-neurotherapy.com)

Slow-Cortical-Potential Training (SCP)

This approach asks clients to alter their own baseline EEG momentarily on cue, either in a positive or a negative direction. This ability can be learned and then retained. It can also be thought of as a kind of brain exercise. Success in this task correlates with improved regulatory function, which has been demonstrated both with ADHD and with seizure disorder. This technique originated in Germany, where it has been used mostly to help “locked-in” patients (who are unable to move a single muscle) to communicate with the outside world. Once they have acquired the above skill, they can use their brainwaves to signal the outside world regarding choices that are presented to

them. The original researcher, Niels Birbaumer, was recognized with a major national research award for this work some years ago. (Nijmegen Conference: <http://eeginfo.com/newsletter/?p=290>)

NeuroCarePro

This technique has struck out into some new terrain in Neurofeedback. The brain is alerted whenever it makes unusually large state shifts that appear to be unprovoked. When the brain is relatively unchallenged, with nothing more to do than attend to the feedback, sudden large moves should not be occurring. When they do, we can reasonably conclude that they signal instances of brain misbehavior. Just alerting the brain to these occurrences is enough to mobilize the brain's reorganization of its own function in order to make such excursions less likely.

The principal virtue of this technique is that it requires essentially no clinical decision-making. The detection of EEG transients is really the burden of the software, and the clinician can attend to other aspects of the therapy.

This approach may take somewhat longer to reach the clinical goals than some of the more aggressive techniques such as the LENS. But the journey is also filled with less drama. This is usually a virtue, although a client may also see drama as an indication of progress. In the absence of drama, the client may not realize how much is actually going on. When change is continuous, it may become undetectable.

All therapists know of the problem that when symptoms subside they are quickly forgotten. With Neurofeedback, the person is never anything other than himself or herself. There are no side effects to call attention to the remedy. When things go as benignly and smoothly as with the NeuroCarePro, the technique may have difficulty getting some credit for what has been accomplished.

The strength of the technique lies - as with the LENS - in diminishing brain misbehavior, in the reduction or elimination of dysfunction. Now along with that may well come greater functional competences as well, because much of the consequence of brain-based dysfunction is to disrupt other function elsewhere. But along with LENS it does not have mechanisms for guiding the brain toward new competences. For these it is better to rely on our methods or on the Neurocognitive Method developed by Kirtley Thornton. Of course most clients come for Neurofeedback for what

troubles them, not for new-found competences that may be in store.

The distinction being made here is perhaps best illustrated with autism. In working with autism we are usually checking our progress against a checklist of behaviors that parents find most irritating in the child - the agitation, repetitive behaviors, sensory hypersensitivity, echolalia, etc. With respect to such adverse behaviors we have clear goals, which is to eliminate them. The real goals, of course, are to promote function where it is deficient: language, emotional connection, and the capacity for relationship. Here we have no obvious goal except to continue to improve function. The emergence of such functions is not merely a matter of a brief reset in brain function. It is a matter of learning new pathways in the brain. This requires persistence, and the relevant techniques must offer that possibility.

The full recovery of brain function therefore requires both “transient” and “steady-state” techniques. Although our own method encompasses both a steady-state and a transient brain challenge, it may ultimately take more than one approach to deal with all of the issues. (For additional information on NeuroCarePro, visit www.zengar.com)

QEEG-based Training

There are a number of different approaches to Neurofeedback that can all be lumped under this category in that they make particular use of information derived from the EEG to determine the specific reinforcement parameters. In contrast to the neurocognitive approach already listed, essentially all of these methods determine the persistent, or “stationary” properties of the EEG to guide the training. Any resulting training will be focused on whatever deficits in brain function reveal themselves in the EEG. Hence we have another technique here that is principally deficit-focused. (Bob Thatcher website—to be provided) (QEEG research on EEG Info: http://www.eeginfo.com/research/quantitative_main.html)

Alpha-Theta Training

This is actually part of our method, but we call it out separately here because the method is so distinctive with respect to everything else that has been listed. The objective of all the techniques so far cited is the remediation of brain-based dysfunction, or more grandly the normalization or enhancement of brain function. The objective of alpha-theta training is to open the door to a certain kind of experience. The training facilitates an inward journey, amounting ultimately to a profound encounter with the self. For many, this is really where healing lies. The symptoms we

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contend with are often signposts of a deeper wound to the self, and we cannot obtain lasting resolution until the person confronts. (Alpha-Theta CD on EEG Info:

<http://www.eeginfo.com/shop/>)