Win Wenger's
BRAIN BOOSTERS:
20 Minutes a Day to a More Powerful Intelligence
Workbook

Producer: Dave Kuenstle
Engineer: Jerry Kaehn

TABLE OF CONTENTS

Certain musical selections in sessions 2, 3, 6, 7, 10 and 11 composed by Dr. Win Wenger

Introduction

Welcome to Dr. Win Wenger's *BRAIN BOOSTERS: 20 Minutes a Day to a More Powerful Intelligence* program. This program and the accompanying workbook have been created to assist you in further developing your intelligence and creativity. When you practice and apply the methods that have been outlined for you in this program, you will find that your mind power vastly expands as the door to your creative genius opens to a world of extraordinarily inventive, "out-of-the-box" thinking.

It is important that you list any and all observations and discoveries in each of the exercises that Dr. Wenger provides for you. Do not confine yourself to use only the spaces provided for you in this workbook. It is imperative that you feel free to continue your lists beyond the defined spaces.

Embedded throughout the text of this workbook are articles written by Dr. Wenger. These articles have been included to further enhance your experience and knowledge base. The article locator number (website index number) is listed at the beginning of each article. If you wish to research further articles that have been based on Dr. Wenger's research, you can locate them on the web at www.winwenger.com.

To achieve the maximum benefits from this program and workbook, listen to each audio session at least twice, ideally three times, and then work on the corresponding chapter. Listening to the audio session several times allows it to sink into your subconscious mind as you make more and more discoveries each time that you listen. Be sure to always keep a paper and pen in hand as you are listening to the program, and be prepared to stop the program when you hear an idea or technique that particularly appeals to you. Think about that idea in connection with your situation, your work, your life-style, then prepare a plan to act upon it in the days ahead. Whenever possible give yourself a deadline, and be committed to following through on that deadline. Without implementing any of the action steps that you have mapped out for yourself, this program simply becomes an exercise in listening.

We invite you to engage members of your family, co-workers, neighbors, and friends to join you in exploring some of these experiences along with you. Especially in the Active Response Procedures (where you take mental "trips" and learn by observing what your perceptions show you, reporting aloud), it's even more effective and meaningful to report your perceptions to a live listener over the "voice on the tape." You can also give entire groups an experience equivalent to being in a live professionally-led workshop. You can seat people in pairs who would then follow the guided instructions that are being played on the recorded program. After the paired partners have gone through the experience describing aloud to each other their respective observations, you can organize a group de-briefing in which everyone can gain further awarenesses and insights through the sharing of its members' respective experiences.

Whether alone or partnered, in order to gain the full benefits that this valuable program has to offer you, make the decision here and now to work through this program, **act** upon your insights and strategies, and achieve the kind of results in your life that you've never thought possible.

Session 1: Observations on Anything and Everything

In this session Win Wenger, Ph.D. shares with you his insights on how you can use more of your intelligence and vastly improve your thinking skills. He describes the benefits that you will experience in your life as you expand the range of your intellect. It is clear that doing so has both creative and very practical implications in your life. Increasing your mental abilities will undoubtedly enhance your life and open you to a vast world of adventure, inventiveness, and intrigue.

Exercise 1: The Portable Memory Bank

The key to being more creative is to have a quick, convenient, easy way to respond to your own ideas and then to take initiative with them. This first exercise is a fundamental tool that is at the core of Dr. Wenger's work. He suggests that you carry around with you, EVERYWHERE, either a notepad and pen or a small pocket tape recorder with mike. For a while, EVERY time you catch yourself thinking, EVERY time you catch yourself having an idea good or bad, EVERY time you notice something in your perception or awareness, jot down in that notepad or record in that recorder your idea, perception, or awareness. He calls this tool a "Portable Memory Bank."

If you record even as few as fifty ideas per day for five days in a row, it will literally be like you've found yourself in an altogether different world. You will unveil an awareness and perception that enriches and enhances your life. Record even as few as thirty observations per day for as few as three straight days. Write down any specific perceptions on anything that comes to mind, both around you and within you, and you'll truly find yourself in a wonderful, richer universe.

Win suggests that you record your observations and ideas on anything and everything. He reminds you that you are never certain whether an idea is good or bad until you've got it out on the table. So he encourages you to record the whole insight or idea BEFORE you decide whether it's good or bad. Some ideas may seem silly, but you will find that many will be good. You may also find that some of the ideas that seemed to be the silliest, once you really look at them, will turn out to be terrific. Be sure not to edit yourself until AFTER you've fully expressed, recorded, and mulled through an observation or idea.

In the context of reinforcing ideas, perceptions, perceptiveness and creative behavior, Dr. Wenger suggests that you record any idea that comes to mind, unedited and unabridged. This one simple little practice can take you halfway to genius.

Exercise 2: Learning Sight-Reading and Perfect Pitch

This exercise develops the brain capacity in young children by assisting them in developing perfect pitch. It is a method for teaching two-year-olds to sight-read and play music.

Many findings now show music and the arts playing absolutely essential roles in even our most formal intellectual skills. A huge proportion of mathematicians and leading scientists are competent musicians in their private lives. Scan after scan shows that pursuit of the arts involves key parts of our brain, which hitherto were thought to deal only with intellectual functions. The left plenum temporales is only one example of that.

In truth, we actually need a great deal of music and art to develop our formal intellectual and mathematical intelligences. There is some controversy over Don Campbell's Mozart Effect — some question as to whether listening to the music of Wolfgang Amadeus Mozart does in fact temporarily improve intellectual functions. The *Suggestopedia Method*, originated by Bulgarian psychologist Dr. Georgi Lozanov, uses Baroque music to pace brain-states in portions of its classroom learning procedure. It proposes that the students' exposure to this music is indeed part of the reason that good results are usually attained with Suggestopedic classes. Children who have been raised on music or art on average have much higher intelligence than their counterparts without it. With all the modern findings using brain scans to show intellectual and musical functions inseparable in the brain, it is clear that pursuit of the arts provides a clear and direct path to improving your various intellectual and mental functions.

Below you will find a more in-depth description of this powerful process taken from Winsights Index Part #39 on the www.winwenger.com website:

Part #39

Another Brain-Boost through Music
by Win Wenger, Ph.D.

Does it strengthen your intellect to hear better the pitch and tone of musical notes? If so, what can you do about it? And what does it mean for our schools?

> At Dusseldorf, Germany, in 1994, Gottfried Schlaug, Lutz Jancke, Yanxiong Huang, and Helmuth Steinmetz established that the main part of our brain for understanding nuances of word-meaning, the left plenum temporales, in people with perfect musical pitch is *double* the physical size of the same organ in people without perfect musical pitch!
> **— (*Science*, Feb. 3, 1995, vol. 267, 699-701.)**

That is a *huge* difference. Even a 10% difference in size, in any component of your brain, would have been highly significant. But *double*?

There is no requirement that people with perfect musical pitch *be* great intellectuals. But it is clear that people with perfect pitch are intellectually more capable. They can much more readily grasp what is really being said!

Perfect pitch is a step beyond relative musical pitch, where we can recognize which note is being played, such as C sharp. Perfect pitch is where, without anything recent to compare and relate to, we can predict and sound, by voice or by tuning string, that C sharp or other note. Very few people have perfect pitch.

Perfect pitch can be learned, and perhaps not only by children. Below is a descriptive article taken from Winsights Index Part #14 on the www.winwenger.com website:

Part #14 (July 1997)

A Fun Way to Teach Your 2-Year-Old to Sight-Read and Play Music — And Expand the Core of His Intellectual Capacity!

The bulk of the following article was written in October, 1989 and published in *SALT* in 1990, but the crucial event concerning it may be said to have occurred in early February, 1995.

I have never met *Washington Post* reporter Susan Okie, but I am eternally grateful to her. Without her "Science Notebook" for 2/6/95 having crossed my desk, I would have missed entirely:

1. The publication in *Science* February 3, 1995, of Gottfried Schlaug, Lutz Jancke, Yanxiong Huang, and Helmuth Steinmetz: "In Vivo Evidence of Structural Brain Asymmetry in Musicians."

2. It's one thing to know that perfect pitch is trainable because of your own personal experience and because of the by-product of the method described below. It's another to see the formal study cited which demonstrates that fact and tells one that he is not alone on some of the important issues. This had to be buried among the footnotes where editors and peers at *Science* wouldn't catch it, because *Science* wouldn't be caught dead publishing the out-of-paradigm fact that human intelligence can be profoundly improved, regardless of whatever evidence. In the Schlaug paper, the key footnote is #20, citing D. Sergeant (1969), A. Bacham (1975), C./L. Krumhansi (1991), and others in a series of studies demonstrating the trainability of what has always been assumed to be a "born" trait, like intelligence itself has for so long been so considered to be.

3. The whole body of important work going forward at Dusseldorf University by Schlaug and his colleagues.

As you will see below, we had taken an interest in musical development during early childhood because our theory of building up cross links in the brain ("Pole-Bridging") told us that children who sight-read and played music, as distinct from only playing music at an early age a la Suzuki Method, would enjoy great intellectual advantage over their counterparts.

I knew of the many powerful advantages conveyed when children learn to read the printed word at an early, pre-school age. The methods which achieved that at age two years, one year, often six months of age, had to be pleasant games — you couldn't "push" a child two years or younger into reading. So, figuring that the younger the child, the greater the developmental boost to the brain also for learning to sight-read and play music, I wondered out loud to Susan, my brilliant and creative wife, what kind of game method might be invented to achieve that combination of skills for children one and two years old. She told me! The method published below is her invention.

But the best was yet to come.

1. The incidental by-product of her method, published in 1989-90, is that the children so taught develop not only relative but perfect musical pitch.

2. The Dusseldorf Study, published by Schlaug in *Science* Feb. 3, 1995, demonstrates that people who have perfect musical pitch also have a *left plenum temporales*, which is physically double the size of that crucial organ in the brains of ordinary people!!! Part of our word-processing left temporal lobe, the *left plenum temporales* is the part of your brain which handles nuances of word-meanings, and so is the very core of your intellect!

This core organ of intellect is not only physically larger in people who enjoy perfect pitch — it is so much larger that it is physically double in volume that of people who don't have perfect pitch. That is a huge, profound physical difference, utterly astonishing to see in terms of the physical brain, and has to convey enormous intellectual advantage!

We had not sought to create perfect pitch. Until Schlaug's study I had considered perfect pitch a mixed blessing at best. I am cursed with it, in that ensemble groups and choral groups I've been part of seem to love to transpose for the convenience of one member or another the music into different keys. Hence, I had to transpose back in my mind as we went. No problem for those without such pitch; probably no problem for the many whose musical skills vastly exceed mine — but a major bother for me. However, I've also felt that somehow my musical perfect pitch was a key part of my quick ability to understand what other people are saying or leading up to.

Summary/Significance

- People with perfect pitch have a profoundly superior *left plenum temporales* and intellect.
- Following is much of the text of the article describing a simple method to create, among other things, perfect pitch in young children from an early age.
- Do this for your child, grandchild, niece/nephew, or the kid next door and you create for him or her a tremendous, wonderful intellectual advantage and basis of life understanding.

Training Music Sight-Reading and Perfect Pitch in Young Children, As a Way to Enhance Their Intelligence

Win Wenger, Ph.D. and
Susan Honey Wenger, M.A.

Abstract: The following paper suggests an experimental program for easily training children, ages one to five years, to sight-read and play music and to gain relative or perfect pitch. By integrating phase relationships between widely separate, key regions of the brain, the writers propose an easy, game-like procedure that will significantly increase the lifetime intelligence of children.

As simply as this:

1. Face the young child away from the piano or other keyboard instrument, as part of a game.

2. Sound a single note on the piano, while saying (or singing) the name of the note — "A," "B," or whatever. (Flats and sharps can be introduced a little later in this training, other than being named when hit during the child's "miss.")

3. The game is to have the young child turn to the keyboard and try to hit the same note on the keyboard — on first try if possible. When s/he strikes a single note, say or sing the name of the note s/he struck — but the correct "hits" then get reinforced with laughter, applause, hair-tousle, hug, or whatever is reinforcing for that child in that context in a light-hearted kind of way. The "misses" are part of the game but are less reinforced — too absolute a non-reinforcement would be another kind of reinforcement and make the game less light-hearted.

4. At the start of each round, set a 3" or 5" or larger card vertically on the music rack above the keyboard, just a short segment of base and treble clef bars upon which rides, prominently, the note you're about to hit.

Don't point out the card. Just change the card each time to the next note you're about to hit. It may be immediately, or it may be several hours (spaced, of course, over several weeks at two to five minutes of this game each day or so), before the child catches on that the card has something to do with the note you are hitting. Only when s/he asks about it do you minimally explain that where the note is on the card, shows where the note is on the keyboard. Now the child has both eye and ear to help guide him or her on the keyboard.

After the child has the first game well in hand (including, eventually, those sharps and flats), you can do the same thing with sequences of two and three notes. Once that skill is well in hand, simple tunes will make sense to the child and be well within his/her competence to likewise pick out and play. Likewise combinations of notes, chords. Likewise the game of which other note most sounds like this one, as developing the sense of octaves.

From there, the child will be well equipped to take full advantage of conventional music training if desired, or of Suzuki training, now widely available and which is excellent for

developing playing skills and attitudes. If you use Suzuki, though, continue to reinforce the sight-reading on the side or at home, since Suzuki training does not teach sight-reading until much later and it'd be a pity to waste the reading skills already developed. Even without such follow-up musical training, though, a major boost to the child's intelligence will have been accomplished by the above game.

Children too young (or developmentally too young) to as yet be able to pick out a single key on a conventional keyboard may be able to do so with full benefits by being started on a special keyboard whose individual keys are broader, so long as its pitch is true.

(The above technique was created by Susan Wenger during October, 1989.)

Purpose of This Technique

The purpose of this technique and game is not that of training the child to become a musician. That may indeed often develop, and a musical perception and background make for a far richer and more rewarding lifetime experience. The purpose of training perfect pitch and music sight-reading skills, in children between ages one and five years old, is to substantially improve their intellectual intelligence for a lifetime.

We predict that normal children ages one to five years will, within several years, average no less than 10 to 30 points I.Q. higher, similar to though not quite so strong as the gains made from another brain-building procedure, Image Streaming, as discussed below. In very young children who Image Stream, sharp gains are observed immediately. In older children and in adults, and in most developmentally young people of any chronological age, such gains are also substantial but gradual, though these gains continue developing for some time beyond the interval during which Image Streaming was practiced. Since the structure of brain process in Image Streaming is so similar in principle to that of the sight-reading and playing of music, we can expect the patterns of gain to likely be similar.

Even in adults and college students, the eventual gains from Image Streaming, per eighty minutes of practice, accumulate at the rate of a full point I.Q., so we expect substantial gains with some form of this sight-reading training procedure even with older children. However, the greatest and most immediate gains may be expected with children who are so young that most of their habits and short-cuts for perceiving and thinking have not yet been formed and who, for that reason, can obtain the most benefit from a given amount of such training.

Why should training to sight-read bring any benefit in terms of intellectual skills or intelligence? Can an early experience in music relate somehow to later academic abilities?

Why are people who learn, early in childhood, to sight-read and play music usually several standard deviations above average in intelligence? It's long been assumed that they had an inborn natural "gift" — most of which, of course, is never developed. Early economic and cultural disadvantage can be a preventing factor, though ours is an information-pervasive environment. There definitely do appear to be some instances of special "gift." Recent discoveries, however, point toward early musical development itself being a main cause of this subsequent higher intelligence, not merely a co-byproduct of social privilege or the magic wand of a "genius gene."

Discovery of Brain-Integrative Factors

The phenomenon of Image Streaming (defined below) was discovered early in 1975. From that time on, we observed that the practice of Image Streaming enriches the intelligence of its practitioners. In 1984, we developed a simple hypothesis to account for this increase in intelligence (as set forth below). In spring of 1989, with the results of the Reinert Studies, which formally measured some of the effects of Image Streaming on physics students at Southwest State University, this hypothesis, called "Pole-Bridging," became a supported theory.

Definitions

Image Streaming is the practice of letting oneself become aware of the spontaneous free-flow, free-association, visual mental imagery which is going on all the time as a reflection of unconscious perceptions, thoughts, and understandings. Part of this practice also is the describing of these images aloud while examining them. To be effective, this describing must be out loud, to an external focus — a person as a listener, or to a tape recorder as potential listener.

This is quite different from the directed imagery, which is familiar to many people and programs. Image Streaming, being undirected, when brought conscious constantly surprises the viewer with unexpected images and associations. This imagery appears to arise in other, subtler-signalling regions of the brain. This different location is significant in giving rise to higher intelligence, according to the theory of Pole-Bridging.

This constantly ongoing stream of images is usually unconscious, but virtually every person can readily self-train or be trained to bring this resource stream conscious. That general ease of training, in turn. makes Image Streaming an excellent candidate for any program, which seeks to improve the intelligence of large numbers of people. Within the limits of the aforementioned study, students who practiced Image Streaming as an enrichment outside of class gained in general intelligence at a rate of a full point's I.Q. per 80 minutes of practice, 20 points for 25 hours of practice, among other benefits.

Pole-Bridging — Combines in expressive form the activities and/or perceptions that are characteristic of widely separate regions of the brain. Exercising these perceptions or activities closely together creates an immediacy of experience feedbacks that forces those widely separate regions of the brain to work closely together.

In Image Streaming, the left temporal and parietal lobes (expressive and articulative, and specific associative) work closely with the right temporal lobe (making general sense), along with additional regions of the brain (including apparently the right optic chiasm at the rear of the brain.)

In the above method for developing both sight-reading and music playing skills and relative or perfect pitch, much of the motor cortex is involved with the left temporal (reading recognition), the right temporal (music and aesthetic response), and with wide-ranging auditory regions of the brain. In addition, one of the writers, who enjoys perfect pitch, speculates that this automatic ready-made auditory orientation becomes a great help to all the areas of the brain, which make sense out of or otherwise sort out sounds. This hypothesis concerning effects of perfect pitch might eventually be tested by bio-instrumented comparison of the brain behaviors of persons with and without perfect pitch, in response to diverse auditory stimuli.)

Obviously, causing widely separate regions of the brain to work closely together, by building up communication between those regions, will cause the resources of each such region to become more available to the operations proceeding in the other regions. This is a factor in the improved intelligence observed to follow such Pole-Bridging activities. A still more significant issue in Pole-Bridging, though, is the factor of Phase Relationships.

Phase Relationships concern the length of time between when one part of the brain receives a stimulus and when other parts of the brain become involved in the processing of that stimulus.

Significance of Phase Relationships (in Pole-Bridging Theory)

All of the brain sooner or later lights up on any major stimulus. Though the length of time before this happens is the critical issue. Ertl, Herrmann, and others have consistently found for decades, that closely integrated phase relationships between left and right hemispheres, at least, are associated with higher intelligence; wide lags with lower levels of intelligence. Win Wenger himself found this same relationship, left-right, in studies he performed on his own students during 1969-70 and again in 1970 in testing eight pre-identified geniuses.

If there is too great a delay between the time when some initial part(s) of the brain get(s) that stimulus and the rest of the brain thence receives that stimulus, then the first part completes its operations and writes close-out instructions into that stimulus as it is passed along into the rest of the brain. (In effect, the first part says, "That's the way it was done, folks!" and the rest of the brain, saying "Yeah," shuts down.)

If the phase relationship is closer, however, other parts of the brain are reverberating with the first on that stimulus before the first has completed its processing. What results then is a much more involved set of instructions getting written into that stimulus as it is passed along into the rest of the brain. (In effect: "Here's what we've come up with so far, folks, but there's this to be checked out, that to be investigated, with such and such still to be found out!")

A brain so instructed does many more things, and much more involved things, with that stimulus. Consequently:

> A person with well-integrated, tight phase relationships (not only left-right but, apparently, in all directions within the brain) will characteristically sense more relationships and perceive more and richer meanings with that stimulus and generally, in other words, be considerably more intelligent.

The Reinert Study (1989, 1990 *op.cit.*) supported this theory of phase relationships and Pole-Bridging, in 3 ways:

1. The overt, overall gain in intelligence of Image Streamers at a rate of a full point I.Q. per 80 minutes of easy home practice — a considerably greater rate of gain in intelligence than by other means thus far studied.

2. In perceptual and learning styles, the students who Image Streaming zipped strongly and immediately into integrated balance of brain functions, as measured on the Kolb. Students who enriched with a different method moved sharply further toward extreme imbalance, as most college physics students do during their course of study.

3. The combination of viewing these inner images and describing them aloud was crucial to the outcome. Those students in the Reinert Study (1989) who did everything else in the procedure

but did not describe aloud those images to a listener or to a tape recorder, not only did not gain as much as those who did so, but they showed no gain whatever during the interval of the experiment. It is the combination of these regions of the brain that is significant in increasing intelligence, and in the other benefits associated with Image Streaming or other forms of Pole-Bridging.

Relationship to the Proposed Early Training of Music Skills in Young Children

As an excellent further test of the Pole-Bridging theory, we suggest a longitudinal study of intellect and intelligence in young children taught as described at the start of this paper, compared with closely matched children not so taught. Such musical Pole-Bridging integrates brain behaviors and brain regions, which are very different from those of Image Streaming. If the behaviors so integrated are different and intelligence still increases substantially, then the common factor causing the increase will be the integration of diverse brain functions — the dynamic principle, (not just the particular brain behaviors which happened to be combined in the one lucky technique of Image Streaming.)

The prediction is that young children who learn these music skills by such a method will enjoy more than 10 points I.Q. advantage over children who are not so trained. To be frank, this average advantage in intelligence could well be upwards of 30 points I.Q. — with all that this can mean in terms of a lifetime of enriched experience and in terms of potential contribution to our society and culture.

If this prediction is confirmed in the context of music training, that should cause a significant increase in public support for the arts and for arts education. As already shown at the start of the (music sight-reading article segment of this) paper, this particular procedure is certainly simple and easy enough to make testing this proposed experiment feasible for any reasonably competent musician, music teacher, or music education program that can also arrange access to the appropriate child-level I.Q. tests. Even ordinary parents, siblings, or tutors who at least know musical notation should be able to conduct this program successfully.

Such further confirmation, from another context, of the Pole-Bridging theory, should encourage further investigation and development of this theory. Given the great number of diverse brain functions, and of the identified regions of the brain where some of these functions are localized, it should soon be feasible to create 10,000 different specific Pole-Bridging techniques, each effective in increasing intelligence, or as therapies and/or remediations.

[We abridge the foregoing article at this point, to better pursue the goals of this present paper. Please note that although the contents of the foregoing were touched up for editorial purposes of readability, their meaning was unchanged and, in particular, the predictions made then were not in any way "touched up," but appear as they were published in 1990.]

The gist: Image Streaming and this easy game form of teaching young children sight-reading both express activities of widely separate regions of the brain. When those activities are expressed together in such forms, immediate feedback induces these widely separate regions of the brain to work more closely together, with improved phase relationships. This results in cumulatively higher intelligence.

This apart from, and in addition to, the intelligence gains to be obtained from training perfect pitch, an accidental by-product of the Susan Wenger method of training sight-reading, which expand the size and powers of the word-meanings-involved left plenum temporales.

Conclusion

When the hard physical evidence of cat-scans et al demonstrates that incredible doubling in physical size of the brain's main organ for intellectual understanding, how can anyone of conscience go on letting our present schools and home practices lay such terrible waste to our own children's minds?

***

Some studies suggest that the skill is acquired easily before age 7 but rarely after the age of 11 years (D. Sargeant, *Journal of Res. Music Education* 17, 135, 1969), while at least one on-line program offers perfect pitch training to adults. Yet most professional musicians dismiss out of hand any possibility whatever that perfect pitch can be anything but an inborn, unacquirable trait. Certainly some cases of perfect musical pitch do seem almost inborn and unacquired, but others clearly are not.

What remains to be determined — besides development of programs much easier and more consistently productive for more people to learn perfect pitch — is whether learning perfect pitch as an adult will also result in expansion of the size and competence of that core of our intellect, the left plenum temporales.

Meanwhile, there are our own children, and the clock ticks on. Schlaug's findings are but one more chapter in a long series of findings and observations showing an integral link between experience in the arts and intellectual capabilities. So far as the perfect-pitch connection is concerned, on behalf of your own children, grandchildren, nieces and nephews and your own younger siblings of age three years and younger, the apparent means to teach that have been outlined for you.

For Older Children

Certainly it has been known for a long time that there was some sort of link between "left brain" intellect and "right brain" arts. All the physicists and mathematicians who are also musicians will tell you that. Children of otherwise similar backgrounds, who are involved in the arts, enjoy a 10- to 20-point I.Q. advantage over their non-musical, non-artistic fellows.

As our understanding of the human brain improves, we've begun to appreciate that most key intellectual functions (left brain) require major involvements from the "artsy" right side, and truly effective functioning in the arts requires strong left-brain involvement. Schlaug's findings were only the latest in a long series of findings pointing in this direction.

And in strictly practical terms, there are all those studies finding that having the arts in schools more than pays for itself, even in the strictly limited regard that once kids can express themselves in the arts, vandalism and its costs virtually disappear.

Yet in the 1980s, in the name of economy, the arts all but disappeared from public education and still have not fully recovered. Indeed, as of the time this Course was published in 2003, the arts in public education have suffered far greater and more drastic setbacks than ever before. This is one more of many reasons why so many now find it so hopeless a struggle to learn even a portion of what, in Macaulay's time, "every schoolboy knows."

You may well wish to privately enrich the arts side of your children's lives in any case. If your school district does not provide a meaningful art and music education, chances are it also doesn't understand other crucial matters enough to give your child a good education generally. You would do well in that instance to look for alternatives.

Exercise 3: Nature versus Nurture

Answer the following questions:

Why do you wish to improve your intelligence?

What will you use this higher intelligence for?

What are your goals?

Dr. Wenger suggests that you play the next session of this course soon, preferably within the next 24 hours. Ideally you should listen to at least one session per day until you have available to you all the intelligence-building practices which this course offers. He then suggests that you practice each of the exercises provided twenty minutes each day, to complete the day's session.

Before you go any further, be sure to obtain a notepad and pen, and/or a pocket tape recorder, to serve as your Portable Memory Bank. Make today your very first day of the three to five days in which, each day, you record fifty ideas or thirty observations. He assures that you will be delighted with the results as you record a minimum of 30 ideas for 30 days, or 50 or more ideas per day for five days. Once you assimilate this practice into your daily regimen, you will find that it is an invaluable tool that you will want to continue.

Session 2: Using Freenoting to Increase Your Intelligence

Dr. Wenger suggests more intricate ways to use your Portable Memory Bank as he opens this session. He then introduces you to another intelligence-building process known as Freenoting.

He takes you through three different versions of this technique, along with related practical exercises, all of which can assist you in accessing information that you may not have been aware that you even had.

Exercise 4: Noticing Subtleties

Dr. Wenger suggests that you take an additional step with your Portable Memory Bank by focusing on your detailed observations on things other people are not too likely to have noticed. Most of your description should be of physical details, as you improve your physical senses as part of increasing your intelligence. Some of your description can be on relationships between things and/or situations, especially subtle relationships. By doing this you reinforce and develop within you the ability to notice subtler relationships, subtler issues than most people notice. The importance of anything is through its relationships. If there is a change in it, its significance lies in the changes that will occur to other things that relate to it.

He also suggests that you make your observations full of sensory detail — texture, color, shape, warmth, sound, smell, even taste. Connecting up with your senses is very vital to your abilities. The more sensory detail you can describe about such specific things and situations as you are observing, the more aspects you will begin to reflexively notice about things generally.

For example, the wall in front of you:

What is its color?

Is it evenly lit, or are there shadows? What can you describe about those shadows?

Can you “paint word-pictures” of this wall as to what it looks like?

What does it feel like to your touch?

How do sounds in your room change when you are up against that wall?

What does that wall smell like?

What is the relation of that wall to the rest of the room?

How would your life (or your work) be different if that wall were placed differently?

By making many detailed observations about a lot of different things, you are entering into a wealth of perception and appreciation, a richness of awareness, and a grasping of many possibilities even in situations where others see only one or none. That richness will become reflexive, and automatic. You will find that it will add ongoing and instantaneous new dimension to your world, endlessly and forever rewarding.

As you come to see many more aspects of every situation, many more possibilities in any situation, you will have developed a major important part of your intelligence.

A Question About Intelligence

The biological definition of intelligence is the range or variety and number of factors one can take into account in pursuit of his wants and needs. What do YOU see as the main relationship, or main relationships, between this biological definition of intelligence and the ongoing practice of making descriptive observations (which is what Dr. Wenger is asking you to do)?

Exercise 5: Categorizing Your Observations

Dr. Wenger strongly suggests that you enter your recorded observations into your computer each week, perhaps every three days at first so they don't pile up on you. After the first couple dozen observations or ideas, you will have a sense of how these are grouping for you, what the categories are. From there you can much more readily sort and categorize your observations and let search code help you find your way for the day when you have thousands of observations in each category, so that you can easily find your way to what will increasingly be a very considerable treasure.

It's the act of recording your ideas and observations that is important. Getting the information back later and doing something useful with it is icing on the cake. But that's a very nice and potentially very practical icing.

Make a list in your notebook of anything that you note from doing this exercise of categorizing and listing your observations on your computer.

Posting a Reward

Win encourages you to carry your Portable Memory Bank with you at all times. You don't want to miss having it with you for ready use and have some especially hot idea or observation die on you and be forgotten. How can you make sure that you don't forget to take your Portable Memory Bank with you? Post a reward among your friends and/or co-workers: anytime one of them catches you without your Portable Memory Bank, she/he gets five dollars. You won't forget it often.

Make a list of the individuals who have caught you in forgetting your Portable Memory Bank, and post it as a reminder in a place that is clearly visible to you.

Exercise 6: Providing a Detailed Description

Using the Portable Memory Bank remains one of the very best things you can do for yourself. It is one of the most effective ways that you can improve your intelligence. Here is another exercise in which you can create similar effects:

1. Think for a moment of why you want to increase your intelligence and level of abilities. *You may wish to list them in your notebook for future reference.*

2. Now let your eyes wander around the space you are in, until one particular area or one particular object catches your eye. Do this for about 20 seconds, and then let your eye land on one particular area or object.

3. Please identify and describe that particular object or area that your eye has alighted upon. List every sensory detail you can about it in your notebook. Take your time and note every sensory detail in your description.

4. What you've described, if you've gone into enough detail, very likely has some bearing, even some further bearing, upon your reasons why you want to increase your intelligence, and is likely why your eyes lighted there rather than on some other particular place or object. In any case, describe, as best you can, what those reasons are and what you want to use your higher intelligence for.

Exercise 7: Freenoting

Another tool that Win has created is known as Freenoting. In order to fight boredom at a conference he was attending, he found himself free flow writing out any information that would come to mind on the topic that the speaker was addressing. He soon discovered that not long after he wrote something down, the speaker would then relay that same information. It was as if he were a step ahead of the speaker. He surprised himself in doing this, realizing that he knew more about the topic than he thought he did. He describes this process as follows:

If you write fast enough furiously enough freely enough in loose relation to whatever topic, you will pull into conscious focus a wealth of information and understandings that you didn't know you had. If you do much of this Freenoting, you will develop better and better contact with the resources that you have beyond your conscious mind, and become increasingly able to draw upon those resources as part of your everyday intelligence.

You Can Use Freenoting…

- As an open-ended exploration of some topic, which can help you find your knowledge base. This can often lead to unexpected discoveries.
- To find great answers to specific problems or questions.
- To review what you've learned from a lesson, a lecture, a book, a course.
- To develop your understanding about a specific topic that has been difficult for you to grasp.
- To discover what you already know and understand about a subject or topic you think you've never encountered before or know anything about. What remains to be learned about that subject or topic, by whatever method, integrates quickly and easily around that already-known core.

All the while you are using Freenoting in any of its versions, you are building connections within your own mind, within your own brain, so that the resources and intelligence of one part of your brain are more readily available to the ongoing operations of other parts of your brain, thus increasing your available intelligence.

There are three different versions of Freenoting:

VERSION 1:

Below is a descriptive article taken from T & L Techniques on the www.winwenger.com website:

Freenoting
Brief on a Special Technique That Image Streaming's Inventor Believes to Be Its Equal
by Win Wenger, Ph.D.

Freenoting provides a way to get far more out of any text you read and any lecture you attend, and it is a major technique for solving problems.

This writer gets pulled into a lot of conferences and symposia. Because of curiosity, he often sits in on sessions on topics he knows nothing about — and knowing nothing about the presenter. As a result, the sessions he exposes himself to are of mixed quality.

In several of those sessions where the presenter and presentation left something to be desired, yours truly tuned out the presenter and in whimsy turned to writing "his own presentation" in the topic he "knew nothing about." Two results were most surprising:

1. The faster I wrote and the less thinking about what I wrote *while* I was writing it, the better emerged a nice little dissertation on the topic I had thought I knew nothing about.

2. After a few minutes of doing this, I would notice the presenter *now* saying something that I had just written down a minute earlier! As I continued, time and time again I would notice the presenter now saying things that I had previously written!

With a little checking, I learned that nearly everything I had written, after the first couple of pages, was accurate — including much about the topic or subject which the presenter never got around to saying, but maybe should have! By Freenoting, I had gotten far, far more from that presentation session than the presenter had presented!

Why It Works

This phenomenon turned out not to be "psychic," however. Here is how I found that out. When I experimentally attended sessions presented in a language foreign to me, I'd still render a pretty decent dissertation on the previously "unknown" topic, but of nowhere near the quality as when in a session taught in English. The explanation, indeed, turned out to be pretty simple and confirmed what we had already found to be the case also in other contexts: By ignoring the presenter, I had routed such information as he had to offer straight to the part of the unconscious that reflexively sorts out ALL our data, past and current, conscious and unconscious. By this rapid torrential profusion of writing, the insights, formed from this process and pulled into the focus of consciousness through this writing stream, reflected this sort-out and data-association. It also reflected, among these, the pattern predicting where it was the presenter was going with his lecture.

Most important, no matter how unknown a topic or subject was to me consciously, enough data and cues were floating around unconsciously to become embodied, through that sorter and through that writing, into a respectable and reasonably accurate short book or long paper. Even in the worst presentations, the presenter usually was presenting enough fresh data to enrich this outcome, accounting for why I was getting such better results in English-language sessions than in those conducted in a foreign language.

This worked even though I was ignoring that presenter so hard that whatever he presented was skipping my conscious mind altogether, enroute to that reflexive insight-sorter.

Characteristics of Good Freenoting
With a little modest experimentation, the best Freenoting turns out to have these characteristics:

1. Its "rules" are similar to those of brain-storming. Get that censorious editor out of your way, either by "suspending judgment" or simply by running faster than judgment can plod along with to keep up.

2. Write faster than you can think about what you should be saying and about whether you should say THAT!

3. Without pause or hesitation.

4. If it occurs to you in the context, go ahead and write it.

5. Be willing to say the wrong and the ridiculous — that helps free you to say those items that make the real breakthroughs.

6. The first entries are usually stock stuff or throwaways; your best entries are toward the last ones for the episode.

7. The faster and harder and more continuously, and for longer that you drive the Freenoting process, the better are your results.

8. The first few pages can usually be thrown away. Be willing to write a lot that you can throw away because that brings you to those pages filled with true gems you definitely will NOT be throwing away!!!

Applied to learning, Freenoting is a powerful way to bring conscious the core of what you already know about *every* conceivable topic or subject. Once you've made that core conscious, the rest of what needs to be learned in that context wraps itself conveniently, easily, quickly, and in some depth of insight around that already-known core.

Freenoting can be done the usual way (hand-written on paper), or onto keyboard as in typewriter or computer, or into a tape recorder, though ease of retrieval becomes an issue there. Although a live human listener is by far the most preferred way to do most of our other Project Renaissance procedures, a live listener is not recommended for use in Freenoting, simply because the torrential monologue becomes a bit much for most listeners! Anyone who knows Gregg's Shorthand would be at an extreme advantage here because the speed of uninterrupted, torrential writing is so key to excellence of results.

If you decide to try out Freenoting in some class or at some lecture, take along a tape recorder the first time or so to allay your concern over "missing something." The lecturer will be flattered because s/he will think you are paying close attention to what s/he is saying. In a way, you are.

Best Times to Freenote

- At least once per day or so, on whatever occasion or topic
- Once or several times *during* any substantial reading assignment, and at its conclusion
- From time to time when reading any informative book or formal paper
- As a major way to solve problems, especially unclear or confusing or muddled or ill-defined problems. Start Freenoting for a while somewhere in the problem context.

Freenoting sessions should last 10 to 12 minutes, and longer if the content seems to be getting hot. Intensity and speed are even more important than duration for getting to some most remarkable results, but that duration also makes a great difference.

> This procedure is excerpted from one of the many major methods to be found in the book *Beyond Teaching and Learning*, which is reviewed and available in the Books section.

VERSION 2:

This version is a problem-solving method called "Windtunnel." Below is a descriptive article taken from Winsights Index Part #55 on the www.winwenger.com website:

Part #55 (November 2001)

Windtunnel!!!
A New Creative Problem-solving Procedure
by Win Wenger, Ph.D.

The following is a draft of a procedure for solving problems. It was invented in July 2001 and has since passed a number of tests with flying colors. Already, more than a dozen different versions of Windtunnel exist, including the one written up in the June 2002 issue of *Entrepreneur Magazine*. The teaching-method counterpart of Windtunnel, "Final Exam" has also tested out superlatively well.

Most of these techniques can be performed, if need be, by an individual working alone with a tape recorder, though working with live partners is far better. With a live or prospective audience, you don't slop as many short-cuts in perception and thought, you describe your awarenesses differently, and you hear yourself differently, and that makes a huge difference in developing your own perceptions.

For this particular technique — Windtunnel — your need for a live listener or listeners is even more vital. You really do need to have at least a small group, multiple pairs, to work this with, or the stimulus level will fall short of what is needed for events to really take off. You are welcome, indeed strongly invited, to try this one out with some friends. Here is why Windtunnel has a major advantage over other Creative Problem-Solving (CPS) techniques: We all grew up on the model of conventional levels of discussion where people sit back and throw old opinions at each other fruitlessly. We still tend to fall back into that, and when groups do that, they usually fail to make any real progress toward discovering a solution. Witness the talk shows that continue to model the old, ineffectual discussion process. Even the most wonderful listserve groups forget themselves and falls back into conventional discussion, stalling short of effective resolution on some issues.

In contrast, one of the strengths of Windtunnel is that it blows quickly THROUGH that familiar phase and tendency and forces everyone through to the point where they are already digging for fresh insights. That usually brings the ingenious solution or resolution apparent. The rest of the time it can set up beautifully the further hunt-for-solution through whichever other CPS technique is then engaged, a brilliant combination of effects. Windtunnel turns our predisposition for conventional discussion and I'm-right-manship from a weakness into a strength. I hope you get friends together and have fun with this one very soon.

Here are the draft-scripted instructions for Windtunnel:

Precepts

Those of you who are well familiar with "brainstorming" know that the best ideas are generated near the end of the brainstorming session, after the fluff and trite stuff has been gotten out of the way. If you aren't really familiar with brainstorming, please go to Gravel Gulch in the CPS Techniques section of Win's website at www.winwenger.com and try to become familiar with it. Or, dig into the "Stretching to See Further" chapter in your copy of that great book *Discovering the Obvious*. Or dig out some of the prolific literature on the Osborn-Parnes Creative Problem-Solving system which heads the worldwide creativity movement.

Those of you who are well familiar with Freenoting know that the best ideas are generated near the end of the Freenoting sessions, after the fluff and trite stuff has been gotten out of the way. Those of you who have read Betty Edwards' famous book, *Drawing on the Right Side of Your Brain*, and tried her famous exercise of drawing a picture upside down, know that our perceptions and responses are far more accurate once we've gotten out of our way the fluff, the trite and stock responses we have for nearly everything, our short-cuts in perception and thinking. Once we've gotten past these, we can become remarkably perceptive, effective, and creative.

All of these impediments are literally blown out of the way in the following Freenoting-like procedure, Windtunnel, even though very little writing is involved.

The Procedure

Once your group is in partnered pairs, here are the instructions to be read to them, allowing appropriate time with each step so that they can carry out that instruction. Each pair of you decide the topic, world issue, or general problem you would like to address for purposes of this session.

Each of you make a list of five very different questions ABOUT this general topic, and don't let your partner see your questions. Number these five. Your partner now becomes the "Windtunneler" and you become the "Listener." Go through Steps 1-6 below, in those roles. Complete that process before reversing roles as in Step 7.

1. Have your partner call out a number between one and five.

2. From among your own five questions, read your partner that numbered question.

3. Tell your partner in a descriptive rapid-flow torrent, EVERYTHING that comes to your mind in the context of that question of yours and its answer or answers.

4. SUSTAIN that torrential flow for six minutes, without any letup.

5. The listener is to write down the one or two most interesting ideas he/she has heard during that torrent, and please have him/her write down the one or two most interesting ideas stated in that torrent.

6. Compare notes for four to five minutes on what each of you found most interesting from that outpouring.

7. Participants now reverse roles and repeat this process the other way.

8. After this cycle is complete, let's check: Where did you find the most interesting ideas — near the start or near the end of your torrent and your partner's torrent? You will find that most of the time, the best ideas occurred near the end, very much in keeping with findings from brainstorming and Freenoting. This will justify doing one more question cycle each way as per above on one of the four remaining questions each of you has left, this time going for sustained eight- to ten-minute torrents.

I guarantee that even if some silly or even plain wrong ideas are in the front of the torrent, as with a brainstorm, really good and meaningful insights will start cropping up and predominate toward the end, and you will have a spectacularly better grasp and understanding of the topic or issue than would otherwise have been the case. From here:

Proceed to elegantly and effectively solve/resolve the issue or problem that was your starting point for this experience, by whichever of the dozens of ultra-effective creative problem-solving methods you please. Based on results here and elsewhere, Windtunnel may become the first step in a three-step Creative Problem-Solving procedure defined for any CPS method. The second step would be the specific answer-finding technique, such as Over-the-Wall or High Thinktank; the third would be implementation and evaluation.

Afternotes

Over the past few months we have tested out many different forms of "Windtunnel." The main version, above, is still the one we'd use in a formal thinktank going after some important problem or issue. However, we find that for most purposes the following shortened version will do very nicely:

Instead of five sub-questions to choose among, use three. One 10- or 11-minute torrent per partner, instead of two. We've seen some people reverse the instructions and answer each other's questions instead of their own. This will work either way. However, people have much more energy up for their own questions, and what we've seen indicates this works better if people are answering their own questions. The whole idea with the sub-questions and the numbers is to get past the speeches and get people as quickly as possible to the point where they run out of things to say and have to start digging. It's that floundering around and digging around that's productive.

One of Dr. Wenger's friends, Jens Reineking of Oslo, Norway, offers this adaptation for doing Windtunnel alone:

"As a very simple form/combination for single users, I would propose to write down three or six questions for a topic, number them, then roll a die (low-tech random number generator!). Take the number the die shows and enter Windtunnel with a tape recorder instead of a live partner. For three questions, the paired numbers one/two, three/four, and five/six would indicate which question to take — one, two or three, respectively. Then proceed as with standard Windtunnel."

Thus Windtunnel then is the second of the three variations of brainstorming.

VERSION 3:

This version is the education-based process, a segment of which is whimsically called "Final Exam." Below is a descriptive article taken from Winsights Index Part #48 and #52 on the www.winwenger.com website:

Part #48 and #52

Experiments
by Win Wenger, Ph.D.

I need your help with an experiment.

How can a wider range and number of human beings get to where they find that they can more effectively solve their own issues and problems, enrich their understanding, and build their own abilities?

One of the things inhibiting you from introducing others to this richer, more effective context is the awareness you have, consciously or unconsciously, that most other people don't have your high quality of attention and intention and interest.

We may have here a way to reach past such limitations. Below is a potential way to broaden mind-enhancement technology's range and reach. I need YOUR experimenting, though, to tell me if, in fact, the following will perform in the way that I think it will.

Also, in this first experiment with what I will call the Basic Associative Process — BAP — many people are, for whatever reasons, afraid of visual mental imagery, yet may not be beyond redemption. If BAP, a non-imagery procedure, works or can be made to work, a wider range of human beings can begin to benefit. So please experiment and let me know your results (email to www.WinWenger.com).

Experiment No. 1: BASIC ASSOCIATIVE PROCESS

You can say to your friend, family member, co-worker, neighbor, or hapless innocent bystander:

"Hi, I need your help with a little research. It's a little experiment which takes 5-6 minutes."

"I'd like to try out with you a solution-finding, answer-finding process which works for me, but a lot of problem-solving procedures work well for me these days and I need to find out how this one works for other people...."

"It's a basic process of mental association. It's NOT word association, but it's something like it. I need to compare ITS results with some other procedures which give very nice results. *(* See more detailed explanation below.)* It's one useful way to deal with the fact that part of your mind seems to know the best, most ingenious answer or understanding or idea way ahead of the part of your mind where you are conscious in words. Sometimes days or even years ahead."

***

* **More Detailed Explanation**
"It's a basic process of mental association. It's NOT word association but it's something like it. I need to compare ITS results with those of the Einsteinian-type procedures I've been working with, which are excellent. Einsteinian Discovery Technique works with visual mental images; this present technique for experiment works without such images. Both the Einsteinian-type procedures (such as Image Streaming), and this Basic Associative Process or BAP, which works without attention to mental imagery, appear to work because part of your mind seems to know the best, most ingenious answer or idea or understanding for a question or situation immediately, even though the conscious, word-focused mind might not become aware of that answer for days, months, or even years."

***

"This little procedure takes just 5-6 minutes. OK to try this with you?"

> *Elicit agreement, then read the following instructions to your friend ... with enough pause after each of the numbered instructions for your friend to get, and describe, some moments of his or her experience at that point, though not so long a pause as to let this procedure drag. Stay at a pace where both of you are comfortable, but your friend gets to develop and describe experiences in some detail and flow.*

"ONCE A PROBLEM OR QUESTION COMES UP, we normally try to consciously figure it out, and some questions or problems DO resolve that way, that's good. But what's left are those which didn't resolve that way. In a minute I'll ask you to state a question or problem that you've made some effort before to figure out, but you haven't yet become consciously aware of a really good answer on it."

"IN THIS EXPERIMENT, we pick up on the fact that along with all our conscious associations on the matter, that almost immediately with the question SOMETHING or other comes to mind which seems totally unrelated to the question at issue. Because it SEEMS to have nothing to do with the matter, we usually ignore it and it goes away. In this experiment, though, instead of ignoring it, let's try to notice it when it happens, pick up on that seemingly unrelated thought or memory, and tell me some of the detail of that seemingly unrelated thought or memory."

"WHILE you are relating that, some OTHER seemingly unrelated thought or memory ALSO comes to mind. That, too, I will want you to notice, pick up on, and tell me some details about. And while that's happening, notice a third such seemingly unrelated thought or memory on which, once you've noticed it, you can give me some details."

"IT'S BETWEEN those three seemingly unrelated thoughts or memories that we'll find your ingenious answer. And this is why we'll need some detail on each of those three..."

"These are associations with the problem or question that are made at a deeper level in your brain. These associations reflect far more of your understanding and information than you hold in your conscious mind. There is SOMETHING about EACH of those seemingly unrelated free associations that will be the same when everything else is different. Whatever's the same, when all else is different and seemingly unrelated, holds the key to your ingenious answer."

"But it's when we note or describe enough DETAIL in each of these three seemingly unrelated thoughts or memories that we can SPOT what's the same between them when all else is different."

1. "OK, now please identify a question or problem which you'd really like to get a good answer to, but which has resisted thus far your efforts to get a good or ingenious answer to it. …"

2. "Now please state that question or problem. But even as you start to state it, amidst all that stuff on it that's coming up for you, I'd like you to notice any thought or memory coming up that seems quite unrelated to the matter at hand. Please tell me the problem, but as soon as that seemingly unrelated thought or memory comes up that you can catch, please tell me THAT...."

> *After the first, most crucial-to-get "unrelated" starts to come up, doing your best nonetheless not to interrupt the descriptive flow of the person you are guiding in this experiment:*

3. "Good, more on that but even while you're telling me, be alert for a second and even a third seemingly unrelated thought or memory, noticing and catching them and tell THEM also in some detail to me. So you can tell me as much as you can in just a minute or so about all three of these first three free-associations....."

4. "Good, now what do [this & that & that] have to do with one another? In what way or ways do these three [thoughts or memories] have something in common even when everything else is different, or how do these three seem to express a common theme?"

5. "Good. Now what was your original question or problem? In what ways could these aspects-in-common of those three free-associations conceivably bear upon or be the answer to your question or problem?"

On future test rounds, it'd be a nice courtesy to tape-record such sessions and give the recording to the person whose experiences were thus recorded — just as, if testing the procedure on yourself working alone beforehand, you would need a tape recorder to describe your own "unrelated" associated thoughts and memories in order to develop enough detail in them to spot the overlaps.

Short Form of BAP

> *This shorter form of the same procedure is an alternative option for anyone whom you deem to be impatient of time or attention and not needing much in the way of explanation.*

"Hi — this is a little experiment in problem-solving I'd like to try with your permission..."

"It's a free-association way of finding great answers to problems or questions. It's not word-association, though it's something like it. It's that first thought or memory which comes up that SEEMS unrelated so we usually ignore it. Instead of ignoring it, let's notice it instead and see how it just might answer the question from a deeper level of your mind than you are used to using."

"Game to try it?" *(Elicit agreement before proceeding.)*

"It'll be actually the first THREE such free-associations which come to mind. While you are telling me one, another will pop into mind seemingly unrelated to the first thought or to the original question or problem, and while you're telling me that one, a third will come to mind."

"Success in this experiment rides on whether you can notice and identify these seemingly unrelated thoughts and memories when they happen, and whether you can relate enough detail about each of these that we can discover the points which one of these free-associations has in common with another. So much else about these three free-associated thoughts or memories is different, but if we can then discover the aspect or aspects which these three seemingly unrelated free associations have in common, we may find a great answer. Game for this?"

"Good — while telling me your until-now unsolved question or problem, please be alert to and notice that first seemingly unrelated thought or memory when it appears, and develop that awareness by detailing it to me. Let's start now. Please describe to me what you've chosen on this occasion as your question or problem."

> *Similarly fish for the second and third such "unrelateds," find their elements-in-common, then how those common elements just MIGHT, in what ways, somehow relate to or answer the problem or question.*

Below is a descriptive article about "Final Exams" taken from Winsights Index Part #52 on the www.winwenger.com website:

Part #52

"Final Exams"

A Special Procedure for Teachers and Trainers
(but the rest of you can also sneak a peek!)

by Win Wenger, Ph.D.

Those of you who are well familiar with "brainstorming" and "Freenoting" know that the best ideas are generated near the end of the brainstorming session, after the fluff and trite stuff has been gotten out of the way.

Those of you who have read Betty Edwards' famous book *Drawing on the Right Side of Your Brain*, and tried her famous exercise of drawing a picture upside down, know that our perceptions and responses are far more accurate once we've gotten out of our way the fluff, the trite and stock responses we have for nearly everything, our short-cuts in perception and thinking. Once we've gotten past these, we can become remarkably perceptive, effective and creative.

In addition to these, the "Final Exams" procedure below makes a truly wonderful way to review much of the contents and context of a course, especially a successful one like those Win enjoys teaching at the National Institute for Teaching Excellence, a master's degree program for teachers conducted each summer by Cambridge College. Dr. Wenger first invented this procedure Friday, July 27, 2001, and used it to good effect the same day. You might as well have its use for your courses as well, if you so please. Enjoy.

**For courses without final exams, to reduce anxiety,
and to supplement finals in courses which have exams and tests.
A major end-of-course booster and review.**

Tell your students:

1. Each of you make a list of five of the things you've learned from this course. Especially things you'd like to highlight. Number these five.

Pause for two to three minutes, enabling your students to write their items.

Now turn them into questions.

Appropriate two to three minute pause to enable your students to turn their items into written questions, numbered one to five.

2. Please pair up as partners.

3. Decide very quickly which of you goes first as Hotseat and which of you goes first as Listener. OK, Hotseat, have your Listener partner call out a number between one and five.

4. Hotseat: whichever of your own questions matches that number from among your five, tell, in a descriptive rapid-flow torrent, EVERYTHING that comes to your mind in the context of that question and its answer or answers. Sustain that torrential flow for seven to nine minutes, without any letup.

5. Listener, write down the one or two most interesting ideas you've heard during this torrent. (It's probably impractical to try writing them all down, and your efforts to get them all down would likely slow Hotseat when we really want to speed Hotseat up!)

6. Hotseat, please write down the idea YOU noticed going by that was most interesting. Then, Hotseat, you and your Listener compare notes for a few minutes on what you found most interesting, what was most interesting about it, and why it interested you.

Have your students reverse roles and repeat this process the other way. After this cycle is complete, ask:

7. Where did you find the most interesting ideas — near the start or near the end of your torrent and your partner's torrent?

You will find that, most of the time, the best ideas occurred near the end, very much in keeping with findings from brainstorming and Freenoting. This will justify doing one more question cycle each way as per above, this time going for sustained 8- to 10-minute torrents.

Dr. Wenger guarantees that even if some silly or even plain wrong ideas are in the front of the torrent, as with a brainstorm, really good and meaningful insights will start cropping up and predominate toward the end, and your students will have a much better grasp and understanding of your course than would otherwise have been the case — and feel much better about you and about your course than about most others, and more likely to follow through on what you've taught them. It is that easy.

Experiment No. 2: AFTERMATH and/or link to a basic Einsteinian procedure you can also experiment with

The basic free-association process occurs at many levels throughout the brain and mind, drawing upon many, many times more resources than the conscious mind can ever get to directly.

The point of this experiment, which I'd very much like to hear back from you on, is if the conceptual and memory-association level draws on enough such resources to compare in power and accuracy with the results we've come to expect from Einsteinian, sensory-mental-imagery levels such as with Image Streaming and High Thinktank.

To make this comparison, after experimenting with yourself, and with a live partner (friend, co-worker, neighbor, or other innocent bystander!), note that after concluding a BAP, people are more apt to be able to learn and undertake the imagery-based procedures as well.

Three Doors in the Mind's Eye

Read to your hapless bystander:

"You know how two eyes can see better than just one. How, if you've got both eyes functioning together reasonably well, it's easy to see in three dimensions, to discern what's near and far and in-between."

"Well, here's a little problem-solving technique to try with the mind's eye that's somewhat similar. And that is also somewhat different."

Elicit agreement to proceed.

1. "Please identify a problem or question that you'd really like an answer to, but which so far you've not consciously found a really great or satisfying answer for."

2. "Now please imagine a hallway with three closed doors. Each of those doors, when opened, gives on a view in which, somehow, the truly great answer may be discovered. Each of these three views seems totally different from each other, and each of these three views at first seem totally unrelated to the problem or question. Yet when we put these three different views together in enough detail, you'll discover your answer. So let's take this step by step. Ready?"

3. "Good. Put the question or problem aside for now. Richer, deeper parts of your mind already have a great, truly ingenious answer — all you consciously have to do is relax and let that be shown to you. But we can help that along."

4. "Please imagine that hallway, with three different doors. These three doors for now are closed. Please describe the hallway to me, in some detail."

5. "Good, thank you. Now let's go up to that first door. Don't open it yet, don't sneak a peek yet as to what's behind that door. Just gather impressions. Tell me as much as you can about this hallway, and about this first closed door."

6. "Good. Thank you. Now let's go up to the second door. Don't open this one either. Don't sneak a peek yet as to what's behind that door. Just gather impressions. Tell me as much as you can about this second door."

7. "Good. Thank you. Now let's go up to the third door and likewise gather impressions without sneaking any peeks yet. Tell me as much detail as you can about this third door...."

8. "Good, thank you. Don't sneak any peeks yet, when the time comes to open the door and go through, we want to catch by surprise our first impression of what's beyond that door in answer to your question. So we'll want to go through suddenly to catch that first impression, WHATEVER it is. Meanwhile, here we are on this side of your closed third door — open it suddenly!!! *(lightly rap table or thump floor)* Jump through that opened door and land on your feet. What are you wearing on your feet? What surface are you standing on? Starting with what's directly in front of you and then looking around, tell me in detail what the scene is here beyond this third door."

9. "Good, thank you. Behind each of the other two doors are what at first seem to be entirely different scenes, but somehow each of these different scenes also contains the same great answer to the same question, even though at first everything appears to be different. Let's come back to the hallway now and come back to Door #2. Don't sneak a peek yet, except there is a color to the light that's coming under the door. Can you name that color? Thank you. Now we want to catch by surprise whatever impression or scene holds somehow your great answer to your question. That answer somehow is beyond this Door #2 also, so open the door suddenly NOW!!! *(thump)* What's directly in front of you, first impression?"

10. "Good. Now please come back to the hallway and turn attention to what was originally Door #1. Don't sneak a peek yet, but when you're ready, please as suddenly as you can, open that door abruptly and catch by surprise whatever your first impression is on the other side of it. Whenever you feel like it, but do it suddenly for the surprise. OK. Tell me what you are doing."

> *If your partner hasn't jumped through in 2-3 minutes, mildly encourage him or her to do so. If he/she still holds back from doing so, then elicit the reasons or excuses for not doing so. Make a written record of his/her stated reason or excuses as reasons, and leave him/her that written record as the product of this experiment. Most people will, however, willingly enough charge on through in a minute or so, and go on to discover a grand answer.*

11. "Now, each of these three scenes is seemingly different, yet it somehow contains the same great answer to the same original question you had. For now, let's just find some element or elements, some aspect in all this detail about one scene that in some way is like an aspect or detail in one of the other scenes."

> *Encourage your partner to find elements-in-common between two or even three of the scenes.*

12. "Good. Thank you. Now in what possible way or ways might this element-in-common (or common theme) conceivably bear upon your original question or problem?"

***

All of these versions of Freenoting work through the principle that if you write or speak fast enough, if you write or speak so fast there isn't time to decide or judge what you should be saying and about whether you should say THAT, you'll bring up a lot of good stuff that you've reflexively shoved away out of sight without ever having looked at it enough to discover that it's good. Including some of those good ideas and perceived relationships which over the years you

had let slip away and disappear without benefit of a Portable Memory Bank. There is both great stuff and garbage all mixed together in what's coming up, and getting it out where you can consciously sort through it lets you get to the great stuff. You will come up with some bad, especially at first and sometimes during the intervals you're floundering around for something else to say, but you'll come up with a surprising lot of good and even g-r-r-r-reat!!! things you might never get to any other way.

Most of these forms of Freenoting are intended to as quickly as possible get you to the point where you have to dig for further things to say on the topic. They seek to run you out of all those little stock speeches we all have to say on almost everything, to get you past those short-cuts in thought and perception which we've formed on nearly everything so you can penetrate to a deeper level. As quickly as possible, most forms of Freenoting seek to run you out of things to say so you have to dig deeper and start getting great payoffs. So get it all said quickly and keep on going! Let the good times roll! Don't be afraid to flounder. It's the "flounder-around" phase that often produces many of those further, better insights.

All of these versions of Freenoting have these several "rules" or provisions in common:

1. Write or speak faster than you can think about what you should be saying and about whether you should say THAT! If it comes to mind in the context, go ahead and express it. Don't decide until later, after the brainstorm or after the freenoting session is done, whether given entries are good or bad, just let them roll.

2. Write without pause or hesitation. It's when you've run out of things to say and are having to dig deeper to keep that torrential flow going that you do in fact dig deeper and start getting great stuff.

3. Be willing to say the wrong and the ridiculous, for the duration of the session — that helps free you to say those items which make the real breakthroughs. Be prepared for your first entries to be just stock stuff and throwaways — your best entries almost always are among the last entries for the episode.

Freenoting Options

To Freenote on the topic you are about to explore, you have several options:

1. If you have a friend who is willing to be a **live listener**, that friend is to take notes. That listener does not try to write down everything you say — that would slow you down when we want you to speed up. Instead, your listener writes down just the two or three most interesting things he or she hears from you during the session. You will need to talk as rapidly as possible, without pause or hesitation, everything that comes to your mind in the context of the topic given below, for no less than a dozen straight uninterrupted torrential outpouring minutes.

2. If you have a **tape recorder**, possibly the pocket recorder for your Portable Memory Bank, you will need to pour into that tape recorder for at least 16 straight uninterrupted torrential outpour minutes to be pretty sure of getting to your best surprises.

3. If all you have is your **notepad**, in this instance a large or even legal size notepad, then you will need to write furiously for 20 sustained minutes without pause or letup.

After the actual Freenoting is done we will have further instructions for you, different in each instance for whichever of the three options you pursue.

During the actual Freenoting, after Dr. Wenger poses you the question and Freenoting topic, he will ask you to pause this recording until you are done. That will be the second time he asks you to pause this particular lesson. When you are done Freenoting, please restart playback again of this recording as we go on to complete this lesson. Please choose now among your three options for this present round of Freenoting. Are you doing this with a live friend as listener? Or with just a tape recorder? Or with only a pen and paper?

Whichever of these choices you've made, please arrange accordingly now. Please pause this recording while you make those arrangements, then come back and restart the recording for your topic. Pause. Make those arrangements to make ready to Freenote one of those three ways.

Now choose one of the above options again and express EVERYTHING that comes to your mind in context of the topic. The first time through, this is your topic: What do you want to use your increased intelligence FOR? What do you want to do when you have it that you can't do now? Why DO you want to improve your intelligence? On other run-throughs, bring other topics with you for such Freenoting.

Whatever comes to mind in that context and all that comes to mind, let fly now.

Instructions After Completing the Freenoting Exercise

You may have found this exercise to be harder than you might think, as you attempted to write or talk without letup for even those few minutes sustained. For most of us it's easier to talk than to write, so if this first time was difficult you might want to think about lining up the preferred alternative for the next time you Freenote, the live friend and listener.

Live Friend
With this method the listener was instructed to write down the two or three most interesting things he or she heard from you during that Freenoting session. You should also take some time to jot down the one or two most interesting things you heard pass your own lips.

Having done these things, you and your listener can have the best jolly time of it, comparing notes on what you each thought were the most interesting things said, and seeing what that discussion does to bring even more and better things to mind.

Tape Recorder
In this case you will need to listen through what you recorded to pick out and jot down the five or six most interesting things that you said on that, then pick out from what you've jotted down the one or two very most interesting.

Notepad
If you recorded your ideas on a notepad, put a star or asterisk by the two, three, or four most interesting things you said. Chances are most of them will be among the last things you wrote, as you had to dig deeper and your entries kept getting better.

Then please pick out the one thing out of all you've said that you think will be most motivating to you — that can sustain you through enough practices to make a major difference in your level of ability. Please pick out that one thing now.

Please write that motivator out twice, posting one copy as an ongoing reminder at home and the other at work or at school. If you work with affirmations, you can also use each step of each practice as kind of a physical OR mental affirmation. "With this action I AM building my intelligence," and/or "With this action I AM moving closer to (the goal you've chosen as your motivator)."

From your first lesson, you learned one very vital practice: recording your ideas and observations in a Portable Memory Bank. We VERY much hope you will continue this practice onwards every day and get in at least some more Memory Bank entries before Lesson Three next. Please get in Lesson Three within 24 hours, with some of those Memory Bank entries before then.

From this session, Lesson Two, you have gained a valuable procedure that can serve you as another practice, one done once every few days in rotation with some of the other practices taught here, or more frequently if you care to invest more than the minimal 20 minutes to do several practices in rotation per day and build more intelligence faster.

In this Freenoting procedure, there are many different, useful ways to practice Freenoting, building closer and better contact with your beyond-conscious resources and also building language fluency. Dr. Wenger suggests that over time you try out each of these different ways to put Freenoting to practical use, letting the variety of ways keep the practice interesting for you.

Session 3: Your Sidebands of Thought and Perception

This session opens with information on neuronal habituation, what it means, and how it can assist you in accessing further information from your brain. Dr. Wenger creates exercises that allow you to catch yourself thinking and perceiving during any given moment. He explains that he will be sharing techniques that will enable you to pick up on some of your sidebands of thought and perception so that you will know more of what is going on in your own mind. He further relates that each time you establish contact with one of these sidebands of thought and perception, you build links between the part of your brain that was generating that thought or perception and the parts of your brain that you are conscious of.

Exercise 8: Ringing the Bell with a Friend

Practice the "ringing the bell" technique by getting a friend to help you. You can practice your friend just as your friend practices you. One of you should catch the other by surprise with that sudden question, with bing or knock or snap of fingers, "bing, what was in your awareness just THEN?" In that moment of surprise you can notice in instantaneous memory what you'd been thinking or perceiving at just that moment, and tell your partner what you found there to reinforce the skill.

Why does it have to be by surprise? If you knew that at 2:05 you'd have to notice and report on as many of your sidebands as possible, as the time approached you'd start "saving up" impressions, a very different phenomenon. You want to catch these sidebands in that instant of surprise where they are, not merely move the center of your attention into other awarenesses one after another.

Make a note of anything you experienced in practicing this exercise.

Exercise 9: The Solo Ringing the Bell Exercise

How can you get that necessary surprise suddenness in when you have to work alone? Set a timer or small alarm clock near you. Set it to an interval of time to sound off, without looking to see what time you've set it to or setting it to some deliberate time. Use the suddenness of the alarm's going off to immediately notice and capture and report — preferably to tape recorder, or to notepad — as many of these sidebands as you can.

After about 30 rounds of practice distributed over some days, you will probably be able to catch 20 or more of your sidebands simultaneously. You'll have some running awareness of some of them going on, and from time to time catch important thoughts, ideas, or perceptions going through. Remaining in contact with these sidebands, by practice and/or through your Portable Memory Bank as you notice ideas and subtle perceptions going through, over time adds more and more of your beyond-conscious intelligence to your everyday conscious intelligence.

Catch yourself thinking and perceiving — that's a good part of what improving your intelligence is about.

In your notebook, make notes about anything you experience while practicing these exercises.

Exercise 10: Flick-Gazing

Neuronal, referring to the brain or nervous system or something that has neurons in it. Habituation means getting used to. Neuronal habituation actually means the tendency of your brain to go to sleep on a constant signal or wake up on a changing signal. If the same signal keeps coming through a nerve over and over again, eventually that individual nerve will stop altogether in reporting that signal and go to sleep.

A good stretch is one good way to change the signals and wake up some of your intelligence. Another way to put this neuronal habituation information to good use is to practice the Flick-Gazing technique that Dr. Wenger takes you through in this session. Doing so trains at least 80 percent of your brain to work faster, accomplish more, and accomplish it much more quickly. Practice this technique at least five times, and record your experience in your notebook.

Session 4: The Flash Answer/Awareness Method

Word associations are the focus of this session as Dr. Wenger takes you through an in-depth study of the Basic Associative Method, also known as the Flash Answer Method. When someone says "sky," what word comes to mind? Did any other thought or mental picture come to mind? And when one says "brick," what immediately comes to mind?

These are flash associations — sometimes just word-associations like blue with sky, or wall with brick; other times they are sensory image associations — seeing a brick or some bricks or seeing brick in a picture, the feeling of holding a brick, even the smell of a brick in the sunshine.

When someone says "brick" and you think "wall," the revelation is not very profound. But many or most of the associations formed at very deep levels of the brain and mind — the deeper the faster, mind you - DO have profound meaning. This can be VERY convenient in finding answers and solutions to problems, especially in this Lesson's main procedure, which is called the "Flash Answer Method" (also referred to as the Basic Associative Procedure).

Exercise 11: The Flash Answer Method

As you are asked the following questions, be prepared to notice where your attention and awareness first start to veer to. Then wherever that is, please start describing that aloud, so your awareness can fully develop. Here is your question:

1. "Until now, what's the main thing you've let stand between you and full development of your intelligence?"

Capture that first impression or stray awareness, zero in on it even while your partner repeats the question for you:

"Until now, what's the main thing you've let stand between you and full development of your intelligence?"

2. Whatever that first impression or awareness was and is, please now tell your partner about it out loud, as if he/she were physically present with you. Tell him/her as many details as you can about what was in that first awareness, beginning now.

Allow two and a half minutes to pass for this segment of the exercise.

3. Now mentally thank your own higher faculties, your greater mind, for that answer. Please thank your further resources, now, for having given you a great answer to that question — those parts of you like to be reinforced, just as the conscious part of you likes to be reinforced and acknowledged. Now ask your faculties to help you understand that great answer. Let them help you understand that answer by giving you, with a very different flash awareness this time,

somehow the same great answer to the same question, only shown to you a very different way. Perhaps the same great answer but through a very different flash awareness, your NEW first flash awareness in response to the question,

"Until now, what's the main thing you've let stand between you and full development of your intelligence?"

That first flash awareness whatever it is, please tell your partner all about it, with as many details as possible.

> *Allow three minutes to pass for this segment of the exercise. After two of those minutes the partner should say, "Good, still more detail please…" and then continue through the third minute.*

4. Please thank again your higher faculties for that answer, ask their further help with yet a third, different flash awareness which somehow is the same answer to the same question, only shown differently. Notice again what is your first flash-awareness, this time, in answer to the question.

"Until now, what's the main thing you've let stand between you and full development of your intelligence?"

> *Allow three minutes to pass for this segment of the exercise.*

5. Even if these three flash awarenesses or impressions are VERY different from each other, there are some points or elements in common, some pattern, some trend maybe. Find those points in common and you've found what these three impressions are highlighting as your answer. Maybe it's the memory or image or thought of grass present in all three, or maybe it's the color blue, or maybe things that are shaped like circles. Whatever point or points in common, you will want to not only tell me but to write them out over these next couple of minutes in the space provided below or in your Portable Memory Bank. What ARE the things that are alike from one of these awarenesses to the next, when everything is different? Please identify and tell your partner those elements-in-common.

> *Allow four minutes to pass for this segment of the exercise. Two minutes into this process, have the partner say, "Good, what else can you find that's alike from one to the next awareness?*

6. Now that you have those points-in-common, as you conclude this lesson, you may have an idea of how they make a great response to the question your partner asked you. If not, you may need to do a bit of brainstorming. Please list on your notepad, and tell your partner aloud, ALL the possible ways in which those points-in-common could somehow answer the question. Then, list some of the things you can do about it. Have your partner repeat the instruction for this final step: "Please list on your notepad, and tell me aloud, ALL the possible ways in which those

points-in-common could somehow be an answer to my question — and then, if that IS your answer, what are some of the things you can do about it?"

Allow three to four minutes to pass for this segment of the exercise.

Exercise 12: The Solo Flash Answer Method

You can, and should, run your own questions and problems at this method. But how can you get enough suddenness if you are asking yourself the question? There is an easy solution. Write out three different questions on separate pieces of paper. Fold them in on themselves and switch them around and around so you don't know which piece of paper represents each question. Pick out one piece of paper. When you're ready, suddenly unfold and read which question that is and go for that flash awareness answer. After you've recorded enough details on your first flash awareness, thank your faculties, ask their help as before, abruptly look again at that same question to elicit your second flash awareness, and so on.

When you're done, replace the question you've answered with another new question or problem, so you have three ready to pick from for the next occasion.

Session 5: The Crab Apple

In this session Dr. Wenger takes you through **Exercise 13: The Crab Apple**. "Crab Apple" is a special way of working with very simple, very concrete, metaphors. The first time Dr. Wenger used it, a crab apple tree became our metaphor and hence its formal name is, "If your problem were a crab apple…"

Our metaphor procedure, "If Your Problem Were a Crab Apple," is one of the many indirect ways you can easily contact your back-of-the-mind higher intelligence to discover meaningful, effective answers and solutions. It takes you only a few minutes. You can use it right now, it's that simple. For best results, though, you do need one other person working as a partner. The method is so powerful and so simple that in a pinch you can use a tape recorder or a notepad and still get pretty good results.

1. First write out the major question you'd like to use Crab Apple on this time. A question or problem you'd dearly love to find good answer to. Preferably a problem or question that has stubbornly resisted solution until now despite repeated efforts. Or you can develop a question from what emerged for you back in Lesson Four. Whatever the problem or question, please determine what it is and write it out on your notepad.

2. Now please look around you until something here in this space catches your eye more than other things. Perhaps a table, chair, piano, vase, desktop computer, or water faucet. Decide upon it now.

3. Whatever that object is, we'll let that stand for representing in some way, or resembling somehow, your chosen problem. Ask yourself, how does this particular object somehow represent my problem?

4. Identify 10 to 20 features of that object, such as color, shape, texture, shape, structure and so on. List these descriptive features of that object in the space provided below. As you do so, call them out to your partner.

Allow five minutes to complete this process.

5. If this object is the problem, then each of these descriptive features of that object represents a part or aspect of that problem. Until you hit your a-ha! or answer, please turn to each descriptive feature of the object in turn and for a minute or so describe HOW that feature of the object resembles some feature of the problem situation, what that problem feature is, and what else comes to mind as you describe it. With each descriptive feature of the object, tell your partner HOW it resembles some specific feature or aspect of the problem, what that problem aspect is, and what else comes to mind. Take a minute or so with each feature of the object in turn.

Allow about four minutes to complete this process.

6. Now to continue, you might also spark some ideas if you mentally manipulate one or another feature of the object. For example, if the chair had been your object you could imagine and say things like "what if that brace on the chair leg were broken," or "what if I added a cushion?"—as additional ways to play with the features of the problem itself. Continue with these features then, not only describing as before in relation to your problem situation but imagining changing some of those aspects in your object and seeing how that could bear on your problem situation as you continue on.

Allow three minutes to complete this process.

7. Your partner should say, "Good, continue." By now you likely have at least a new idea or so about the problem, or a new slant on it. You may already even have its solution. If you've hit your a-ha! by now you can expand on it and work out details and angles toward possibly implementing your answer. If you haven't yet hit your a-ha! you can continue as you are, and realize that one major purpose of this Crab Apple procedure is simply to get you looking at and talking about the problem situation from new angles and in so doing trigger new perceptions and new ideas, which don't have to literally stay within the metaphor you've been pursuing. Usually, though not always, the metaphor will however do the job.

Chances of getting good answers to any given problem this way, within two to three object-metamorphesizing, are pretty fair. The trick is:

1. to keep going and continue to dig for fresh things to say, whatever the angles;

2. to have an audience to describe to, preferably a live listener; and

3. to carry the process through, even when things get silly or seem pointless, until the ideas spark. As with "brainstorming," often it's that last comparison, stretching for one more after the usual ones are gotten out of the way, that will spark the gap.

On your notepad, write about any insight you experience in response to doing this exercise.

Session 6: Improving the Physical Functioning of Your Brain

Some of the more available major activities, processes and practices are discussed in this session. For one reason or another many of them cannot be taught within this course, but Dr.Wenger gives you an outline of them so that you can choose to go into them in greater detail if interested.

Some of the processes or activities he discusses are:

Exercise 14: Practicing Ping-Pong or Table Tennis

Fine-tuning how well your eyes work together can make a huge difference in how well you function. An ideal practice for some of that fine-tuning is ordinary ping-pong or table tennis. Getting reasonably good at table tennis can help some in every life, and for some the help that ping-pong can give to eye-functioning can be so great as to be truly life-transforming.

Exercise 15: Practicing Martial Arts

Affecting some of the physical coordination and physical confidence underlying other brain functions are such activities as some of the martial arts. Dr. Wenger notes how the improved coordination they give to some of the underlying brain structures in turn help the higher functions of the brain. These martial arts do not need to be violent: a good part of the world practices Tai Chi, and it is taught in every major city and many other places as well. Tai Chi is non-violent and can do wonders for some of the brain functions we are interested in. The physical activity of Tai Chi, even though not strenuous, can also do much for your physical health and well-being.

Exercise 16: Holding Your Breath

Another very powerful way to improve the physical health, well-being, and functioning of your brain is holding your breath. If you find it difficult to hold your breath for 30 seconds, you have problems dealing with situations in any sustained way. You may be effective with situations but in a hit-and-run way, not a sustained, see-it-through sort of way. The only way you can win arguments is by abrupt all-out attacks, which easier-going bystanders may see as inappropriate or unwarranted, but which nonetheless might win the approval of those who teach assertiveness training.

If you are comfortable holding your breath for more than three minutes, your sentences may run on so long that sometimes people have trouble understanding you. But because you can hang on in an argument while others shoot their wads and then their attention wanders, you win most arguments. You often see relationships which others have not spotted — depending on where you invest your attention in the first place. This can be seen as a powerful intellect. All of these and many, many other effects on your life … simply determined by how comfortable you are holding your breath over an extended period of time!

Exercise 17: Singing in a Choir

Singing in the choir. Playing a wind instrument in the band. Playing a brass instrument.

Exercise 18: Practicing Yoga

Taking basic Yoga, with Hatha Yoga's or Rajah Yoga's emphasis on breathing pattern provide an excellent way to gain comfortable control over your breathing and, through your breathing, becoming abler to understand the longer sentences of others within your improved span of attention and span of awareness. With those improved spans, you'll have more room to perceive relationships and issues which previously would have eluded you.

Exercise 19: Aerobics Exercise

Jogging, running track and field, or other aerobic exercise. These practices can improve your breath control along with your attention span and awareness span.

For a long time, we didn't know why people who actually went underwater and stayed for awhile underwater holding their breath, did so much better, made such stronger gains, than did people doing these other things. Finally, we learned about the Mammalian Diving Response, also known as the Diving Bell Reflex. It turns out that all mammals, including human beings, when under water, redirect extra circulation to the brain and other internal organs. Some of that reflex is controlled by temperature sensors under the eyes and beside the nose — cold water there makes this reflex stronger. Also, under higher pressure from being several feet under water, cell membranes are more permeable when you're a few feet underwater so that circulation to those cells is more effective.

Aside from what it does for your brain and intellect, nearly all who try much of the held-breath underwater swimming report feeling sharper, clearer, more alert, feeling better, and apparently better health. We will discuss Held-Breath Underwater Swimming in greater detail in the next session.

Choose at least two of the above practices and add it to your daily regimen for at least one month. Write a weekly log in your notebook about anything that you experience in relation to incorporating these practices into your life.

Held-Breath Underwater Swimming

The article below is located on www.winwenger.com/ebooks/guaran3.htm:

Awareness and Attention-Span: A Breathtaking Discovery

At this moment, as you start to read this, you are holding your breath.

Gotcha!?

As you breathed, you moved your attention to this next sentence. OR, you moved attention to other things and then breathed again before moving it to this next sentence.

Gotcha yet?

Not because this brief is so breath-taking (well, maybe), but because your breath paces and punctuates your attention and awareness. **Whenever** you start to give attention to any awareness of stimulus, you hold your breath! When you breathe again, that is part of a pattern where you are releasing your attention from the one focus of awareness and moving it on to wherever it will alight next.

You **can** override this pattern and hold your attention and not just merely fixate your eyes! (Did you? *Gotcha again!*) on one thing through several breaths, but it takes an effort. Normally, you don't go around making that effort, and neither do others.

Your breath is a pace-maker for your attention, just as your child's breath is a pace-maker for his or her attention. Not all instances of hyperactivity and short attention-span are caused by being short of breath, nor all reading problems. Being short of breath, an easily corrected condition, is virtually guaranteed to cause these, however.

This breath pace-making effect is not an absolute. You **can** override this pace-making effect with some effort. For example, **hold in mind** (not just your eyes at one point! G*otcha!*) the thought, "Holding in mind this one thought while breathing several times."

As you can see, you **can** override the interrupter effect and keep one focus of attention in mind through several normal breaths (though some readers may have needed several tries before being able to do so). Also when driving a car there may have been occasions — but watch closely what your mind is actually doing virtually the whole time you are driving with your attention ostensibly on the road!

But it **does** take an effort to override the interrupter effect and even with the effort you just made, with the beginning of one of your next breaths you did find that your attention had moved on. And normally, neither you nor your child nor anyone else goes around making that effort. Normally, there is nothing to prevent your breath from playing its absolute role as the pacemaker for your awareness span.

You can easily test the effects of your breathing on your awareness another way — by going out for a run (or any fairly aerobic activity) which leaves you panting, short of breath. **Until your breathing settles down**, how hard or easy is it for you to give your sustained attention to anything, or to do any detailed work?

Even at the start of a sustained physical effort such as lifting a heavy load, you hold your breath! Doing anything, even physical, which requires concentrated attention, you repeatedly hold your breath, even while trying to fix your toaster or car engine. Some people, whose concentrated effort outruns their breathing span, even become dizzy from this effect.

Check this phenomenon out by watching your own responses, then check it out on innocents around you. Fun … but there is also a very serious side to this.

Normally, there is nothing to prevent your breath from playing its absolute role as the pacemaker for your attention and awareness span. So **the normal span of your breath is critical to how well your mental faculties can function.** This effect is so strong, in fact, it can change the course of national or world affairs!

A Breathtaking Impact on American Foreign Policy

For example: Former Secretary of State George Schultz, despite his high intelligence was remarkably ineffective in office under President Reagan his first few years. Why? Look at recordings of his TV interviews from those early years. He was always very short of breath and often had to pant before he could even finish a sentence. Schultz could not muster and defend his position during Cabinet meetings. Nor did Schultz have the awareness span needed, despite his unquestioned intelligence, to formulate any sort of coherent foreign policy.

You have noticed that even some of your brightest friends and colleagues seem unable to make full use of their intelligence. You know from other things that they are bright, yet they commit gaffes and oversights, or simply fail too often to see the obvious. Why? Why are some impatient with the very detail work which would enable them to succeed in their efforts? Why are so many of even the brightest people uncomfortable at reading? Well, try this one on for size…

The Impact of Your Breathing on Your Language Skills

If your breathing breaks your attention sooner than you can finish reading a sentence, it is hard for you to extract sense and meaning from that sentence, even if it is as easy in content as this sentence is, because before the thought it expresses to you is complete, your attention has veered away with your next breath and broken off the communication from page to you and it takes you considerable extra effort to veer back and pick back up the old focus of attention and hold that attention on this very simple sentence for long enough for the entire thought expressed in this sentence to take form in your mind!

If your breath-span is shorter than **many** of the sentences you read, you can see why your reading is in trouble. This may be handicapping your reading of the technical journals which you need to keep abreast of in your field and career.

Smoking may be hazardous to your intellect, not just to your life and physical health!

And when you look at some of our pitifully thin-chested younger generation who have even far **less** reading comprehension . . . . .

An Easy Cure for the Problem

This difficulty, at least, is easily cured! Any aerobic activity — running, aerobic dance, sprint swimming, certain breathing exercises — will increase lung capacity and bring wider ranges within the span of awareness and attention. The one activity which elicits the most response from the body, in terms of quickly developing greater lung capacity is **held-breath underwater swimming.**

This should be well underwater across the bottom of the pool, because we find a distinct difference in response elicited between people who do this and people who simply swim head-down across the surface. It appears that to actually be underwater elicits a significantly different physiological response, significantly further aiding breath development and other effects cited below.

Any pool will work. During winter months, there are indoor pools in almost every community, most often at community centers, YMCA's, and colleges. In warmer months, there is no lack of pools. We strongly recommend a concentrated three-week period in which, each day, you spend

an hour's total time at the bottom of the pool, stretching the time you can remain underwater on one breath. *Let the lifeguard know what you're doing, so she/he doesn't panic.*

This writer got into trouble of another sort after one summer he spent in summer school to make up serious academic deficiencies — an opposite difficulty which might also be a problem for some of your brighter students and friends and colleagues. Most afternoons that summer, he spent at the university's pool and spent a lot of that time underwater. **That** was the summer everything transformed for him, and he did not know until long after why it was that his world transformed. The trouble? As a writer and as a speaker, his sentences became longer than most people were comfortable reading or listening to! He had to and has to constantly work at making them shorter.

Is that a problem for you or for some of your acquaintances? Check to see — our prediction is that whoever has this problem also has or recently had greater than conventional lung power, whether from swimming or from other "lungevity" exercises.

Another problem that many students and adults have experienced as a result of a greater-than-conventional awareness span: making others uncomfortable by almost instantly seizing on the point they were trying to build to in their arguments, long before they got to that point.

Forewarned is forearmed. The writer had gotten himself up to four and a half minutes at a time underwater. Working up to two to three minutes at a span should suffice for most people. If your breath span becomes much longer than that, understand its probable effect on your sentence structure and on your span of awareness — and on your further high intelligence — so you can deliberately begin re-shortening those sentences and avoid the difficulty which this writer unknowingly encountered.

The Effect on Intelligence

Why did we say "intelligence"? Another effect of held-breath underwater swimming is upon the Carotid arteries which supply the brain.

Held-breath underwater swimming builds up carbon dioxide in the bloodstream which, in turn, expands the Carotid arteries feeding circulation to the brain. The recommended hour per day over three weeks **permanently expands** those Carotids and the circulation to your brain. This not only improves your "wind," but also improves the physical condition of your brain and **is an easy way to increase intelligence**, even your own already-high intelligence.

That CO2/Carotid-expansion relationship is a safety system which was bred into all of us, from a time when our ancestors lived under much more rigorous conditions than we do. Any of our ancestors from such times who did not have the ability did not live long enough to **become** our ancestors. We still have that Carotid-expansion trait, a **fact that every medical doctor in this country has had to memorize while going through medical school.**

Every doctor had to memorize that fact — that the Carotid arteries expand in relation to carbon dioxide in the bloodstream. Yet organized medical science has always looked in directions far more expensive (and disastrous, as per the examples of hyperbaric oxygen — and of certain expensive drugs with unhappy side-effects) in its efforts to treat various forms not only of mental and cerebral deficiency and brain damage but even cerebro-**vascular** deficiencies!

Is the fact that there is much more money to be made from expensive equipment and drugs, whether effective or not, the controlling motivation in medicine? Make your own test of the matter. Ask your own doctor about the fact of Carotid/CO2 expansion and confirm this to your own satisfaction. Then make your own reading about the motivations of your doctor (and/or of the people who keep him or her informed of developments) as to whether these motivations are predominantly medical, professional, humanistic, scientific, personal or mercenary, by assessing his or her response to the idea of using that Carotid-expansion response as an enrichment or even as a treatment.

What has made carbon dioxide enrichment a successful brain therapy in those relatively rare instances when it has been thus applied, especially to brain-damaged children, is this: whether by underwater swimming, baggie breathing, certain special breathing exercises, or by whatever means…

… If carbon dioxide levels are made quite high, quite often over a period of several weeks, the Carotids don't keep on closing back up. They stretch and accommodate to become permanently broader and supply forever not only more oxygen to the brain but more nutrition and food energy and, most important, more cleansing away of toxins and fatigue poisons. That is why we strongly recommend the hour per day, three-week intensive period of underwater swimming.

This improved circulation to the brain means a physically healthier, more intelligent brain, improving all areas of life and not just the intellectual.

A Technical Note: What actually reaches your brain cells is mediated by another circulatory system, your cerebro-spinal fluid. A blood-brain membranous barrier prevents blood and its impurities from reaching your braincells directly. An enriched blood circulation does, however, constitute for your brain a steeper osmotic slope, giving your cerebro-spinal fluid system more to work with and still means a physically healthier, more intelligent brain.

A Cautionary Note: Any cerebro-vascular or stroke patient attempting to use held-breath underwater swimming or other CO2 enrichment methods as a way to restore mental functions **must** do so **only under very close supervision of his/her doctor**. Even there, though, some nutritionists believe that some of the focused foods may also help support the brain circulatory system through such transitional stress, including Vitamins E, C, bioflavenoids such as found in the skins of grapes, oranges and most other fruits, and cholesterol-dissolving lecithin, restoring and supporting the circulatory system toward and during the several weeks of intensive practice of held-breath underwater swimming.

Special Note: For years we had been observing this effect, that people who held-breath swim actually underwater do far better for their efforts than does anyone else — including even those who swim across the top of the water face down for purposes of building the CO2 effect. As of this 1991 rewriting of this paper, it turns out that our observations were correct indeed. There is **an additional effect** from held-breath swimming actually underwater. Marine biologists call this additional effect the **diving response**. All mammals including humans manifest this diving response. When one is actually underwater, even more circulation is shunted into the internal organs, including into the brain, than just with the CO2 Carotid artery expansion!

So now there are **three** major reasons to practice held-breath underwater swimming:

1. improve awareness and attention span by improving breathing span;

2. improve intelligence by improving the physical condition of the brain — expanding circulation to the brain through using CO2 to expand the Carotid arteries;

3. likewise improve intelligence by improving brain health through greater circulation during the diving response! For the full range of these benefits, then, you really do need to go actually underwater. Within this combination of effects, this mammalian diving response effect appears to be unexpectedly strong, making a huge difference in outcomes between those who actually go underwater and those who do not, in pursuit of these various effects.

How to Overcome Fear of the Water

Almost any aerobic-type activity should have some benefit. Apparently for reasons of system arousal, held-breath underwater swimming appears to be far superior in its benefits to brain, breath, and perception. Many people in obvious need of such benefits may, however, be prevented by fear of the water. If they could overcome that fear and practice held-breath underwater swimming, they could broaden their awareness span, increase their intelligence, and enjoy generally healthier brains. Overcoming such fear is also valuable for safety reasons: adults have been known to disorient and drown in two feet of water!

To overcome fear of water, hold concretely onto the typical rung stairs, or concrete inset spaces serving as stairs, which go down the side or ends of the typical swimming pool. Grasping by hand is biogenetically our most familiar response, one of our most primal. By contrast: in most learning-to-swim programs, the unfamiliar patterns of muscle movement associated with trying to learn to swim are not the kind of reassurance your body may want when in a totally unfamiliar environment.

Grasp those rungs, and use those rungs to practice pulling and pushing yourself up and down through the force you exert on those rungs with that familiar grasp. Practice holding yourself under, for longer and longer times, and then pulling back up. When you find that, through holding yourself under by means of those rungs, the underwater world has become familiar and interesting to you, you've become curious about other areas of the bottom of the pool, and you are able to stay under for two to three minutes at a time, you will also find that your fear of water (or your child's, if that is what is being worked on) is long gone and safety secured in an area once at real risk.

Further Benefits

An hour's total time under water, two to three minutes at a time, per day, over two to three intensive weeks should add an eventual five to ten points I.Q. to your intelligence and an immediate increase to the richness and span of your awareness. With your attention span improved because of a deeper breathing-span, you will generate more experience of several items at a time being contained within one span of awareness. That, in turn, should considerably improve your sense of relationships between those items and generally. That makes a profound difference in the quality of one's thinking and perceiving! How profound? Since we don't have test instruments to measure it, it's difficult to appreciate until you've gone through it, but you **will** notice a profound improvement!

Your personal power as an individual may also improve remarkably, more able to press your points, hang in there longer than others can attack your points, and to easily sustain efforts which other people aren't up to making. There is even a cosmetic benefit!

An hour's total time under water per day over two to three intensive weeks should add an inch per week to your chest circumference, making you physically more attractive!

The intelligence gains will be over a long period of time, as the effects of improved circulation work their way into the patterns and contents of your brain's responses. The other effects will be immediate. All cited effects should prove to be permanent.

The full benefit is gotten only with a schedule of CO2-enrichment at least as intensive as the hour per day for two to three weeks we've recommended, forcing the Carotids into a permanent accommodation for a larger flow of circulation. A less intensive schedule may have some benefits, but allows the Carotids to re-equilibrate instead of stretching.

Schools often seem reluctant to accept any program likely to increase their students' intelligence. The past 40 or so years, they even appear to have gone consistently in the opposite direction. Could this relate to the fact that (at every level below graduate school, that is) no one gets more pay if Junior learns better, but if Junior learns worse, much more money and power are allocated into the system for compensatory instruction? (In one of this writer's workshops, recently, were no fewer than six teachers from various schools which had just been abruptly disqualified from further Federal assistance because they had made the mistake of improving what they were doing!)

It is also true that if the underwater swimming were widely adopted at a school, the need for expensive remedial programs would sharply decrease and with it, possibly the school budget accordingly. The decrease in human suffering does not show up on the accountant's page.

You can, if you like, assess the motivations of your school or school system at its power top by suggesting held-breath underwater swimming or any other program which clearly would reduce the need for expensive remediation. Then, evaluate the responses of your school or school system. See if your respondents offer legitimate reasons for not doing this, or instead give you a series of excuses and situations over which the respondent claims to have no control.

By this little test, determine to your own satisfaction whether the motivation of your school or school system is to help your child learn, and to help children generally learn and learn better, or whether it is a money-grabbing machine which will relentlessly pursue dollars even if doing so means harm to our children.

But as an underwater swimming **safety** program **that** is politically and administratively feasible, perhaps you can talk your school into including in its phys-ed program a six-week unit in held-breath underwater swimming as a **safety** program to ensure that all children can remain safely oriented in water even if they should fall into deep water somewhere by accident. So long as your school (or its top administrators, who are unlikely to be reading this article) does not know that such a measure will also make its students a lot brighter, there is a chance that it will take the desired action.

Meanwhile, you don't have to wait upon the infinite wisdom of the authorities before helping either yourself or your own child. Virtually every area of this country now has swimming pools. Almost every substantial community has at least one indoor pool for wintertime use. Even

many schools have these, ironic though that may be, as do some community centers and most YMCA's and athletic clubs.

Just go into one of these everywhere-available swimming places and start practicing at staying under and moving around on pool bottom for longer and longer periods of time, an hour per day every day for three to four weeks. Play underwater retrieval games with your child, underwater tag or whatever to keep him/her (and you) entertained, until you can comfortably sustain a breath span of two and a half to three and a half minutes. (Most people can go to four to four and a half minutes within three to four weeks, but then might find themselves "too bright" for their surroundings.)

One more sweetener is the fact that this underwater swimming activity also makes you (and/or your child) **look good**, adding about an inch per week for awhile to chest circumference, and toning up general bearing.

For those who are unable or disinclined to go swimming, this writer has published details of other CO2 enrichment procedures, including certain breathing exercises, which can accomplish some of the same results. ("Sip-breathing," for example, is a procedure which allows you to conserve your supply of CO2 half-again to twice as long as you could from simply holding your breath, to force a much richer expansion of the Carotids.) Held-breath underwater swimming, though, is much the stronger procedure for CO2 enrichment and, further, engages that marine diving response to further expand circulation to the brain. Thus we strongly recommend it to open up some truly breathtaking possibilities for you and yours.

Lastly, not only intelligence and awareness span, water safety, and good looks benefit from this self-training. The ability to **sustain any kind of effort** at whatever activity clearly are a function of your "wind." Not all of life is a breeze, and some things **do** require sustained effort. In many regards, then, through held-breath underwater swimming, you (and/or your child) can become not only brighter and better looking, but a much more potent and effective person.

Not everyone is bright enough to appreciate the desirability of becoming brighter. For that reason we expect that it will be mostly those who are already intelligent who will pursue such practices as held-breath underwater swimming to improve intelligence ("the rich get richer…"), rather than those who appear to most need that. Still, the apparent value of such practices appears to stretch across all ranges of intelligence — high, low, or ordinary.

***

This, then, was the first procedure to increase intelligence: held-breath underwater swimming. For accumulating 20 hours of held-breath underwater swimming **within** three weeks from start to finish, you will experience:

- the previously-promised 10 or more points I.Q. gain;
- better span of attention; better span of awareness;
- better awareness of the interrelatedness of things and of ideas and/or perceptions;
- finding yourself way better at winning arguments or disputes!

(20 or so seconds to three minutes at a time underwater, stretching the time a little each dip but remaining well within the bounds of comfort and safety — be sure someone with you there is aware of what you are doing. By the above procedure, you must be truly underwater, not just

dipping your face in or just holding your breath, because the brain-circulation enhancement induced by the marine diving response — common to all mammals — is unexpectedly powerful in this combination of effects.)

***

Special Addendum 1 — 2002 to the CO2-building, brain-building, held-breath underwater swimming procedure recommended here in the above article.

We still would very much like to see, and to some extent can support, formal research done on the use of held-breath underwater swimming to increase intelligence, attention and awareness span, physical coordination, and general physical health.

In the meantime, it is now pretty clear to this writer that all the while during that intense brain-building interval of two to three concentrated weeks of held-breath underwater swimming and for some weeks thereafter, it is hugely important that you be making demands on your brain, learning new subjects, new skills, new arts, figuring out things, laying in new abilities, so that extra circulation is being taken up and so that the new equilibrium that is being established has a USE for all that extra circulation. I think this is very important.

In the new version of the book *How to Increase Your Intelligence,* I am emphasizing this point, that you don't want the new equilibrium simply to be all that extra circulation going to support just what your brain is doing now.

"Function determines structure." You can't expect to build extra muscle with supervitamins just sitting there on the sofa. To be effective with physical strength-building, you have to combine any special nutrition program with a physical exercise regimen. Start figuring out things and working your brain, "press mental iron" — and not just a lot of trivial mental puzzles but stuff worth figuring out or learning, stuff even worth getting excited about. For at least this one concentrated interval, push yourself.

***

Special Addendum 2 — 2002
Now as it turns out, there is even some increase in bloodflow to the brain resulting from apoxia alone. However, this is not the effect we are after, because with the program we suggest there'd be a net increase of oxygen to the brain even during the actual held-breath underwater swimming, to say nothing of the rest of the time. That increase, of course, results from (1) CO2-triggered expansion of the Carotid arteries; (2) the mammalian diving response from being underwater, which further increases circulation to the brain; and (3) improving respiratory capacity, and the effects of that on attention span and awareness span.

Here is a relevant article on "Changes of cerebral blood flow during short-term exposure to normobaric hypoxia" by Buck A, Schirlo C, Jasinksy V, Weber B, Burger C, von Schulthess GK, Koller EA, Pavlicek V, published by the Division of Nuclear Medicine, University Hospital, Zurich, Switzerland. They report, in part, as follows:

> Decreased arterial partial oxygen pressure (PaO2) below a certain level presents a strong stimulus for increasing cerebral blood flow. Although several field studies examined the time course of global cerebral blood flow (gCBF) changes during hypoxia at high altitude, little was known about the regional differences in the flow pattern.

Positron emission tomography (PET) with [(15)O]H2O was used on eight healthy volunteers to assess regional cerebral blood flow (rCBF) during short-term exposure to hypoxia corresponding to simulated altitudes of 3,000 and 4,500 m. Scans at the simulated altitudes were preceded and followed by baseline scans at the altitude of Zurich (450 m, baseline-1 and baseline-2). Each altitude stage lasted 20 minutes.

From baseline to 4,500 m, gCBF increased from 34.4 +/- 5.9 to 41.6 +/- 9.0 mL x minute(-1) x 100 g(- 1) (mean +/- SD), whereas no significant change was noted at 3,000 m. During baseline-2 the flow values returned to those of baseline-1.

Statistical parametric mapping identified the hypothalamus as the only region with excessively increased blood flow at 4,500 m (+32.8% +/- 21.9% relative to baseline-1). The corresponding value for the thalamus, the structure with the second largest increase, was 19.2% +/- 16.3%. Compared with the rest of the brain, an excessive increase of blood flow during acute exposure to hypoxia is found in the hypothalamus. The functional implications are at present unclear.

Further studies of this finding should elucidate its meaning and especially focus on a potential association with the symptoms of acute mountain sickness.

Final Note on Held-Breath Underwater Swimming: In order to achieve maximum results from this exercise, you should practice this exercise daily at least over a three-week span. Occasional swimming does not have much effect, as the Carotid arteries rebound.

Exercise 20: One Way to Improve Eye Coordination

This is another low-cost or no-cost way to improve how well your eyes can work together. You need three pieces of string, two short sticks (these can be ice cream sticks) and a golf ball or large marble plus some tape. The three lengths of string are: one of them about three feet; one of them about two feet; and one of them about one foot in length. The whole assemblage will fasten to a nail head in either your ceiling or overhead doorway.

The three-foot string attaches to your overhead nail head. The other end attaches to one of those short sticks, close to but not quite on the center. The two-foot string: one end of that attaches near but not quite on to the center of that first short stick. The other end of that two-foot string attaches to your other short stick, near but not quite at the center. From near the center of that second stick, attach the third, shortest string. To the other end of that shortest string, loop your golf ball or large marble and secure with tape.

Position yourself two to four feet away from that whole hanging ensemble. Set it gently swinging. Its motions should be complex, nearly unpredictable. Keep your eyes as nearly completely as possible on that irregularly moving marble or golf ball. For two to three minutes at a time so you don't tire, often through the day or at least three times a day.

Exercise 21: Looking into Eye Congestion

You might look to a nutrition counselor or some of the books on the subject for a decongestant diet that will bring down your overall levels of congestion. In general, increasing the level of raw fruits and raw vegetables in your diet can help this, and drinking a fair amount of relatively pure water (some sources say up to eight full glasses of water a day, but I find that a bit heroic). Supplementing with Vitamin C is also reputed to help bring down levels of congestion. I am neither a physician nor a nutritionist so you need to check other sources on this matter. Higher levels of physical activity (here comes that ping pong again, or maybe some of those aerobics) can go a long way to reducing congestion generally, not only around your eyes.

Also, an allergist can help you discover some elements in your environment to which you have some sort of chronic allergy, or trace allergies in some of the food you eat, which could be the source of that congestion in and around your eyes or even directly in your brain. If you have good days and bad days, look to an allergist as one possible way to make a major positive difference in your life and level of abilities.

Generally you have three ways to improve how well your eyes track together, which in turn affects how well much of your life works: one is through exercise and training, such as with ping pong and/or that hanging-swinging contraption; one is through reducing congestion in and around your eyes; and one is professionally, through working with a developmental or behavioral optometrist or ophthalmologist.

Win's Recommendations

To this point, to review what you have learned, Win strongly recommends that you perform the following practices:

- Constantly, ongoing, many times a day, add to your Portable Memory Bank.
- Flick-Gazing for one to three minutes at a time is a very good daily practice. The first few days, probably two to three times a day.
- Seeing once in awhile just how richly and colorfully you can describe something, how much detail you can give it.
- Capturing your sidebands of thought and perception daily (with the help of friend or alarm clock), especially through the first two weeks of working with this course.
- The Flash-Response method of problem-solving, great for your rotation. Practice activities are done daily, while practices for your rotation, you do ONE of your rotated practices every day but a different one every day. Any one rotated exercise might get practiced once every week or once every ten days or however often, depending upon what else you have in that rotation and whether you want to invest more than 20 minutes per day to developing your brain.
- The various forms of Freenoting, in rotation with each other and in rotation with some of the other brain-building practices.
- Remind yourself of your goals — why you are increasing your intelligence and what's inspiring your push forward in that process. Remind yourself several times daily of the "Prime Motivator" goal you've posted at home and at work.
- Crab Apple is a good problem-solving procedure and practice to use in your rotation.
- The Image Streaming is an outstandingly valuable daily practice, 5 to 15 minutes each time.
- Training your eyes and decongesting, how much depending upon how much of a factor that aspect may be in your life. Whatever it takes to get good at ping pong, playing that game daily or 2-3 times a week. Drinking more good water and eating some raw fruits and raw vegetables. Eye-tracking the swinging contraption.
- Practice playing a wind instrument or brass, or singing in a group, or aerobics, several times a week. Tai Chi can be every day or thrice a week to have the desired effects fairly soon. Held-breath underwater swimming needs to be done on a special concentrated schedule in order to have the most permanent expansive effect on your Carotid arteries and brain circulation.
- We strongly recommend a concentrated three-week period in which, each day, you spend an hour's total time at the bottom of the pool, stretching the time you can remain underwater on one breath.

Exercise 22: Freenote Review Exercise

Described here is a special activity that Win suggests you do to end this session. With a tape recorder or live partner for 15 minutes, or with a notepad for 20 minutes, please Freenote everything that comes to mind about brain building. Not only what you've learned here, but EVERYTHING that comes to mind in the context of building brains, minds, abilities. It's a great review process, and you will likely discover many new insights that you might not have realized by doing it. Remember to rapidly flow without pause or hesitation or any kind of letup, uninterrupted for 15 minutes to partner or tape recorder, or 20 minutes on notepad.

Listed below are four very simple things that Dr. Wenger suggests you to do with what you've just Freenoted:

1. Pick the very most interesting idea or thought that you expressed during that Freenote. Usually, that most interesting entry will come near the end of the Freenoting or brainstorming.

2. Write out in one or two short sentences that most interesting thought, idea or observation.

3. Depending upon how you feel about what you said in that very short paragraph, please put either a large question mark at its end or a large exclamation point.

4. Write out in large print two copies of that very short paragraph, including that large question mark or that exclamation point. Post these where you will see them frequently through the day, one at home and the other at work.

Session 7: Feedback Reinforcement

In this session Win begins by introducing Marion Diamond and her research with rats as evidence that feedback is key in the development of intelligence building. To start this lesson, you will need a half-dozen or so index cards and a red magic marker. You also need a full-size notepad and pen.

Eye Squinting (do not do this while driving)

Squint your eyes, leaving them barely enough open that you can still see easily everything that's around you.

With your eyes so squinted, notice it takes a definite interval of time to figure out some of what you see or what some objects are, even familiar ones. Why is this, and what does this phenomenon mean for us? Perhaps that with eyes squinted down that even familiar things become harder to recognize and figure out what they are or mean.

The answer to that first question — why it's harder to make sense of what you see when less of your visual field is reporting to you what you're looking at — can be found in the back of your brain. The optic nerves from your eyes go across the floor of your brain to two structures, called chiasma, at the very back of your head. These chiasma receive the visual information from your eyes, sort it out, and send their own stimulus and information in turn out into the rest of the brain. When you squint your eyes, even with enough light still coming in to readily see the object, your visual field is reduced. Less of the chiasma is activated to activate, in turn, the rest of your brain. As a result of the squinting, you only have a small part of your brain processing your visual information and so it's harder to make sense of that visual information.

Conversely, if you can get more of your visual field working, activate more of your chiasma, you can activate more of your brain from your chiasma and more readily make sense of things — in effect be more intelligent.

Exercise 23: Enhancing Your Visual Field Experiment

Keeping your eyes fixed at some definite object or place across the room from you, hold your hand out at right angles (90 degrees), or if you can't see it that far to the side from where you are looking, bring it in a few degrees toward where you're looking until you CAN see it.

Without moving your eyes from that center across the room, with your hand in sight along the rim of your vision, please hold up one, two, or three fingers. Without moving your eyes, count them visually.

Most likely you can SEE the hand there, you know fingers are raised, but from what you're seeing you can't count those fingers visually. Of course you know by feel how many fingers you have up, you raised them. But at that angle from where you are looking, visually you can't count them!

The rim of your vision is undeveloped. You've relied so much on the center of your attention that your rim never learned how to count, your rim never learned how to read, just the parts of your brain activated from the center of your vision.

What does this phenomenon mean for you, especially in context of this course where you are learning to increase your intelligence?

What would happen if the rim of your vision DID learn to read? Suddenly you'd have that much more of your brain developed and participating in your ongoing perception and thinking.

Take the red marker and mark words on each of one side of your index cards. On one side of one card mark the word "run," on the next card "sit," on the next "book," and so on. Leave the other side blank.

Pick up any two cards at a time, back them up to each other, hold them such that you can flip them easily back and forth displaying to you that front word, alternating back and forth between card fronts. For example, holding the two cards back to back so as you turn them back and forth first one word will be showing and then the other, like "run" and "sit."

Hold the pair of cards out where you were holding your hand with fingers up a minute ago, whatever angle and distance that was from the center of your vision. Flip the cards back and forth to alternate in your view the two words. In that position, relative to the center of your vision, without moving your eyes over, can you tell which word is showing? If not, move it barely in, barely in, until you reach the distance from the center of your vision that you CAN barely make out which word is showing. See if you can train that portion of your rim of vision to more readily distinguish those words, other words, numbers.

Do this only about four to five minutes at a time because eye work can be tiring, but do it FREQUENTLY, three to five times a day for a while.

Once you've got that point on your rim of vision trained to read, see if you can train the area also that's just a little further away from the center of your vision. And then the area just a little beyond that in turn. Likewise, other points all around your rim of vision, all the way around at such an angle and distance from your fixed center of vision. Each spot on your rim of vision that you can train to read is an area of your brain you are developing whose intelligence will be added to what you're using now to handle the world with.

For the next two minutes, work with your rim of vision and with these cards. Go as far as you can with that in just these two minutes to help make sure you've got the hang of this and can practice it more extensively later. For these next two minutes, then, see how far you can get with these cards and the rim of your vision.

This particular practice takes some work to carry through, but each spot on your rim of vision that you train to read develops a chunk of hitherto unengaged brain and its working intelligence, adding that to your regular ongoing everyday intelligence. You'll more and more be

able to make more sense of more things more quickly and easily. So Rim of Vision is one more in your list of daily practices — actually a few times each day, just a couple of minutes each time for improving your intelligence and your general level of abilities.

Exercise 24: Walk-in-the-Woods Problem-Solving Procedure

Please pick out and write down on the top of your notepad one major question, or one major problem, with the intention of discovering its solution at this time. Make this a problem that's well worth the attention and effort of solving. This isn't just an exercise; it's an opportunity to really get some issue solved in your life.

Below is a descriptive article taken from Winsights Index Part #56 on the www.winwenger.com website:

Part #56

"Walk in the Woods"

This historically "tried-and-true" procedure for creative problem-solving is very similar in its basic principles to our preceding exercise on metaphor, "What if the Problem Were a Crab Apple," but its application and form differ. It's another way of bringing your word-consciousness and your (non-verbal, sensory-imaging) main intelligence close enough together for a spark to jump across and become an a-ha! This "Walk in the Woods" procedure has the further advantage of having a built-in "ranging" device.

With a real electric spark, as you got close to what would let it jump, you could feel your hairs rising from the buildup of electric potential. The "ranging" device in this present procedure is simply that whatever catches your attention as you walk around this place with a problem in mind is likeliest to in some way "resonate" with the issue and bring your conscious mind to where the spark of inspiration/ideas/solutions can jump across into consciousness. So that what catches your attention in your surroundings, as you walk around in reference to a given problem issue, is even likelier to produce your a-ha! than were the arbitrarily chosen objects in the Crab Apple experience.

This procedure can be done either with a live partner, notepad, or tape recorder, or with some combination of these. The version below is written for notepad but is readily interpolated into the other recording device(s).

The Procedure

1. Have ready something you can write extensively on, such as a notepad, and a pen or pencil.

2. Write on the top of that notepad what problem you are working on this time and why you care about solving it.

3. "Tuck-and-Take" — tuck the notepad into your pocket or under your arm and take it with you. You will have ten minutes to stroll around outside of this building and let something … SOMETHING simply catch your eye and attention.

4. On your notepad, write what features of this object also come to your attention. List 10-20 physical aspects or descriptive features of this object. Then describe how this object in some way represents the problem situation and/or its solution and how the various features of this object in some way represent the various features of that situation.

5. An imagination stretch: Put your hand gently on the object, then silently, mentally, ASK that rock or tree or bush or whatever object several questions ABOUT the problem situation! Listen intently, then write down whatever impression, in whatever form, comes to mind as a response, whether it's a particular memory seeming at first to have nothing to do with the matter, or some particular aspect of the object you're looking at that catches your further attention, or whether some sort of insight comes to mind AS IF it were somehow that tree or bush literally answering you.

6. Write up enough of your experience that you can report it to listeners in some detail.

Advanced problem-solvers also like these concrete metaphors (this discussion also refers back to "Crab Apple" in Session 5)

Originally, I developed these very simple, concrete metaphor ways of solving problems because a lot of the schoolteachers I have to teach each summer are very concrete-minded and because, in both my own creativity-training programs and in sitting in on those of others, I had often seen people for various reasons experience some difficulty in getting into effective use of metaphor or otherwise getting loose enough from a virtual death-grip on whatever problem to be able to look up and see alternatives.

Happily, these two very concrete ways of using metaphor have turned the trick — that is why we now reference these among our battery of arguably the world's best problem-solving methods, in the CPS Techniques section of this website.

Unexpectedly, and even more happily, even the more sophisticated, experienced, and advanced professional creative problem-solvers also appear to delight in these two very concrete methods.

Originally I had envisaged these two techniques as an entry point to introduce people to creative solution-finding, using these two methods mainly as intermediary steps leading toward the "real" methods I'm nowadays used to using. Yet these two methods work so well all by themselves that we can offer them here in their own right as major ways you can effectively and creatively solve your problems.

The apparent success of these two concrete methods has led us to seek out other very simple and concrete ways also for solving problems (and for bringing about other desired effects). One of the latest examples of these is the very simple, direct Windtunnel method, which is also part of the CPS Techniques exhibit of the world's best creative problem-solving methods. We are building the website exhibit at www.winwenger.com to become a world resource freely available to anyone on the planet who would like to solve a problem or discover an answer. As in the present instance with "Crab Apple" and "Woods-Walk," each method is laid out step by specific step in self-taught form.

"Crab Apple," "Woods-Walk," and all these dozens of other methods can sit gathering dust on the (metaphoric) shelf, or you can actually use them and get some benefit from them. Once you've done so and found them to be what they are, we'd appreciate your steering to them others who can use them.

Postnote: For this writer, the original source of "Problem-Solving Woods-Walk" was Sidney J. Parnes, Visionizing: State-of-the-Art Techniques for Encouraging Innovative Excellence (Buffalo, NY: Creative Education Foundation, 1988). However, Dr. Parnes claims his source was conversations with this writer. Also, we have amended the procedure, and Dr. Parnes may in no way be held responsible for any shortcomings in the present version. This is, by the way, the same Parnes who helped develop the original Osborn-Parnes Creative Problem-Solving (CPS) procedure and program which launched the worldwide creativity movement nearly half a century ago.

As a Final Note: To help you remember the six steps to the Woods-Walk Problem-Solving technique, write down along one side, left or right, of your note pad these words:

1. CATCH, meaning what catches your eye as you stroll around your building.

2. ASPECTS, meaning to list a dozen or 20 descriptive attributes of what it was that caught your eye and attention.

3. HOW, meaning how in some way what caught your eye resembles or resonates with the problem situation and/or its solution.

4. FEATURES of what had caught your eye, how THEY relate in some way to features of that situation or its solution.

5. ASK, meaning to lightly touch the object and ask questions of it, and gather impressions of your possible answers.

6. WRITE, meaning to write up your experience and impressions.

The whole of this should take 10 to 20 minutes, the longest part of that probably being just to write up the experience.

Other versions of the Walk-in-the-Woods can be done with a live partner, of course, or with a tape recorder, or even a listener on the other end of a cell phone. It's quite a reliable and practical way to get good solutions, and a very pleasant and strong way to develop further connections with your beyond-conscious resources and intelligence.

With these instructions, please tuck your notepad under your arm, pen in hand, and go forth now on this stroll. Enjoy your walk!

Session 8: Pole-Bridging

Dr. Wenger introduces the concept of Pole-Bridging in this session. He opens this session by citing the studies of Canadian psychologist John Ertl and the work he did with a new IQ measuring device in the 1950's.

A major way to improve intelligence is to improve communications in the brain. In the Pole-Bridging Model, the greater the distance and or difference between several parts of the brain, the bigger the gains when we can improve communications between them. When you build bridges between widely separate functioning regions of the brain, you make a greater improvement in the brain's ability to recruit its own intelligence to deal with tasks at hand. This is the aspect which gives the Pole-Bridging Model its name. In effect, you take opposite "poles" of the brain and, by building bridges of communication between them, enable the brain to draw upon much more of its resources for what it is doing.

Exercise 25: Musical Examples of Pole-Bridging

An example of Pole-Bridging can be found in music. Music involves important regions of the brain both left and right, as the Dusseldorf Studies have been demonstrating. Certain structural issues are addressed in the left, as are tone and pitch and some aspects of rhythm. Aesthetics, art, the sense of beauty, and pattern recognition are largely addressed in the right temporal lobe of the brain — the far right, so to speak. Suppose you are READING music — that strongly involves some other key structures in the far left of the brain, along with some key structures leading from the optic chiasma at the very back of the brain. Suppose you are PLAYING music — that involves key structures and motor functions at the top of the brain and toward the back. So, learning to sight-read and play music, if you have not previously done so, pulls all of that together into one process and builds very nice bridges of communication between a good many important areas of the brain.

Learning to sight-read and play music, practicing the sight-reading and playing of music, is a strong way to build your intelligence. It's a long-run thing — depending upon how much of it you practice, your I.Q. eventually and cumulatively rises by one dozen, two dozen, maybe three dozen points. It won't jump a dozen points tomorrow, but the more you practice and sight-read music, the more your intelligence will gradually but cumulatively increase. So sight-reading and playing music is a good example of Pole-Bridging.

Do you sing or play a musical instrument? If not, what instrument would you be interesting in studying? You may wish to pursue such studies and note any changes that you experience in response. If you already study a musical instrument, then log some of the benefits that you note you are receiving in response to pursuing it.

Rehabilitation Techniques for Stroke Patients

Below is an article on this technique from Winsights Index Part #67 on the www.winwenger.com website:

Part #67

Proposal for Rehabilitation of Stroke Patients by Win Wenger, Ph.D.

We are not medical physicians. Further, we've seen amply demonstrated to us and to others the apparently absolute unwillingness of the medical establishment to consider any inputs from outside itself. So, perhaps, to publish the information below is only an act of futility.

Yet we have been asked often enough about how to repair the brains of stroke and accident victims that I will save us much time by putting this information up here on the Web for anyone's easy reference. And possibly, if certain basic information circulates for long enough, some member of the medical establishment will suddenly discover it as his own, and human lives can begin to get repaired.

Or, if in enough situations families and close associates of enough stroke and brain-injury victims can venture this information within their respective situations, sooner or later a curious and cooperative neurologist or neurophysiologist can be found to act upon it and begin such repair.

Overall Health, Condition and Functioning of the Brain

One of the main determinants of how well the brain functions, and what its physical condition is, is circulation to the brain — cerebral-spinal fluid to and from and within the brain and, on the other side of the blood-brain barrier, blood circulation to and from the brain.

Oxygen, nutrition, food-energy, and the removal of toxins and wastes are crucial to the brain's functioning; the brain is highly sensitive to the levels of circulation reaching it.

Nature has endowed our physical bodies with extraordinary special mechanisms to keep that flow high. Cold water on the face increases circulation to the brain as part of the Diving Response, which all mammals have in response to being immersed in water. Extra carbon dioxide in the bloodstream widens the Carotid arteries supplying the brain, increasing circulation. That response was built, presumably, as an extra measure of protection during extreme exertion while nearing the end of the hunt and for living in smoke-filled caves during caveman days.

The best-known combination way to increase circulation to the brain is held-breath underwater swimming.

Frequent practice of held-breath underwater swimming, over a brief but intense several weeks set aside mainly for that purpose, will train permanently wider the Carotid arteries supplying the brain, greatly improving its physical health, well-being, and functioning.

With stroke patients, however, several additional very serious issues arise around the slight momentary stress such held-breath underwater swimming can place on the circulatory system in and around the brain. Whatever the type of stroke, the held-breath underwater swimming

should be done only under close supervision by a competent physician. Held-breath underwater swimming is likely to be fine for those stroke patients who suffered occlusive (blockage) strokes, but even there close supervision by a physician is mandatory.

Held-breath underwater swimming is fairly likely to NOT be appropriate for victims of hemorrhagic (bleeding) strokes. I'm sorry about that, because such swimming can accomplish so very much for brains. If you heard doctors talking about a "subdural hematoma," they were talking about bleeding that had escaped an arteriole or vessel within the brain and thus likely a sign of hemorrhagic stroke.

Subdural hematomas resulting from mechanical injury to the brain, as in a car accident, once the patient is recovered are not as likely to be susceptible to the slight stress engendered by held-breath underwater swimming, but it is up to the supervising physician to determine this in each case.

The great majority of strokes are occlusive. Relatively few are hemorrhagic.

Even with the bleeding kind of stroke, however, cold-water compresses around the face and the medical practice called "masking" — what I call "baggie breathing," re-breathing your own breath in a bag for carefully controlled intervals — can help some toward recovery.

Where held-breath underwater swimming is healthful and risk-free, that activity can apparently greatly accelerate and extend the recovery of brain and mental functions, just as it can enhance brain and mental functions in normal, uninjured people. You will find some additional information on held-breath underwater swimming in our online book.

Integration of Brain Functions

Integrating between different regions of the brain, and between specific circuits and functions within the brain, is another and likely very powerful way to recover from the effects of brain injury, whether from strokes, disease, traumatic injury, or other causes.

A rehabilitative strategy used in a number of clinics today is centered on a developmental model of human brain function. In this briefing I want to show you specific ways to build functional bridges between different regions of the brain and how to do so to span non-functioning gaps in the brain associated with injury.

External sensory feedback is much faster than internal sensory feedback. Stub your toe, or prick a finger, or touch something hot, or suddenly see danger coming at you, and you react much more immediately than you do to a headache or stomach ache or other internal physiological effect.

There is a good bio-evolutionary reason for that. If you didn't react instantly to seeing that tiger on the ledge above you, you didn't become an ancestor. There wasn't a similar evolutionary pressure for how instantly you responded to internal sensing.

The various brain functions that go into an externally expressed physical activity have to be coordinated. That requires a pretty immediate relationship between the regions of the brain involved with those respective functions. Indeed, a much more immediate relationship exists between those regions of the brain than between regions not so engaged.

What we at Project Renaissance call "pole-bridging the brain" is the principle of taking functions which are found in widely separate, usually not very related regions of the brain (the "poles," if you will) and expressing those brain functions externally in some combination way which requires their coordination. The much faster external sensory feedback from those expressed-coordinated functions forces a more and more immediate relationship between the respective regions of the brain so involved.

Once that faster bridge for brain traffic is built, the resources and abilities of each region of the brain so involved will be that much more accessible to the other involved regions, and vice-versa. Some might call this "intelligence." We won't talk today about the controversies over intelligence-building; we're simply going ahead and giving you here simple ways to do so and simple ways also to speed and extend, potentially very greatly, the recovery of lost functions in a stroke or brain injury victim.

One blessing: once established, the higher level of inter-accessibility remains. Demyelination — deterioration of brain circuits — due to non-use is a matter of some years; myelination — building those circuits — is usually a matter of hours or days.

Image Streaming, freely and completely self-taught here, is so far as we presently know the one most effective activity and practice for integrating the brain generally, just as held-breath underwater swimming appears to be the one most effective activity and practice for building the physical health and functioning of the brain. Image Streaming expresses externally and coordinates our language and thought functions, our inner sensory image functions, several different kinds of ratiocinative process and types of "making sense" within specialized areas of the brain. Our external sensory feedback from this Image Streaming activity builds bridges of tighter communications and greater inter-accessibility between these regions of our brain.

Learning to sight-read and play music is another good example of Pole-Bridging — building higher inter-accessibility between sensori-motor functions, the optic chiasma, auditory functions, pattern-recognition and aesthetic function regions of the brain.

This is one of several reasons why otherwise equal children who learn to sight-read and play music develop higher intelligence than those who don't. (There are additional reasons why involvement with the arts enhances intellectual and "practical" functions, but we'll have to address that topic another time. See also *Winsights* articles No. 39 and No. 41.)

Pole-bridging around specific injury sites in the brain

In each case, one would need to determine (or have the neurophysiologist or neurosurgeon in charge specify):

1. The specific damaged tissues and their functions.

2. The actual behavioral symptoms associated with the strokes.

3. The behavioral functions of the brain tissues still functioning which are closest to the damaged area, on each side of the damaged area.

The purpose of this is to devise bridging combination activities. You want to bridge the functional gaps. You want to set up a demand, which brings obtunded tissues back into full

functioning, and/or to recruit other tissues outside the damaged area to replace the functions of those damaged.

If the behaviors of two healthy but very different tissues, on either side of the damaged region, can be expressed together in some external combination so that their coordination via faster and external sensory feedback forces a closer relationship between those two tissues, neural pathways will be built close enough nearby to the injury that some of those pathways can then take on also some of the lost functions of the area of injury.

This would be a very simple and obvious procedure, but I've never heard of anyone doing it. It is very hard to find a physician willing to act outside of doctrine. The key to press here is harmlessness — that, at worst, such activities may be ineffectual and do no harm; this will humor the family that's urging this for the patient. And, on the face of it, there is a high likelihood that this can, in fact, do a great amount of good. But you need, for this approach, the three points of highly specific information cited above in order to devise highly focused specific exercises to bridge where needed.

Pole-bridging theory — and, with it, the theory of this potentially rehabilitative treatment — remains to be formally tested, however much sense it makes and however obvious it seems. The only forms of experimentation in humans which can be permitted have to be in activities which are totally and obviously safe for the patients. Formal testing should compare recovery rates of patients with whom the procedure is worked with closely matched patients in conventional treatment programs who have not been so treated or exercised.

You may want to take with you a printout of this brief paper, to refer to or even to show to the neurophysiologist in charge of the case you are concerned with, which is why I now emphasize with how complete a freedom our unique copyright notice, below and on other *Winsights* articles, provides for you to printout, copy, or otherwise reproduce this present paper. For the same reasons, you may also want to print out and take with you copies of the held-breath underwater swimming article.

If you can get the neural physician in charge to humor you on this as regards the patient you are now concerned with, you may by that example and its results help countless other human beings as well. Please keep in touch and advise me of your situation. Here is the copyright notice just referred to, as published at the end of most of Dr. Wenger's articles on his website: © Copyright 2003, by Win Wenger, Ph.D., wwenger101@aol.com, P.O. Box 332 Gaithersburg, MD 20884-0332 USA, www.winwenger.com. You may, however, freely copy this paper — in whole, including this article, but not in part — to share with people whom you care about.

Please Note: For © purposes, you may in the present instance duplicate this present section of this text and workbook, extending from "Proposal for Rehabilitation of Stroke Victims" on to and concluding with this present notice. Our publisher would have problems if you included more than that, so please do not copy any additional information. You are, however, indeed cordially invited to Xerox this section as defined and only this section.

Postscript: Two physicians thus far have responded to this article. One physician and medical biologist was afraid that breath holding would raise blood pressure, which of course would be a major no-no for susceptible hemorrhagic stroke patients. The other physician, a general practitioner, was afraid that the mammalian diving response — which he called the "bell reflex," presumably after diving bells used to go down hundreds of feet — would so lower heartbeat and pressure as to theoretically cause cardiac arrest in patients with cardiac insufficiency.

These two physician responses appear to this writer to be mutually contradictory and offsetting. The experience of this writer just from being a few feet underwater is very calming, peaceful, all physiological feelings and parameters I would associate with lowered blood pressure rather than heightened from the breath holding. This has also been reported by others. In no instance of just a few feet down has the effect been anything near like "the rapture of the deeps" from sustained "diving bell dives" hundreds of feet down.

The phenomenon referred to by the second physician appears to be from dives to a depth of hundreds of feet. I don't think anyone would see this as a problem at six to eight feet depth. Nonetheless, I hereby include these few paragraphs as a further *caveat*, this time to cardiac insufficiency patients, with the added very strong suggestion that IF you have ANY health concern or condition which might in some way pose problems for held-breath underwater swimming, no matter how beneficial the indicated effects of such swimming may be, work only under the very close supervision of a physician, preferably not only one who knows you and your condition but who knows something about these underwater and CO2-enrichment effects.

Exercise 26: Pole-Bridging Method #2 (Image Streaming)

This is a stronger way to Pole-Bridge different regions of your brain, and to even more powerfully yet easily improve your intelligence. It is called Image Streaming. This description has been copied from Dr. Wenger's website, www.winwenger.com, Index Part #3:

Part #3 (April 1997)

Image Streaming: Your Own Most Powerful Mode of Thinking

Here, as promised, are the instructions for your most powerful mode of thinking and perceiving: receptive visual thinking, or *Image Streaming*. Twenty-five hours of Image Streaming increases intelligence at an average rate of 20 I.Q. points. It also appears to improve the deeper and more numinous qualities of experience and ability to an even greater extent.

Image Streaming is also the most fundamental version of the modernized Einsteinian Discovery Method or "deep thought experiment." Image Streaming can powerfully help you to solve problems, discover answers, profoundly accelerate learning, inform you about all sorts of aspects of your world and those around you and about yourself, and even accelerate and improve your reading.

You were born already thinking in images. For years that was how you thought, perceived, and understood the world. When well-meaning parents and teachers and adults told you to stop daydreaming, stop looking out the window, to sit straight and pay attention, this most powerful of all your modes of learning, understanding, and thinking did not go away. It merely went underground, so to speak. You still have within you a reflex response, which draws upon all your resources including the deeper, subconscious powers of your mind for solving problems, increasing creativity, and crystallizing understanding. 99.999999% of your mental and intellectual resource, perception, awareness, and database is unconscious and works much faster than does your conscious mind which has been trained by the language you speak to work at the speed of your talking.

Nearly all this database and awareness reside in portions of your brain, that work in images rather than words, and it is usually in images that the most reliable answers and

understandings are expressed. If an answer comes in words, did it come from these richer resources or from the limited left verbal focused part of our brain with which we've been getting the same old answers? If it comes in images — especially if the imagery content is a surprise to us — this is an excellent indicator that we're getting in data from elsewhere in our brains besides the same old word-processor.

At every instant, part of ourselves is reflexively sorting through all our awarenesses and giving us a picture which best relates whatever is the present context. The context can be that of your reading this article, or you can shape context by asking your higher resources a question or pointing them to a problem and letting them answer you in images. Here is one of the many basic, step-by-step ways to sensitize to, use, and understand your Image Stream:

1. THE QUESTION — ask yourself a question.

2. START TO IMAGE STREAM, as follows. Have a live listener or tape recorder with you. Sit back, relax, close your eyes, and describe aloud whatever images suggest themselves. Go with your first or most immediate impressions and describe these images or impressions aloud, as rapidly as possible in as sustained a flow as possible, in richly textured sensory detail. Make it a kind of brainstorm of description, not of ideas but of adjectives, things you can say about the image(s) which somehow describe it or them. As you describe, more free images will emerge: be alert to that or to other changes and describe these when they happen, instead of making it all into some sort of orderly story.

It's crucial to describe aloud **to** live or potential listener (as represented by that tape recorder) in order **to** bring more of your images into conscious awareness, no matter how unrelated the images may at first appear. They may **seem** to your focused verbal left brain, at first, to be unrelated to the question or context, but once you've let all of the data flow freely onto the table, so to speak, you'll find what you've been describing was amazingly and ingeniously straight on target: the right answer or a key insight.

Let yourself be surprised by what the images reveal to you. The more surprising, the more likely that you're getting fresh input from your subtler, more comprehensive and more accurate faculties.

(A few paragraphs below, we provide some back-up procedures for those who, at first attempt, didn't seem to be able to get up images. If you were one of those, then you can work through one or another of these back-up procedures and then come back to this point to decipher the meaning of your images. The remaining five of the seven-step process for image streaming given here are for purpose of getting at the meaning of your images. Whether or not you get at the meaning of your images, simply observing and describing them aloud WHILE observing them will still build your intelligence for that 20-point I.Q. gain and more.)

3. FEATURE-QUESTIONING: while in the imagery, pick out some one feature of it — a wall, a tree or bush, whatever's there. Imagine laying a hand on that feature and studying its feel (and describe that feel) to strengthen your contact with that experience. Ask that rock or bush or wall, "Why are **you** (meaning that object) here as part of my answer?" (Or as part of this message for me...) See if the imagery changes when you ask that question. Describe the changes.

4. INDUCTIVE INFERENCE: once you've gotten five to fifteen minutes' worth of images described, thank your image-streaming faculties for showing you this answer. And ask their help

in understanding this answer or message. The help is by their giving you two to three minutes of entirely DIFFERENT images which nonetheless somehow are still giving you the SAME answer to the SAME problem. Then a third set of images for just a minute or so, still the SAME answer or message but shown to you in yet an entirely DIFFERENT WAY!

5. WHAT'S THE SAME? When all else is different among these several sets of image, what IS the same? Maybe it's the color green, maybe it's triangular-shaped objects; maybe it's even just a feeling — whatever IS the same, it's the core of the message after all the ornamentation of these often-rich experiences is swept aside. These themes or elements-in-common are your core answer or message.

Herein is an additional powerful reason for wanting to describe as much detail as possible from your respective sets of images. —Not only because this helps to better integrate your brain and make you more intelligent, but because the more detail you have there from those several sets of image, the easier it is to find matches, themes, elements-in-common which then will let you make sense out of what you've seen.

6. RELATE: Go back to your original question or context and determine in what way or ways these core elements ARE the answer to your question.

7. DEBRIEF: When you go back through an experience, this often elicits for you secondary associations, thoughts, and awarenesses not immediately apparent to you the first time. Summarize this whole experience either to another person (directly or by telephone), or to notebook or computer. This change of medium, and change of feedbacks, brings in fresh secondaries and should add further to your understanding.

Verification — you might want to test and check your responses with questions such as these:

1. "How can I make sure that I'm on the right track with this understanding?" (You should get back, through your imagery and assorted awarenesses, either a way to test and verify, or a reminder of real-time data or experiences, which demonstrate that this is the right answer to be working with.)

2. "What more do I need to know in this context?"

3. What's a good, practical, concrete first step to acting upon this understanding?"

One unique advantage of Image Streaming: nearly all other creative problem-solving methods invest most of their effort into redefining the question or problem before they ever get started on finding answers. Your deeper faculties already **know** what the real issue, problem, or question IS and immediately get on with giving you an answer to it.

Another is the speed-up of answer getting, with practice. Though the intelligence-building effects of Image Streaming are an accumulation of the time invested in the activity, with practice you CAN get to your verified answer in a mere minute or so, when in that particular instance the answer sought is of more value to you than is the increment of intelligence-building experience.

Everyone can get these images and start gleaning their benefits. If you are one of those who couldn't immediately start getting images in the sections above, and need some help getting started, here's some help.

These "prompting techniques" work best if you have a helper, or listener, who can watch your "attention cues" (changes in your breathing-patterns, or eye-movements beneath your closed eyelids) and in such instance immediately ask you, "What was in your awareness just **then**?" to help you notice when these images happen and start the flow of description going. This "Helper Technique" is in fact the form in which we first discovered Image Streaming in 1973. Some other "prompting techniques:"

1. **Helper Technique for beginning Image Streaming:** For this technique you definitely do need a live partner to follow these next instructions with you.

Normally, it's preferred that you simply close eyes and begin noticing — and describing — whatever images happen to be there. Imagery **is** going on there all the time, an ongoing commentary on everything. For some of us, though, that natural, ongoing process is far enough unconscious that this "Helper Technique" may be needed.

Though that imagery goes on all the time, some images come through a little more strongly than do others, and **while** this is happening, you automatically make little responses which are visible to outside observers. These little responses are "attention cues" because you make these responses when you start to give attention to some stimulus. A partner observing these cues can, whenever they happen, gently ask, "What was in your awareness just then?"— until the one who was asked realizes she/he **was** seeing something just then, and thus begin the flow of description from that point.

Here are ways to make two of these attention cues highly visible and obvious enough that an untrained observer can spot them and appropriately ask you that question.

A. When you start to give attention to something, you hold your breath. If your partner is instructed to breathe slowly, smoothly, rewardingly, **and continuously**, with no pauses between breathing in and breathing out, then the attention-cue pause in breathing becomes highly visible by contrast, and an occasion for asking that partner, "What was in your awareness just then?"

B. If partner keeps eyes closed and the observer notices them moving around under the lids, what is it that they are looking at? Eye movement under the closed lids is what is significant here, not eyelid flutter. When you spot that eye movement, ask partner, "What was in your awareness just then?" When in doubt as to either cue, go ahead and ask the question.

Meanwhile, if the one who is to Image Stream notices any images happening, go ahead and start describing them anyway, instead of waiting for your partner to ask you what was in your awareness just then.

Once anything at all is spotted, the would-be Image Streamer is to describe the dickens out of it in as much detail as possible, even forcing some made-up detail if need be, to get the flow started. (Spotter asks no more questions unless flow falters, in order not to slow the flow or interrupt it.) More, much more imagery will come and, after awhile, the Image Streamer can truly begin enjoying functioning as an accurate reporter of increasingly meaningful and intriguing internal event perceptions.

This spotting and identifying of attention cues is the preferred way to get Image Streaming started if you weren't able to simply look in and self-start as above. However, with so many other back-up techniques available, if 10 minutes' try of such closed-eyes breathing and cue reinforcing does not bring about the sought-for perceptions and experience of "pix," switch to one of the following alternative methods.

In each of these procedures hereafter, we will refer to the person seeking to see images as the Image Streamer, and the listening partner as Listener. Once both of you get images going you can both play both roles simultaneously, one of you describing until you have to pause for breath, the other then rushing in with some description of his/her own images and vice versa, to get a lot of viewing and describing into the available time. Some of the following, including #2, "After Image" next below, **can** be done by just the Image Streamer working alone with a tape recorder.

2. **After-Image** is another way to get inner visual impressions going, as basis for that descriptive flow which leads to further visual mental awarenesses. Stare at a bright light (but nowhere nearly as bright as the sun — 20–40 watts is more than bright enough) for a half minute, or another part of the room or windows which have strong light/dark contrast. After that, especially when you close your eyes, you should have momentary after-images, left-over prints of that light on the retina at back of the eye. You may experience seeing a gloating blob of light or color, perhaps a line or so. Describe that in some detail and continue describing it as that afterimage begins to change color and shape.

Unreinforced after-images last only a few seconds. Reinforced by attention and description, your after-image can last long minutes — we've found experimentally some which lasted four hours! If yours fades out after a few moments, recharge on the light again and resume describing.

At some point in that process of examining and describing your after-images, you may notice experiencing some other kinds of image, whether just trace impressions or a momentary eye, face, landscape, vase, or whatever. It's those other kinds of image which we're hoping to get to and describe in this experience, so please notice when this happens, and switch to describing that new image — in present tense, as if you were still looking at it even if it were only a momentary glimpse that you caught. With sufficiently forceful and detailed sustained flow of description, more images will come.

Again, if 10–20 minutes' sustained effort with After-Image did not lead you to more interesting images, try another procedure. The same for any of these procedures. No one has "run the gauntlet" of these several various procedures without getting pictures in their mind's eye with which to begin visual thinking. Once you **have** a procedure productive for you, practice the imagery-and-describing as such. After getting started, do not try out all the other back-up procedures since that would slow down your more essential practice, unless you plan to teach visual thinking to others and so wish to familiarize yourself with all the techniques for getting people started into imagery. What matters is the Image Streaming itself, not how you got it started.

3. **Worth describing** — you may have been getting blobs of color, lines, patterns, other visual impressions and not reporting them because you thought they were too trivial to mention. Or impressions in other sensory channels — sounds, tingles, impressions of pressure or movement.

These are still inner phenomena worth reporting and if you report them rapidly and detailed enough and sustain that flow of description, you will find this leading to other impressions, some of which clearly will not seem so trivial to you.

If, after 10–20 minutes of reporting blobs of color, this has not led to any other kind of imagery that you've noticed, you can, with eyes kept closed:

A. Deliberately look **beyond** the color as beyond a colored screen, just a few feet further distant, and see..... (whatever impression: resume describing from there). Or,

B. Breathe as if to "breathe in" the nearest of the colors, clearing thereby the way to see other impressions.....

4. **Phosphenes** — gently rub your own closed eyes like a sleepy child, and describe the light and-color blips which result from that changing slight pressure. Go in with describing from there…

The next two procedures become deeply enough introspective that it's easy to nod off — the reason Einstein kept a rock in either hand — so for these two we strongly recommend using a live partner as listener and "spotter." Another reason for using a live partner with either or both of these is that we will be using again those "attention cues" from "the Helper Technique." The instructions for these next two procedures are worded for the use of your listener/spotter partner to follow in working with you as the intended Image Streamer.

5. **Stream from memory** — have your image-seeking partner, still with closed eyes, remember a real scene, especially a very beautiful landscape or object or even a dream. Or have him/her make up a beautiful garden or park. Even if these are just made-up story words at first and not a perceived experience, have your image-seeking partner begin describing that scene to you in as rich detail as possible while keeping eyes closed. Have your image-seeking partner act like a reporter, sending that description to you from amidst that scene as if it is going on right now instead of being a memory of back when. While your partner is describing this memory, watch his or her closed eyes closely. When you see them move under the lids, seize that occasion to ask your partner what she/he saw just then. It's noticing those images that's our key to pick up on and switch the describing to, whether they are memories or new fresh images — especially when images show up that don't fit the "story" or scene being described.

Keep encouraging description until it is flowing, even if it has to be from word-memories or make believe and not pictures, until images are in fact flowing. Once description is flowing, "get out of the way of the flow" by not interrupting with questions or with any encouragement more involved than a lightly positive "um-hm." The flow of description will bring flow of pictures, sooner or later, if that description is in richly textured detail, sustained without interruption or lapse or much repetition, and if the describer keeps eyes closed to see more freely.

6. **"Door"** — much the same as with #5 just above, except instead of a garden, park, or remembered beautiful scene, have your partner imagine being in front of a closed door. Have your partner describe that door and the **feel** of that door as if she/he had just put a hand on it. Then have your partner suddenly fling open that door to catch by surprise whatever's there to see on the other side of it, and ask his or her first impressions of what was there or what **might** have been there. Get your partner to describe that impression, even if it were hardly there, **as if** it were still there, and see what else comes into view.

If nothing at all came, repeat the door procedure but with colorful, textured window curtains, or with jumping around the end of a high wall, with the idea that something unexpected but valuable or useful **will** likely be in view on the other side if your partner opens that view suddenly enough. The more unexpected the contents of the imagery, the better your chances that the image is coming from further ranges of the brain and not just the conscious treadmill portion (which is likely to deal up pictures of what you already consciously know about the context or present situation). The more surprising the imagery contents, the better your chances of getting sensitive, comprehensively based fresh perceptions and insights.

Both you and your partner please note: after you have become conscious of your imagery and have some practice in observing and describing it, you can also use such doors, curtains, corners, etc. as a way to find ingenious possible answers and solutions to questions and problems. In contact with **this** side of the visual barrier, pose your question. Then, suddenly, look into the "answer space" beyond and describe your first impression of what's there, with the expectation of being surprised. If your answer is hard to understand, find second and third such "answer-spaces." Program yourself to be shown exactly the same answer to the question in a wholly different **way** or picture. What's the same when everything is different becomes key to the meaning: inductive inference. Take any answer, however clear or certain-meaning, with a grain of salt. Verify it as you would ideas and answers from any other source.

Key to the above, the following, or any other "back-up" procedure to ensure visual imagery happening is: once you find any kind of impression at all, "describe the Dickens out of it" as if it were still in view, until more appears. Keep finding fresh things to say about it which describe it, even if it's long gone, until more appears. The ideal discovery state, and the ideal personal growth state, is the process of rapidly describing in rich, accurate detail the flow of visual mental images which are undirected except for their intermodulations with your rich treasure-trove of beyond-consciousness understandings and perceptions.

The ability to **Image Stream is natural**; the difficulty some initially have is learned, artificial. Children just don't have any difficulty seeing their inner images. The very highest incidence of people having difficulty "getting pix" this writer has thus far met have been people who **train** other people in imagery or in various forms of meditation! Yet **none**, even of these, is able to go through all six of the above back-up procedures and all of those following below, without "getting pix" and starting to get the benefits of visual thinking.

It almost doesn't matter **how** you get the rapid flow of detailed, sensory-rich textured description going. Once you **do** have it going, to report accurately actual ongoing inner phenomena is so much more rewarding than is "just making up a story" that, over time, this reinforcive effect in the **practice** of Image Streaming will train anyone to be a highly efficient, sensitive, accurate observer — not only of his inner imagery but in all senses, interior **and** exterior. It's getting the richly textured flow of describing **started**, and keeping it going without interruption, pause or much repetition, that's important; the rest will naturally take care of itself. Here are some more ways to get that initial flow going:

7. **Music** — Listen to some richly textured music with your eyes closed (and tape recorder ready to record) — preferably classical music, French Impressionistic music or progressive jazz, with "enough music per unit of music" to attract and involve your more sensitive faculties. **Notice when** you have an image or images and begin describing. Persist in that describing. (A very old idea indeed — remember Walt Disney's **Fantasia**?) If you've really had a problem visualizing, a

live partner could be invaluable at this point, not only as your live listener but to spot your attention-cues when some especially strong image starts to catch your attention: eye movements under the lids, breathing pause, or shifts in face and neck and shoulder muscles.

8. **Background sounds** — Pick up a record or tape of background sounds at one of the New Age-type record shops or bookstores or health food stores. Listen to these background sounds with eyes closed. Describe in detail, to tape or to live listener (who can also act as your Spotter alerting you when you are responding with attention-cues — "what **were** you seeing just **then**?") what images these sounds evoke for you (which may or may not be the images those sounds logically **should** evoke for you — go with what actually comes up). Let the sounds end but keep on describing, noticing when other images emerge and describing these in turn, since this use of evocative sounds is a form of directed imagery and you wish to go on to the undirected form — i.e., Image Streaming.

9. **House blindfolded** — Go around your house blindfolded feeling different objects. Describe at length the appearance of each item you feel. Or, get someone to set up a grab-bag for you, of many highly diverse objects, each object for you to feel, to describe the feeling of, and regardless of whether you successfully identify **what** it is, to describe the appearance of. See if at some point in working through your grab bag this way, eyes closed or blindfolded, you don't notice other images also coming.

(This is also a mildly effective creative problem-solving technique. If you've been working to solve a problem and haven't yet gotten your a-ha! to resolve it, you can turn to perception by asking yourself, "How would a blind man experience this problem differently than I? How would he 'see' I it differently than I'm seeing it now?" or deaf person? or any other sense handicapped? or dwarf? or 6'7" basketball center? Anything to change the way you are looking at the problem and to get you from your stuck "knowledge" and your neuronal habituation into **perception**…)

10. **Air sculpting** — with eyes closed (and other people not about!) begin "sculpting" from thin air (or even from clay) some object d'art. Keeping eyes closed, "hold your sculpture in your hand" and describe its appearance in detail. See if other images don't also begin to emerge for you.

11. **Passenger** — when riding as a passenger in train, bus or car, describe in detail with your eyes **kept** closed what you think is the appearance of the landscape or street scenes you are riding through. See if after some of this you don't notice other images also happening.

Each of these, you see, are calling on other resources to help you visualize your way through these situations. How many times have you had to feel your way through the dark to some goal, even though in your own house (such as going to the bathroom without waking anyone else)? What about all those fictional stories about being kidnapped and the victim figuring out where he was while blindfolded in the escape car?

Another item of the same type, setting up a situational, multisensory demand upon your imaging faculties to bring their response above conscious threshold:

12. **Eat blindfolded** — describe the appearance, in detail, of what you're eating and see if more pictures don't also come.

13. Arrange four to five different delicious aromas from your spice rack. Set them before you, unstoppered. Shuffle them around with eyes closed, and with eyes kept closed, try to identify them. See if any of the aromas trigger further visual images. If they trigger only memories instead, describe a scene from one of those memories in as vivid detail as you can, with eyes kept closed, and see if other images don't develop which can then also be described.

Another type of method, again the goal being that of providing **some** visual stimulus from which to begin the rapid flow of describing to pull onto line other, subtler free imagery …

14. **At night with all lights out**, just inside your bathroom, eyes open, orient toward the lights, turn them on and immediately close eyes! You should find some rather elaborate after-images or even a scene of some sort — describe the Dickens out of it and see what else comes …

Variant: flicking the bathroom lights on and off several quick times with eyes open, then closing eyes and proceeding as above. See how your after-imagery comes out with the lights finally out; and with the lights finally on.

15. Obtain a simple stroboscope (**IF** you are not epileptic!). Set the stroboscopic light to somewhere between 4 and 12 beats per second. Look into that stroboscopic light with eyes kept closed — describe as best you can the evoked colors and patterns for awhile and be alert to other images also happening.

IF no other kind of image happens after 10–15 minutes of this, start describing some imagined or remembered scene in detail, while continuing to look into the strobe light with closed eyes and be alert to such imagery as may develop for you. If nothing additional still comes, try again with the strobe set to different frequencies, whatever frequency makes the greatest color and pattern display to your closed eyes.

Another type of method —

16. **Read a good, fully entertaining novel**, or at least a story long enough to really get into. Then with tape recorder set up and eyes closed, "word-paint" some scenes from the story **besides those described by the author**. See if more also then unfolds. Or, remember a very favorite story or novel and do likewise with that. Again, see if you can pick up on noticing other images also happening as you get well into the rapid descriptive flow, so that you can move from directed to undirected free-association imagery.

The key in any event is (1) to get anything at all started from which to describe; (2) to describe so rapidly, run so fast, that to keep up the flow you **have** to reach beyond what you've consciously calculated, so that you can (3) force your loud-conscious mind to **accept for processing** fresh inputs from your subtler resources — from beyond where it's already got everything all paved over.

You can make work out of this, or each of these and other options can be a fresh, enjoyable new exploration bringing you new experiences and opening toward new skills. Because we perceive more with pleasure than we do when not experiencing pleasure, we suggest that if you need any of these resources to get your Image Streaming going, make that ploy as enjoyable an exploration as you can. To do so improves the chances that your senses and mind will open to fresh new perception, which is your purpose.

Other "Start-Up" Procedures for Anyone's Use: Guided Paths Into Unguided Image Streams:

Favorites of many people are the eight following procedures. Each provides a special **guided** imagery device which then can open for you some especially enjoyable **un**guided free-flow Image Streams. So much so, even if you are already normally able to simply "look in" and "get pix" with which to start describing to tape recorder or listener, you may want to occasionally vary your entry into the Image Stream with one or another of the following guided starts — one of this author's personal favorites is this next procedure …

17. **Tree and cloud** — Imagine, and describe, walking in a meadow. Find yourself going uphill in this meadow toward a single immense tree at the very top of the hill. Engage **all** your senses in the experiencing of warm breeze, sunshine on your neck, face and shoulders, smells of the meadow, the pull of walking up a gradual slope for a long time, the variety of wildflowers, the sounds of the grasses, the sounds of your own steps in those grasses, and of your breathing … To rest up from climbing that long hill, lie down in the soft moss at the base of the tree — look up the tree's immense trunk, between its branches low and high, near and far, at the sky. See the clouds moving across the sky, as you look at them up the trunk and from between the branches. See how the movement of the clouds makes you feel like the tree is moving instead. Experience how the movement of the clouds across the sky makes you feel as if it's the tree, the hill and you who are moving instead of the clouds … Let that movement, let that experience, take you wherever, describing as you go.

18. **Windblown leaf** — Be a leaf, or a fluff of dandelion, blowing with the wind, around corners of buildings and over trees and swiftly racing across an immense landscape … Describe as you go, toward wherever.

19. **Beneath the Boat**: Imagine riding a boat gently onto the lake or downstream in a broad slow river. Peer down into the water, past the sparkle and the ripples, try to make out what's below there. At first maybe you see only the water reflections, ripples and sparkle in this imaginary boat ride, but as you peer more intently, you begin to see .... ?

20. **Climbing a steep hillside or mountainside, through a forest**: describe this fully multisensory experience. As you approach the top, you near a clearing, the scenery unexpectedly opens up to show you … what?

These next three are liked especially by those who are oriented toward science and technology —

21. **The elevator you are on is stopping, its door is opening — where?** Some scene you've not seen before, some place you've not been before, the door slides open and — fast, very first impression!

22. **Be a seed or spore**, floating in far outer space, cocooned and having floated comfortably and safely in space for millions of years. Now approach some world, different from any world you've ever seen before. Drift down onto that world, reporting back here as you go there, rapidly describe in detail as you see and experience more and more of this new world …

Now be a person on that world. Suddenly look down where your feet would be if you were human, what do you see? What surface are you on? Continue describing from there …

23. **Radio pulse**—imagine what it might be like, simply flowing as a pulse of electricity along some wire — into a great radio telescope and transmitter. What would it be like to be a radio wave pulsed out through that telescope — across deep space, between stars, between galaxies, to … where? First impression: describe …

This last device for now is of a type which frequently gives rise to truly high, great, illuminating experiences.

24. **Tremendous light** you sense is on the other side of the door (or curtain), at the head of a long climb of stairs. A sense of excitement, expectation, high exhilaration, seems also to await you on the far side of that door (or curtain). Describe that door or curtain, feel it, stroke it, describe it further; you sense something very bright or very powerful or very illuminating behind it. Suddenly: open that door, rise exhilarated into that light! So much light, at first you can't quite see what's there, but you begin to clear the air by breathing in the light, slowly and luxuriously and feeling more exhilarated with each breathful of light you take in, and there you begin to see around you … what?

You can easily think of hundreds of other such devices for "triggering" a flow of images and experiences, and for shaping or partially shaping contexts without directing the images themselves.

Contrary to recent general belief, virtually **every** human **can** quickly and readily learn to "get pictures" in his mind's eye, thus **becoming able to** do visual thinking. We have provided here, after the main Image Streaming procedure above, some of the back-up procedures we now keep on hand to ensure that **everyone** "gets pictures" and becomes able to think visually. Thus, the benefits and advantages of visual thinking **are widely available**, not just to a fortunate few but to **everyone** who cares to make use of them!

(You are welcome freely to even teach Image Streaming to others whom you care about, and even to replicate this paper—in whole to preserve context, but not in part, despite the copyright notice at the end of this paper—so long as you cite in each instance your source having been via Project Renaissance.)

Here, more perhaps than in any other context, we are looking at equal opportunity! You now have this paper in your hands. You are virtually guaranteed success if you bother to learn and practice simple activities which, apparently, everyone can readily learn and practice! (And if you're tough enough to see through to application the unique discoveries you will be making!) Starting advantage differences of birth, wealth, placement, schooling, even intelligence, can make little long-run difference compared to the advantages of simple sustained practice of these activities and your active resolve **to see their results through** to fruition.

There **is** some justice in the world.

And, indeed, once you've started examining your perceptions and detailing what you find in them, **you are** just as capable of Socratic miracles as anyone else!

Note, though, that for most people, for most purposes, these "back-up" procedures are a sidetrack — an admittedly somewhat entertaining sidetrack, but a sidetrack nonetheless. For most of your Image Streaming exploration experiences, once you've learned how to do so, it should simply be to look in, see "what's playing there now," and to begin describing as you continue to examine what's currently "there."

And in the nature of things, every one of the images you did get up, which was not an afterimage and which was not an object or set of objects that you decided beforehand to see, but which came from "somewhere else besides where you were telling the story from"—**EVERY** such undirected image is full of message, pregnant with meaning, addressing some issue or key insight for you with your subtlest, most comprehensive resources which **are**, indeed, "brighter than we are" even though they are very much a part of you. Although technical solutions and inventions often come in literal images, many important "messages" gotten from your subtler resources are metaphoric, symbolic, and that is why we now refer you to two books, each of which presents you extensive detailed instructions on how to decode these experiences, how to make sense of them, and how to develop your visual thinking skills within hours to the point where you can put questions and issues of all kinds to your inner faculties, instantly get images in response which answer them, and almost as instantly become able to understand and verify those answers!

Copyright 1993, 1994 by Win Wenger, Ph.D. Project Renaissance, 301/948-1122 or Box 332, Gaithersburg, MD 20884-0332 U.S. This paper may, however, be copied freely—in whole including this copyright notice, but not in part, to share with those whom you care about.

***

You've got enough techniques here to get rolling on and to build your mind and intelligence without apparent limit. —But you should know that not one person has yet been found, out of thousands trained (either in our own training sessions around the world or in the independently conducted state university studies in Minnesota which measured the intelligence gains), who has gotten through all those procedures WITHOUT "getting pix" and starting to reap the rich benefits. That means that intelligence — indeed, most of the qualities which make you most human — is not doled out by ration, leaving you stuck with the short straw. Intelligence and your most human qualities can be earned; they can be built, without apparent limits. **Everyone** has unlimited access. If **this** address of "intelligence" be "elitism," then make the most of it! Or come fly with some of your fellow eagles!

We cannot recommend too strongly this tremendously beneficial procedure, Image Streaming, as a daily practice, five to fifteen minutes at a time, today, tomorrow, and maybe forever. Learn it, do it and that, even by itself, will achieve the objectives of this course in helping you make your intelligence higher and your life more rewarding.

Exercise 27: Three Doors in the Mind's Eye Exercise

One of the many procedures related to and drawing upon some of the same dynamics as Image Streaming is called Three Doors. It works well even for non-visualizers (though visualizers enjoy it more). Basic free-association, such as we experienced with Flash Response, occurs at many levels throughout the brain and mind, drawing upon many, many times more resources than the conscious mind can ever get to directly. Three Doors is one of our ways to get to and work with these resources. It is a problem-solving method.

1. Please identify a problem or question that you'd really like an answer to, but which so far you've not consciously found a really great or satisfying answer for. (Win allows one minute here but if you need longer to identify a major question or problem well worth solving, you can pause the recording). Then re-start the recording when you are ready.

2. Now imagine a hallway with three closed doors. Each of those doors, when opened, gives on a view in which, somehow, the truly great answer may be discovered. Each of these three views seems totally different from each other, and each of these three views at first seems totally unrelated to the problem or question. Yet when we put these three different views together in enough detail, you'll discover your answer. So let's take this step by step.

3. Put the question or problem aside for now. Richer, deeper parts of your mind ALREADY have a great, truly ingenious answer — all you consciously have to do is relax and let that be shown to you. But we can help that along this way:

4. Please imagine that hallway, with three different doors. These three doors for now are closed. Please describe the hallway in detail to Win or a live partner and listener, if you can get a friend to go through this experience with you.

5. Now go up to that first door. Don't open it yet, don't "sneak a peek" yet as to what's behind that door. Just gather impressions. Tell Win and/or your live partner as much as you can about this hallway, and about this first closed door.

6. Now go up to the second door. Don't open this one either, don't sneak a peek yet as to what's behind that door. Just gather impressions. Tell Win and/or your live partner as much as you can about this second door.

7. Now go up to the third door and likewise gather impressions without sneaking any peeks yet. Tell Win and/or your live partner as much detail as you can about this third door.

8. Don't sneak any peeks yet. When the time comes to open this Door #3 and go through, we want to catch by surprise our first impression of what's beyond that door in answer to your question. So you'll want to go through suddenly to catch that first impression, WHATEVER it is. Meanwhile, here we are on this side of your closed third door. Open it suddenly!!! (lightly rap table or thump floor) Jump through that opened door and land on your feet. What are you wearing on your feet? What surface are you standing on? Starting with what's directly in front

of you and then looking around and further, tell Win and/or your live partner in detail what the scene is here beyond this third door.

9. Behind each of the other two doors are what at first seem to be entirely different scenes, but somehow each of these different scenes also contains the same great answer to the same question, even though at first everything appears to be different. Let's come back to the hallway now and come back to Door #2. Don't sneak a peek yet, except there is a color to the light that's coming under the door. Can you name that color? Now we want to catch by surprise whatever impression or scene holds somehow your great answer to your question. That answer somehow is beyond this Door #2 also; so open the door suddenly NOW!!! (thump) What's directly in front of you? First impression?

10. Now please come back to the hallway and turn attention to what was originally Door #1. Don't sneak a peek yet, except there is a color to the light that's coming under the door. Can you name that color? Now we want to catch by surprise whatever impression or scene holds somehow your great answer to your question. That answer somehow is beyond this Door #1 also, so open the door suddenly NOW!!! (thump) What's directly in front of you. First impression?

11. Now, each of these three scenes is seemingly different, yet they somehow contain the same great answer to the same original question you had. For now, let's just find some element or elements, some aspect in all this detail about one scene which in some way is like an aspect or detail in one of the other scenes.

12. Now tell Win and/or your live partner over the next couple of minutes until the end of this Lesson, in what possible way or ways might this element-in-common (or common theme) conceivably bear upon your original question or problem?

All problem-solving methods are also good ways to more effectively learn and understand. Each of these — Three Doors, Flash Response, Walk-in-the-Woods, Crab Apple and others — can be used as great ways to improve and ease your learning of economics, geology, psychology, physics, art, philosophy, you name it. For example, you can use Three Doors to go after the one most important thing you need to understand in a lesson in, say, Economics, and then hang the rest of the contents of that lesson in their proper place around and relating to that one most important thing. Also, Three Doors can get very quick with practice, so long as you get enough details beyond each door to discover where the experiences overlap. Three Doors is a good procedure to add to your rotation practices, in alternation to the other practices we recommend for your rotation.

Session 9: The Human Development Ladder

In the final exercise Dr. Wenger takes you on a journey into your creativity. He introduces you to the Human Development Ladder exercise. This exercise can be used to take you to an extraordinary world beyond your daily existence, to times and places that exist somewhere deep in your subconscious.

Exercise 28: The Human Development Ladder

Please take up your pen and a full-sized sheet of paper or notepad.

Draw a "V," starting at the bottom of your sheet of paper, and extending to the top of your sheet on each side. You should now have a very large "V" encompassing most of your sheet of paper.

To separate your "V" into four roughly equal segments, draw three horizontal lines across your "V" at approximately equal intervals. Each of the four segments should be about equally tall, though of course they are unequal in width because the "V" stretches out toward the top of the paper.

In your bottom-most segment of your "V," write in the words "medulla and cord." "Medulla and cord" refer to the medulla oblogata and spinal cord at the base of your brain.

To the left of that bottom-most segment, write "light," "dark," and in parenthesis, "color." These all represent changes in light-value, fluctuations of light and dark and color to which this part of the brain is sensitive and responds to. The medulla and cord are the part of your brain which reacts to such fluctuations of light and dark and color. Except for a few hard-wired specific responses like recognizing your mother's face, from birth through the first few weeks up to the first couple of months old, the medulla and cord parts of your brain were pretty much all you had going, for vision and for your other senses and sensori-motor functions.

Fluctuations of light and dark and color WERE most of the visual experience you had while you were still a fetus in the womb. Enough light filtered through your mother's stomach wall to give you a few months of practice at handling these fluctuations in light value. From about the six month on to term, pregnant women today could give their babies extra visual acuity by playing shadow games in the sun over their pregnant tummies.

There is a copy of this V-chart on page 106 of this workbook, but by drawing it yourself from our directions you will understand the subject much better and it will be of better use to you.

Next segment up from the bottom segment, immediately above that bottom segment, write (in the second-to-lowest segment) the word "Pons." To the left of that second-to-lowest segment write the word "amphibian," like frogs and tadpoles are amphibians. To the right of the "Pons" segment write the words "pattern" and "outlines."

Left to right, the distance within whatever level or segment of the "V" represents the range of things the organism is able to do at that level. The higher you go in your "V," the wider out the "V" opens and the more things the organism can handle or cope with.

It is important to know that it takes a lot of experience with fluctuations of light and dark and color, as with the fish brain medulla and cord, before one becomes sensitive to such differences in light value simultaneously together within the same visual field - i.e., outlines and patterns, as with the amphibian pons. It takes a lot of experience with outlines and patterns before one begins seeing smaller outlines and patterns within the larger outlines and patterns - i.e., details, as in the reptilian midbrain. And it takes a lot of experience with details before one can begin to deal with the differences in detail seen between the right eye and the left eye - in other words, stereo vision or 3-D, as with the mammalian cortex. That 3-D gives you perception of depth and distance, near and far.

To fill in more of your "V" chart of human development, write the word "midbrain" on the layer of your "V" above the amphibian pons and second from the top. To the left, write the word "reptile." To the right, write the word "details." Then go up to the top layer of your "V," and write the word "cortex." To the left of that top layer write in the word "mammals." To the right of that top layer, write in the words, "Vision in 3 dimensions."

Further important information: how well any lower layer of your "V" functions largely determines how well higher levels of that "V" will function. If a lower level did not get enough opportunity to develop, or if it was damaged, everything above it will also fall short. Conversely, if a lower level is greater or gets enriched development, every function capability above it in your "V" will also expand and be greater.

We've drawn that "V" in terms of development of vision, but actually hundreds of these "Vs" can be drawn, not only for each of the senses but for motor functions like crawling or walking, for speech development, various skills such as writing, and also for emotional development.

Most of the programs with this model have as a therapy that they find and identify the lowest part of the "V" that has some difficulty and work their procedures there to resolve that difficulty. Then with that achieved, they work also to flesh out and strengthen layers above that point of damage. A few programs, like the Evan Thomas Institute program in Philadelphia, part of the Institutes for the Achievement of Human Potential, use this as an enrichment model, not only a therapeutic repair system. Its program teaches parents how to enrich their babies' development well above the current prevailing norms.

To do a little of our own enrichment, Dr. Wenger guides you through re-experience life at each of these levels. The "V" you drew was in terms of vision, but most other senses and motor functions could be mapped the same way, in reference to the medulla and cord, the pons, the midbrain, and the cortex.

As you re-experience each of these levels, the intention is to use our imagination so vividly as to activate to some degree many or most of our circuits at each of these levels. It may take some practice to get these imagined experiences vivid enough for the purpose.

Take some time to practice this exercise on a regular basis. Make note of anything you experience in response to doing the exercise.

Session 10: Improvitaping

In this session Dr. Wenger introduces another remarkable method for increasing your intelligence. This exercise is called Improvitaping. This powerful exercise, when practiced diligently, can vastly enhance your musical ability as well as your intellect. He follows with a guided exercise entitled the "Being Is Seeing Exercise." This exercise allows you to experience three worlds at the same time, all the while within one unchanged environment. It serves to expand your awareness to realize that many worlds exist beyond that which you are consciously aware of within one given time and place.

Exercise 29: Improvitaping

Below is an article from Winsights Index Part #13 on the www.winwenger.com website:

Part #13 (July 1997)

In 900 Minutes, YOU Can Be Composing Very Fine Music in Your Own Genre

Even though recent Winsights columns have been very strongly into science and technology, the arts are virtually as crucial in our concern for improving human ability, performance, and well-being. Today's example presents the little-known fact that you, or virtually anyone, can become a highly original composer of really fine music … or your preferred type of music, though this writer is steeped in the classical. Whether you play an instrument with any skill whatever, or are just a bathtub singer, the same principles hold.

All you need do to find yourself composing astonishingly good music is to set up a tape recorder where you will be attempting to create music and to follow the simple 900 minute self-training program we call "Improvitaping."

Yes, this simple 900-minute program does involve improvising, but even the narrowly formally classically trained can do as we describe below and your payoff will utterly astonish you. But unlike improv jazz and improv in other branches of music, you do not build up routines. In fact, any time you find yourself playing familiar themes or anything you recognize, you change away from it and let the feedback system we've designed do its integrations at a deeper level instead.

In only 900 minutes, you will be creating entire fine pieces of music, in your own preferred genre, highly original, and in their own elegant form without your ever having had to wrestle with composition formalities or other music theory. Just do the following simple 900-minute self-training, and feedback and your own brain will take care of the rest. Here is this simple 900-minute self-training program, 180 minutes total per day for 10 days:

The Improvitape Technique

1. Simply play your chosen instrument (or bathtub-sing!) for a half hour per day while recording on blank tape. Try to make it sound like a "real" piece. Keep going for a half hour per day.

2. In so doing, steer away from recognized themes and patterns. Keep on doodling for that half-hour per day, trying to make it sound like "a real piece."

3. And then the hardest part! Play back the tapes you made, for an hour per day. A half hour while paying attention to the contents; the other half hour as background while you are doing other things.

As simply as that! Within 10 days, doing this 90-minute-per-day program, as you run this simple flow-with-feedback process, you will be amazed to discover:

- How much of what doesn't work drops out;
- How much of what bores the ear drops out; and
- How much of what does work reinforces up into good new pieces of music!

It's probably "wince-and-groan" for you at first …

You will likely experience going through these three distinct stages during your 900-minute evolution into becoming a good, original composer:

1. Wince-and-Groan Stage: while you are playing back the first tapes of your improvisations. Bear with it — this is the hardest part right there, and it lasts only for the first three to five days. You won't believe how quickly you move on into the stages of pleasant surprises.

2. Mining Melodies: good thematic material and figures will start surprising you, showing up here and there in your taped improvisations. You can "mine" this increasingly high-grade "ore" to extract from these tapes those instances of good original melodies, motifs, and patterns. Even if you did not take the Improvitape Technique any further than this, you could use these good original themes for pieces which you then compose conventionally. But if you continue this Improvitaping program for three to six days further, you reach —

3. The Stage of Elegant Whole Pieces: the music flows, following its own intrinsic logic, developing its own form, and your Improvitapes emerge as complete original compositions. Finer and finer works emerge from this flow, each of them a rich surprise. At times while playing, you won't know that anything special is happening until afterward, when you are playing the tapes back and sit in stunned disbelief that l'il ol' you could possibly have come up with such a wonderful thing. Real hair-raising at times! And nothing else quite so extraordinarily rewarding as this experience, which — if you continue Improvitaping — will occur for you again and again and again with different wonderful pieces each time.

From that point on, most musicians who have done this simple 900-minute program, over 10 days, will find themselves generating a mixture of Stage Two (mines) and Stage Three (whole pieces) tapes. Expect a variety of valid musical forms and, increasingly, instances of breathtaking elegance.

I challenge you to do this simple 900 minutes without getting at least these high-level results!

I know it doesn't seem fair — the above Improvitape Technique in composing music, or our hundreds of other techniques for improving various areas of human ability, performance and well-being — when so many people have by more formal training labored so hard for such results as they are getting now or are not getting now! I am reminded of how a certain

unnamed major university, with whom I had arranged an intelligence-building study which had been about to go to catalog, suddenly had fierce objections and an overrule from unnamed sources within. One quote which got back to me was: "You can't increase human intelligence and, furthermore, you can't increase it HERE!"

Well, this one you can do here, or there, or wherever you please, on your own and there's no one to overrule you. And as is the case with each of the techniques we've offered here in Winsights, you can reasonably infer with the results you get from this one what the likely verity of the other ones must be. So we invite you: make this simple 900-minute experiment and, while judging there from the verity of results of our procedures and something of the huge human stakes riding with them, enjoy harmlessly your own creation in a highest-quality experience wholly beyond any you could normally expect to get elsewhere — and enjoy it for a rich full lifetime!

***

You now have available to you a good many methods and practices by means of which to be building your intelligence. You have two basic types of practice available to you:

Those which should be practiced on an ongoing daily basis (notably Portable Memory Bank, Image Streaming, for a while at least Flick-Gazing) and those which you can set up in a rotation day by day, alternating between them to keep your experiences fresh and unhabituated.

Exercise 30: The Being Is Seeing Exercise

Look around you. Look around the space you are in, a space you've probably been in for a while. It is what it is, right, your room, your highway, your yard, your office, wherever it is that you are playing this recording. Care for an easy quick way to transform your surroundings?

What changes in what you see of those same surroundings when you imagine being the world's most sensitive architect or designer or interior decorator? Please look around you with the eyes of the world's most sensitive architect or designer or interior decorator, and please tell me out loud, in detail, what you are noticing and seeing now that you weren't before. Please describe out loud (or write down) what you're seeing as that sensitive designer that you hadn't noticed before, and describe those details to Win and/or a live partner.

Allow two minutes for this part of the process.

Now imagine yourself to be a property tax assessor. Look around this same space and set of surroundings, but now with the eyes of a tax assessor. Notice what you are seeing now that hadn't caught your eye before. Please detail to Win and/or a live partner what you are seeing and noticing.

Allow two minutes for this part of the process.

Now imagine yourself to be a Bushman from Africa's Kalahari Desert and that you've never set foot inside a building before. Now look around you, examine your surroundings with the eyes of a Kalahari Bushman and tell Win and/or a live partner in detail what you see and notice.

Allow two minutes for this part of the process.

It is interesting to note that you are in the one space, one unchanging set of surroundings. At the same time, however you are experiencing three separate, different worlds. The same space and three worlds.

Session 11: Continuing Your Development Forward

In this final lesson of the course Dr. Wenger takes you through a final Flash Response exercise in which you are encouraged to question yourself on the significance of these brain-building techniques in your life and how you can facilitate incorporating this life enhancing work into your daily routine for many years to come.

The moment Dr. Wenger asks you a question, please examine your Flash Response. Describe it in some detail, then also jot it down on your notepad with enough descriptive features to spot your overlaps with subsequent responses to the same question.

Exercise 31: Flash Response Exercise

For the first time you practice this exercise from this text.

Your question:

As of now, what's the most essential question that YOU need to ask about brain building?

Examine your Flash Response while the question is repeated.

As of now, what's the most essential question that YOU need to ask about brain building?

Describe your Flash Response and then also jot it down in your notebook. You have three minutes, however if you need more time you can pause the recording.

Allow four minutes for this part of the process.

Now you have two more ways to get additional quick flashes. One way is via the recording. The other way is to see if you can take yourself abruptly through his question of you again and get your flash that way. Same answer to the same question, but different flashes, showing you the same answer differently. If this time you are using the recording to generate your experience, you have six or so minutes to do both flashes, to describe them and to jot their descriptions on this workbook. Three minutes into this interval you will hear a light chime sounding as your reminder to get in *both* flashes into this interval. Again, if you find you need more time to record both flashes, you can pause the recording until you are ready, then start it up again. Soon, in the recording at least, you will hear Dr. Wenger saying "Same answer to my same question," your new Flash Response on:

As of now, what's the most essential question that YOU need to ask about brain building?

Allow seven minutes for this part of the process.

You might want to take a deep breath before plunging into the next part of this process.

This final lesson, as you might be beginning to see, is mainly you, working with your own content — which is how it has to be the rest of the time for you, beyond the pacing and guiding of this course. This completion cycle is designed in such a way as to not only develop your perception of your own issues but to also resolve them and move on to other issues as you grow and develop. This lesson you can replay, and it will be different issues you resolve as you grow and evolve and as the world changes around you. This final cycle also is simple enough you will be able to easily take yourself through it on other occasions without having to depend upon this recording in order to do so.

Now you need to take your flash responses, examine their detail, see where they overlap, see themes and features and/or trends in common. This time, focus on your notepad as you look for these common points. You have four minutes and again, if you need more time, you can pause and then restart this recording. So now, what are those elements in common?

Allow four and a half minutes for this part of the process.

Maybe the resulting interpretation is obvious already to you, maybe you might have to brainstorm a bit to see the relationship as to HOW those points in common in some way constitute an answer to Dr. Wenger's question. In the recording, Dr. Wenger is asking you to answer an important question YOU have about this context. You have three minutes to work through and to tell Win and/or your live partner what that question of yours is.

Allow three and a half minutes for this part of the process.

At this point you might want to take a standing s-t-r-e-t-c-h and a deep breath or so, flex your arms and shoulders a little before taking the plunge into the next step.

As you know by now, you already have within you many universities' full of information and insight. Within you is your own expert genius. So let's go there to get answer to your question. Now it's Freenote time.

Write your question as a formal question, on top of your notepad.

While you do that, mentally think back to what you were experiencing in the last stages of the Human Developmental Ladder, when you reached human adult stage. Imagine there to be another layer of the "V" above the human, another rung up the ladder. Imagine pulling yourself a little of the way up that rung to sneak a peek. You might want to put a summary of what you saw in that peek on another page further back in your note pad. Let your impression there sit on that page and gather strength while you come back to your top page and finish writing out the question.

See how easy it is to do several important things at one time?

Anyway, what you've written as a question, really defines quite a context. It's in that context you'll be writing, as you proceed now to answer your own question. When you start, if you are doing this experience from the recording, you can pause this recording for 20 minutes while you Freenote, then come back and start back up again.

Everything that comes to mind in context of your question, without pause or hesitation for the next twenty minutes, rapidly as possible, please begin Freenoting.

Allow 20 minutes for this part of the process.

You've got some good stuff here. Let's pick out the two or three most interesting things you've said here in this Freenote. Put a star or asterisk by the two or three most interesting things in your note pad, probably near the end of your Freenoted material. You have a minute.

Allow two minutes for this part of the process.

You've come a long way. Already, some of what you've been doing is having its effect. Keep practicing and things will keep on getting even better. My respect and my sincerest congratulations to you on what you are accomplishing.

Before Dr. Wenger takes you into the final step of this lesson, he makes a final suggestion. You will be evolving. Your world around you will be evolving and changing. He suggests that once a month, you put on this final lesson again and discover what new key insights and issues and answers have evolved for you. You might mark on your calendar, maybe even the same date each month, to set aside a special hour to put on this final lesson again and embark upon the next leg of your voyage of discovery.

Here is the final step of this lesson. Fittingly, you will carry out this final step for a while after this recording ceases. Dr. Wenger asks you a new question. Please describe and record your Flash Response to that new question. Even as this recording concludes, take yourself through the new question again to elicit a second and then a third Flash Response on that question, the same answer to that same question.

Here is your new question to get your Flash Responses on, the concluding question of this lesson and the concluding question of this course:

Now that you've come this far, what can you do that will best assure that you can and will continue your development forward?

To repeat the question as you begin recording your Flash Response:

Now that you've come this far, what can you do that will best assure that you can and will continue your development forward?

Proceed with whatever was in that Flash Response.

List of Exercises and Suggested Practice Periods

Exercise 1: The Portable Memory Bank	Practice on a daily basis
Exercise 2: Learning Sight-Reading and Perfect Pitch	Day by day rotation
Exercise 3: Nature versus Nurture (Re-examine purpose)	Day by day rotation
Exercise 4: Noting Subtleties	Day by day rotation
Exercise 5: Categorizing Your Observations	Day by day rotation
Exercise 6: Providing a Detailed Description	Day by day rotation
Exercise 7: Freenoting (whichever of the 3 main versions)	Day by day rotation
Exercise 8: Ringing the Bell with a Friend	Day by day rotation
Exercise 9: The Solo Ringing the Bell Exercise	Day by day rotation
Exercise 10: Flick-Gazing	Practice on a daily basis
Exercise 11: The Flash Answer Method	Day by day rotation
Exercise 12: The Solo Flash Answer Method	Day by day rotation
Exercise 13: The Crab Apple	Day by day rotation
Exercise 14: Practicing Ping-Pong or Table Tennis	Day by day rotation
Exercise 15: Practicing Martial Arts	Day by day rotation
Exercise 16: Holding Your Breath	Day by day rotation
Exercise 17: Singing in a Choir	Day by day rotation
Exercise 18: Practicing Yoga	Day by day rotation
Exercise 19: Aerobics Exercise	Day by day rotation
Exercise 20: One Way to Improve Eye Coordination	Day by day rotation
Exercise 21: Looking into Eye Congestion	Day by day rotation
Exercise 22: Freenote Review Exercise	Day by day rotation
Exercise 23: Enhancing Your Visual Field Experiment	Day by day rotation
Exercise 24: Walk-in-the-Woods Problem-Solving Procedure	Day by day rotation
Exercise 25: Musical Examples of Pole-Bridging	Day by day rotation
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	Practice on a daily basis
Exercise 27: Three Doors in the Mind's Eye Exercise	Day by day rotation
Exercise 28: The Human Development Ladder	Day by day rotation
Exercise 29: Improvitaping	Day by day rotation
Exercise 30: The Being Is Seeing Exercise	Day by day rotation
Exercise 31: Flash Response Exercise	Day by day rotation

One Year - Daily Exercise Schedule

Day 1:	Month 1	Month 2	Month 3	Month 4
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 2: Learning Sight-Reading and Perfect Pitch	❑	❑	❑	❑
Day 2:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 3: Nature versus Nurture (Re-examine purpose)	❑	❑	❑	❑
Day 3:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 4: Noting Subtleties	❑	❑	❑	❑
Day 4:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 5: Categorizing Your Observations	❑	❑	❑	❑
Day 5:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 6: Providing a Detailed Description	❑	❑	❑	❑
Day 6:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 7: Freenoting (whichever of the three main versions)	❑	❑	❑	❑
Day 7:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 8: Ringing the Bell with a Friend	❑	❑	❑	❑

Day 8	Month 1	Month 2	Month 3	Month 4
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 9: The Solo Ringing Bell Exercise	❑	❑	❑	❑
Day 9:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 11: The Flash Answer Method	❑	❑	❑	❑
Day 10:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 12: The Solo Flash Answer Method	❑	❑	❑	❑
Day 11:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 13: The Crab Apple	❑	❑	❑	❑
Day 12:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 14: Practicing Ping-Pong or Table Tennis	❑	❑	❑	❑
Day 13:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 15: Practicing Martial Arts	❑	❑	❑	❑
Day 14:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 16: Holding Your Breath	❑	❑	❑	❑

Day 15	Month 1	Month 2	Month 3	Month 4
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 17: Singing in a Choir	❑	❑	❑	❑
Day 16:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 18: Practicing Yoga	❑	❑	❑	❑
Day 17:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 19: Aerobics Exercise	❑	❑	❑	❑
Day 18:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 20: One Way to Improve Eye Coordination	❑	❑	❑	❑
Day 19:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 21: Looking into Eye Congestion	❑	❑	❑	❑
Day 20:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 22: Freenote Review Exercise	❑	❑	❑	❑
Day 21:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 23: Enhancing Your Visual Field Experiment	❑	❑	❑	❑

Day 22:	Month 1	Month 2	Month 3	Month 4
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 24: Walk-in-the-Woods Problem-Solving Procedure	❑	❑	❑	❑
Day 23:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 25: Musical Examples of Pole-Bridging	❑	❑	❑	❑
Day 25:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 27: Three Doors in the Mind's Eye Exercise	❑	❑	❑	❑
Day 26:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 28: The Human Development Ladder	❑	❑	❑	❑
Day 27:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 29: Improvitaping	❑	❑	❑	❑
Day 28:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 30: The Being Is Seeing Exercise	❑	❑	❑	❑
Day 29:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 31: Flash Response Exercise	❑	❑	❑	❑

Day 1:	Month 5	Month 6	Month 7	Month 8
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 2: Learning Sight-Reading and Perfect Pitch	❑	❑	❑	❑
Day 2:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 3: Nature versus Nurture (Re-examine purpose)	❑	❑	❑	❑
Day 3:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 4: Noting Subtleties	❑	❑	❑	❑
Day 4:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 5: Categorizing Your Observations	❑	❑	❑	❑
Day 5:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 6: Providing a Detailed Description	❑	❑	❑	❑
Day 6:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 7: Freenoting (whichever of the three main versions)	❑	❑	❑	❑
Day 7:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 8: Ringing the Bell with a Friend	❑	❑	❑	❑

Day 8:	Month 5	Month 6	Month 7	Month 8
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 9: The Solo Ringing Bell Exercise	❑	❑	❑	❑
Day 9:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 11: The Flash Answer Method	❑	❑	❑	❑
Day 10:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 12: The Solo Flash Answer Method	❑	❑	❑	❑
Day 11:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 13: The Crab Apple	❑	❑	❑	❑
Day 12:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 14: Practicing Ping-Pong or Table Tennis	❑	❑	❑	❑
Day 13:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 15: Practicing Martial Arts	❑	❑	❑	❑
Day 14:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 16: Holding Your Breath	❑	❑	❑	❑

Day 15:	Month 5	Month 6	Month 7	Month 8
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 17: Singing in a Choir	❑	❑	❑	❑
Day 16:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 18: Practicing Yoga	❑	❑	❑	❑
Day 17:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 19: Aerobics Exercise	❑	❑	❑	❑
Day 18:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 20: One Way to Improve Eye Coordination	❑	❑	❑	❑
Day 19:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 21: Looking into Eye Congestion	❑	❑	❑	❑
Day 20:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 22: Freenote Review Exercise	❑	❑	❑	❑
Day 21:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 23: Enhancing Your Visual Field Experiment	❑	❑	❑	❑

Day 22:	Month 5	Month 6	Month 7	Month 8
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 24: Walk-in-the-Woods Problem-Solving Procedure	❑	❑	❑	❑
Day 23:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 25: Musical Examples of Pole-Bridging	❑	❑	❑	❑
Day 25:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 27: Three Doors in the Mind's Eye Exercise	❑	❑	❑	❑
Day 26:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 28: The Human Development Ladder	❑	❑	❑	❑
Day 27:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 29: Improvitaping	❑	❑	❑	❑
Day 28:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 30: The Being Is Seeing Exercise	❑	❑	❑	❑
Day 29:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 31: Flash Response Exercise	❑	❑	❑	❑

Day 1:	Month 9	Month 10	Month 11	Month 12
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 2: Learning Sight-Reading and Perfect Pitch	❑	❑	❑	❑
Day 2:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 3: Nature versus Nurture (Re-examine purpose)	❑	❑	❑	❑
Day 3:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 4: Noting Subtleties	❑	❑	❑	❑
Day 4:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 5: Categorizing Your Observations	❑	❑	❑	❑
Day 5:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 6: Providing a Detailed Description	❑	❑	❑	❑
Day 6:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 7: Freenoting (whichever of the three main versions)	❑	❑	❑	❑
Day 7:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 8: Ringing the Bell with a Friend	❑	❑	❑	❑

Day 8:	Month 9	Month 10	Month 11	Month 12
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 9: The Solo Ringing Bell Exercise	❑	❑	❑	❑
Day 9:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 11: The Flash Answer Method	❑	❑	❑	❑
Day 10:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 12: The Solo Flash Answer Method	❑	❑	❑	❑
Day 11:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 13: The Crab Apple	❑	❑	❑	❑
Day 12:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 14: Practicing Ping-Pong or Table Tennis	❑	❑	❑	❑
Day 13:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 15: Practicing Martial Arts	❑	❑	❑	❑
Day 14:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 16: Holding Your Breath	❑	❑	❑	❑

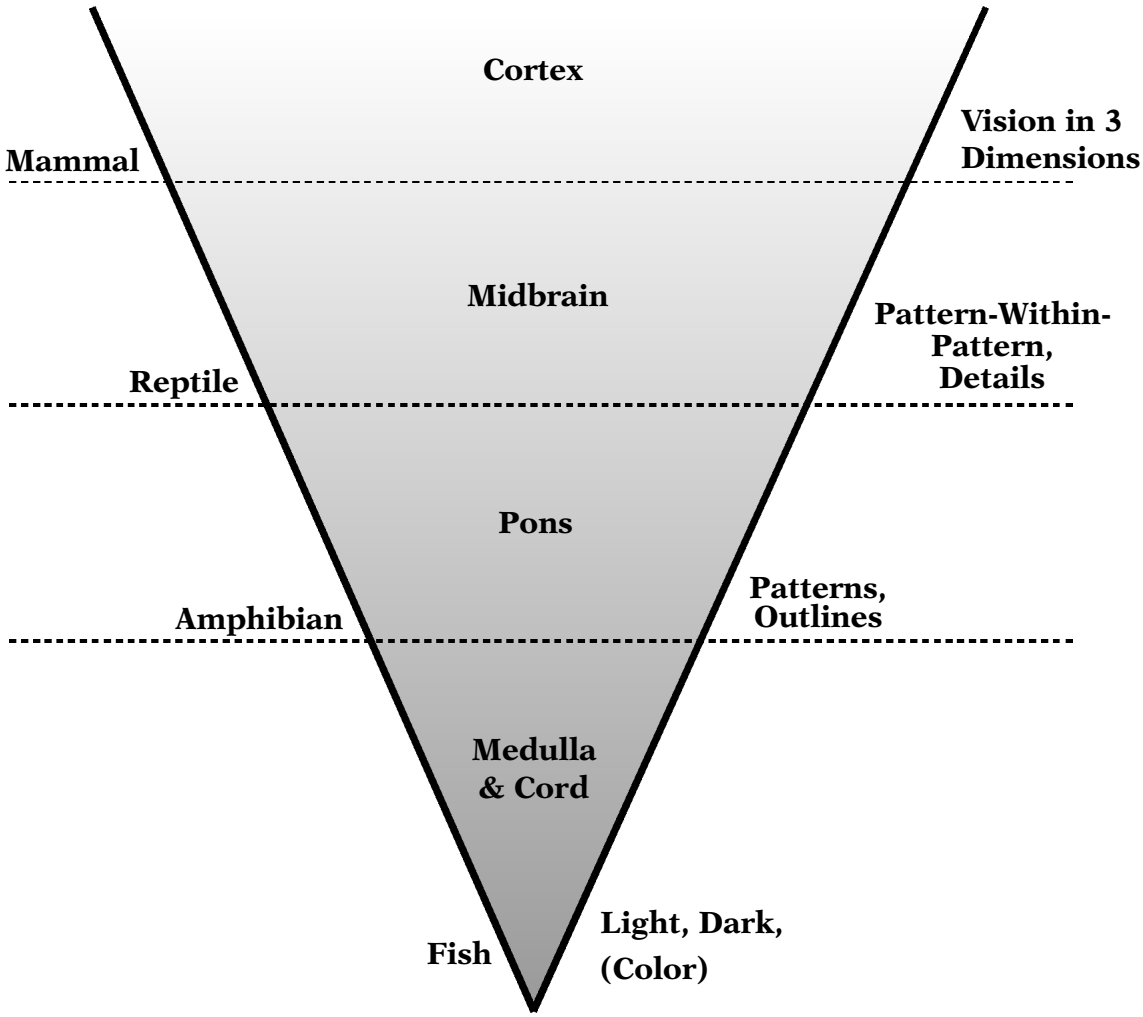
Day 15:	Month 9	Month 10	Month 11	Month 12
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 17: Singing in a Choir	❑	❑	❑	❑
Day 16:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 18: Practicing Yoga	❑	❑	❑	❑
Day 17:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 19: Aerobics Exercise	❑	❑	❑	❑
Day 18:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 20: One Way to Improve Eye Coordination	❑	❑	❑	❑
Day 19:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 21: Looking into Eye Congestion	❑	❑	❑	❑
Day 20:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 22: Freenote Review Exercise	❑	❑	❑	❑
Day 21:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 23: Enhancing Your Visual Field Experiment	❑	❑	❑	❑

Day 22:	Month 9	Month 10	Month 11	Month 12
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 24: Walk-in-the-Woods Problem-Solving Procedure	❑	❑	❑	❑
Day 23:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 25: Musical Examples of Pole-Bridging	❑	❑	❑	❑
Day 25:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 27: Three Doors in the Mind's Eye Exercise	❑	❑	❑	❑
Day 26:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 28: The Human Development Ladder	❑	❑	❑	❑
Day 27:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 29: Improvitaping	❑	❑	❑	❑
Day 28:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 30: The Being Is Seeing Exercise	❑	❑	❑	❑
Day 29:				
Exercise 1: The Portable Memory Bank	❑	❑	❑	❑
Exercise 10: Flick-Gazing	❑	❑	❑	❑
Exercise 26: Pole-Bridging Method #2 (Image Streaming)	❑	❑	❑	❑
Exercise 31: Flash Response Exercise	❑	❑	❑	❑

Even on days when you miss everything else in your rotation, it is very desirable to get in at least the daily Image Stream and continue making entries in your Portable Memory Bank. These are even more important in priority than "Flick-Gazing," which is the strongly recommended third activity. You are also advised to categorize and sort your observations into a computer (Exercise 5) frequently and regularly (ideally every third or fourth day). This will assist you in maintaining a schedule and tracking your progress.

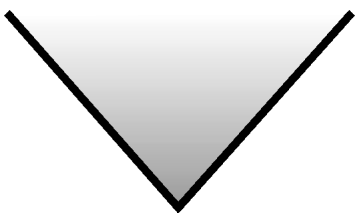
If you would like more information on the Brain Booster Processes or other works that Dr. Wenger does, you can contact him by logging onto his website at www.winwenger.com

The Vee – Average Brain Development – *figure 1*



Deficient Brain Development — *figure 2*

Enriched Brain Development — *figure 3*



Notes for the Vee Diagrams

Many different programs and disciplines have a similar model for human development. This model looks like a "V" or, if three-dimensional, an upside-down pyramid. The narrow bottom region represents the range of our competencies near the beginnings of our life, the widening of the "V" at higher levels represents the ever widening competencies which come within our range as we grow and develop. Progress "up the Vee" appears to go in distinctive "stages" of development. To progress from one stage to the next, requires a great deal of experience at the one stage before that experience starts to encode into the next level of functioning. How well we function at one level depends upon how well we've experienced and developed in the previous level.

In the example shown, we can map the development of vision in the human infant. By the time the baby is born - by the time we reach the bottom of the "Vee" — the baby has had considerable experience with changes in light and dark and color, right in the womb, because of the translucency of the womb and stomach wall. Although he has some "hard wiring" which lets him imprint on the mother's face, by the time he's born what he mainly has going with his vision is: changes in light and dark and color. The part of his brain which is mainly active is the very base of his brain, the medulla oblongata and the spinal cord, whose visual experience is, of course, changes in light and dark and color. As it happens, these parts of the nervous system correspond to the brain of a fish whose experience, as it happens, is mainly ... changes in light and dark and color. Scientists hold that an early part of our pre-human ancestry, very far back when, was in fact, fish-like; those who study the fetus in the womb observe that the developing fetus grows through phases where he is first fish-like, even to having gills; then he becomes amphibian-like, then reptile-like and finally mammalian and ape-like and human. These features are clearly visible in the evolution of the fetus, whether or not that means anything in terms of evolution of our species as this phenomenon seems to strongly suggest.

Once born, the baby needs — and usually gets — much experience in that bottom segment of the "Vee," seeing light and dark and color changes and motion. He needs a lot of that experience before he reaches the point where that encodes for him to the point that he sees differences in light, dark and color within the same visual field — i.e., he is beginning to see patterns and outlines. He's attracted to plaid blankets, cut-out designs and the like (and, beyond the visual, he is also experiencing patterns in other senses, beginning to learn the spoken word). Now the pons becomes active. He is responding to the kinds of stimuli that an amphibian responds to. If, due to injury or to lack of opportunity for experience, he hasn't got a lot of experience of light and dark and color encoded, he doesn't see patterns all that well and in fact will have his seeing functions impaired all the way up the rest of the "Vee" accordingly. (See, for example, figure 2 — the shriveled "Vee.") Or, if he's had a lot of stimulus and experience in seeing light and color changes, he will probably be BETTER than most other people at making sense of patterns, and indeed have a greater degree of visual competence at each higher level up the "Vee." (See figure 3, where a much wider range of competencies is incorporated in each higher level of the "Vee.")

With enough experience at amphibian pons level pattern-recognition, he eventually begins to encode that to see outlines within outlines, patterns within patterns, DETAILS. His midbrain has become active; he is responding to much the same kinds of stimuli as reptiles generally respond to. And with enough experience with details, his cortex begins to distinguish between the details seen by one eye and those seen by the other, which gives him the sense of space in

three dimensions. I would say "mammal-like," but only some mammals have both eyes to the front to track and to prey on other creatures. Carnivores. Mammals who are prey have their eyes to the sides to see danger coming. Their visual fields don't overlap enough to give them the experience of three dimensions.

Therapy Model

There are many therapeutic models and disciplines who have this "Vee" model of stages of human development. Lack of developmental opportunity, or some injury, setting in at some point depresses the "Vee" and degrades competency at all levels above that point of deprivation or injury. Therapy consists largely of feeding stimuli or other treatment to the deepest-down point of damage found, then rebuilding each successively higher layer on that strengthened foundation. The therapies would be much more effective if it were generally realized that it's not so much the stimulus, not so much the things done TO someone at each of these levels to heal and bring up their competencies, as it is finding ways to enrich FEEDBACK from one's own activities at each of these levels.

Enrichment Model

Most therapy programs have looked only at pathologies, looked only at what goes wrong and how to patch up wrong toward something approaching O.K. A few look beyond this, look beyond o.k., seeing that enriching the experience of lower levels allows for greater-than-usual ranges of competence in levels higher up. "Normal" and "average" are very different things. Normal implies wholeness and wellness; "average," certainly in our culture, means some pretty damaged goods among us, unfortunately.

Example in an Early Stage of Visual Development

Dr. Wenger invented the use of flashing multicolored Christmas tree lights near the newborn's crib, for a few minutes at a time, as a way to develop extraordinarily capable vision in a few children including one of his own daughters. However, today he much prefers an even better arrangement. Use pressure-pads as controls switching on and off different colored lights shining onto the newborn's crib. Embed these pads in the bedding, so the newborn infant's own movements switch these various colored lights on and off. (There should also be a single distinctive light which, when lit, signifies that this motion system is active, and when it is not lit the motion system is inactive.) This will be even more productive of great vision in the child than were those Christmas tree lights, because instead of merely being stimulus, the pressure-pad-controlled lights give the infant feedback on his own activities.

In your mind, even more readily than in your environment, you can arrange to give yourself feedback stimulus relating to each of the indicated stages of development, not only visually but through recapitulating some of what it's like to be a baby at various stages of development, and what it's like to (re?)visit various parts of our bio-evolutionary experience as a species. This can repair some of the missing gaps. This can enrich. This can strengthen the infrastructure of your mind and brain toward better support of your higher functions and intelligence.

***

Footnotes

The standard medical and professional term for the phenomenon of the fetus and child growing developmentally through stages which correspond to the earlier forms of our species is "ontology recapitulates phylogeny." That's a forty-cent way of saying that the development of the individual (ontology) repeats the gist or pattern of development of our species through past stages of evolution.

The theory that the neurological development of the human individual literally demonstrates the successive stages of evolutionary development, and might be addressed therapeutically or enhanced as cited above, was first proposed by Dr. Temple Fey while at Temple University. He is better known for his having invented cryogenic surgery. The theory was further developed and implemented by Dr. Glenn Doman, who founded The Institutes for the Achievement of Human Potential in Philadelphia. Doman and the Institutes remain controversial to this day, having apparently been successfully treating symptoms of brain damage since the 1950s, which for long decades no one else believed could be done. The Institutes are located at 8801 Stenton Avenue, Philadelphia, PA 19118.

Expand Your Learning Library with These Exciting Programs from Nightingale-Conant!

Mega-Learning:
A Powerful New System for Processing and Applying New Information At Rapid Speed
By Donna Cercone
21400A / 21400CD

Quantum Memory Power:
Learn to Improve Your Memory with the World Memory Champion!
By Dominic O'Brien
22010A / 22010CD

The Einstein Factor:
A Proven New Method for Increasing Your Intelligence
By Dr. Win Wenger and Richard Poe
21461A / 21461CD

The 28 Principles of Attraction:
Stop Chasing Success and Let it Chase You
By Thomas Leonard
22550A / 22550CD

Accelerated Learning Techniques:
The Express Track to Super Intelligence
By Brian Tracy and Colin Rose
11970A / 11970CD

All available from Nightingale-Conant at 1-800-525-9000
www.nightingale.com

1-800-525-9000
www.nightingale.com