

Case Studies in Subtle Energy Science: Trial Applications of the Yoga Science TimeScale Map

Prepared as #2 handout for EIH-1 Breakout Session at the '08 ISSSEEM Conference
“Yoga Science: Towards a Comprehensive Theoretical Framework for ISSSEEM”:
An initial exploration of how we might use the map developed in
“Putting Subtle Energies on the Scientific Map”

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Abstract: This paper is a continuation of “Putting Subtle Energies on the Scientific Map” (PSESM) and assumes the reader is already familiar with the ideas outlined there. Part 1 elaborates on a number of consequences of the previous analysis of the SummaTime Scale-based Yoga Science map in order to have some additional conceptual tools available: a horizontal axis for the STS, a definition of subtle energy, where “I” am, how “others” appear on the STS, spiritual energy, nested energies, interacting individuals, personal and pre-personal energies, and the coupled ideas of healing, harmony, and harmonics. Part 2 surveys a small sample of areas of interest to ISSSEEM members: biofeedback, energy medicine, distance healing, and psi – looking to see what light the Yoga Science Map (YSM) might shed on the interactions involved. The conclusion is that the YSM does seem to open up new ways of thinking scientifically about these important areas of applied esotericism.

Part 1. Yoga Science Map – Review and Elaboration

First, to very briefly summarize the previous article (PSESM): I explored some of the key features of how a comprehensive logarithmic scale of time – the SummaTime Scale, or STS – could be interpreted as being associated with all the major forms of energy recognized in the esoteric traditions of mankind: gross, subtle, and causal – especially when thought of as being set in a timeless context. Here I refer to this *interpretation* as the Yoga Science Map or YSM. Hopefully this will help us keep an important distinction in mind: that there is a simple map of time that can be drawn using conventional scientific tools of logarithms and “scientific notation” that I call the SummaTime Scale; and there is a specific approach to *interpreting* this map that invokes ideas that are alien to or even taboo within conventional science – specifically ways of thinking drawn from the esoteric traditions. This *interpretation* of the STS I’ll refer to here as the Yoga Science Map or YSM. Keep in mind too that the term “Yoga” is being used here as a token for the whole of the global esoteric tradition.

In order to simplify the discussion from here on, I want to make use of a short-hand version of the STS, a simple vertical line with the labels BB, H, Q, and P as follows:

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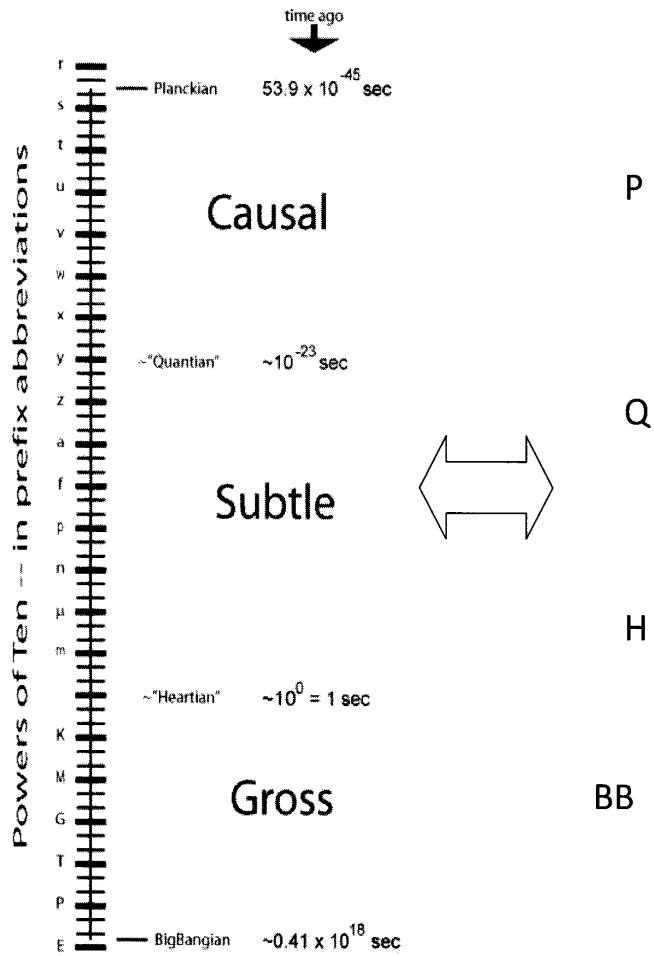


Diagram 1. The SummaTime Scale, its interpretation as a Yoga Science Map (the alignment with gross, subtle, and causal domains), and a shorthand version that I’ll use throughout this paper on the right. Note: whereas “time ago” presented here is, in effect, in units of “seconds per cycle,” *frequency* can be inferred by taking the inverse: cycles per second or Hertz (Hz). The STS can be thought of as in “seconds before present” along the lines of many geologic and paleontological time scales. And it can be understood as an abstract representation of *all possible time frames*.

Defining a Horizontal Axis for The Map

I did not come to a definition in PSESM of what we might represent along the axis at *right angles* to the STS itself. Since this will be such an important issue in the following discussion, I’ll attempt to tackle it here:

When we speak of energies of various frequencies – here being represented as the mathematical inverse of frequency as noted for Diagram 1 – we typically also think of the *amplitude* of that energy. This refers, in some basic sense, to the *amount* of energy at that specific frequency. This is clearly a good place to start.

However, since we are talking here about complex, hyper-complex, and ultra-hyper-complex energies, about energies across the *entire* spectrum of possible energies, *and*

about time frames, or cycles and *not* specifically frequencies, we may need to develop concepts more sophisticated than “amplitude.”

This is speculation on my part, and it may turn out that physicists will assure me that amplitude could work just fine across the entire STS. Just in case this turns out *not* to be the case, however, I’m inclined to want to use a term that we are less used to so as to allow for future refinement: the term I’ve picked is “weight.”

What do I mean by “weight?” We can think of it for now as simply amplitude, intensity, or energy density, so long as we keep in mind that it might turn out to be something that we have not yet grasped or identified. In any given PP, as we move along its abstract representation along the STS, we find variation in this “parameter as yet without a formal definition” that for the moment I’ll just call “weight.” I’m hoping that some Yogi Physicist will define “weight” for us in the future.

Subtle Energy

I did not come to a concise definition of subtle energy in PSESM – not even a tentative one. Recall that I described the SummaTime Scale and how it seems to divide naturally into three domains: an outer BB-H domain associated with complex algebra and dissipative systems, a middle H-Q domain associated with hyper-complex quaternion algebra and autopoietic systems, and an inner Q-P domain associated with ultra-hyper-complex octonion algebra and reflexive systems.

I made a case for associating these three domains of time and their respective system types with categories from the esoteric tradition: gross, subtle, and causal and I presented some evidence for how this association might hold.

I put forward the idea of a PlanckPrint or PP – based on the fact that the STS can be understood as an instantaneous snap shot of the entire universe – where “instantaneous” refers to Planck Time ($\sim 5.4 \times 10^{-44}$ s). I also developed the idea that every phenomenon is “composed” of a huge number of PPs, the PlanckPrint Ensemble, or PPE. One important implication for our purposes here is that:

Definition 1:

Every **PlanckPrint** contains gross, subtle, and causal aspects.

Each of the three aspects tends to *predominate* in *different* regions of the STS, but as a starting assumption I presume all three are present in each region. Thus, every PP is a *composite* of the three.

Here is a rough diagrammatic sketch of this idea:

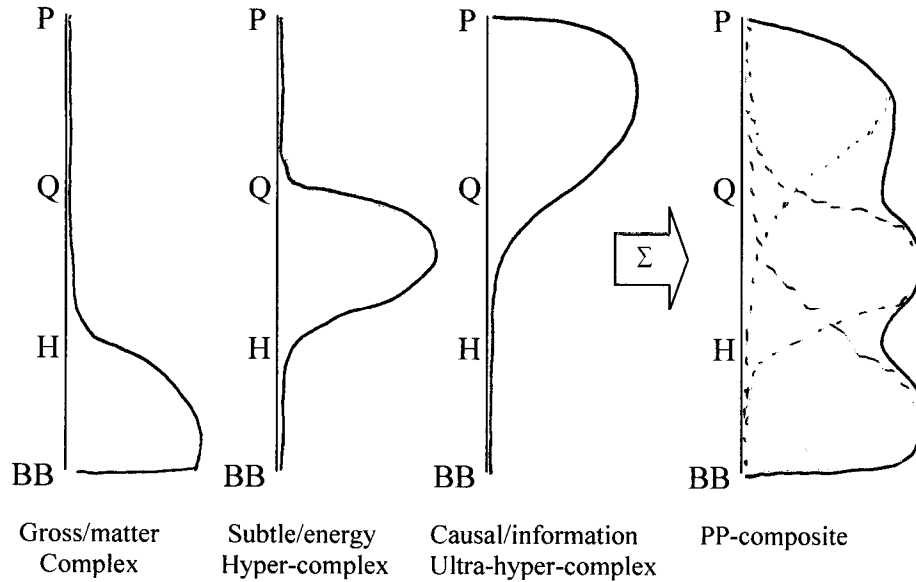


Diagram 2. Each aspect predominates in one of the three STS domains. Note: what is hand-drawn on the horizontal axis represents something I call “weight” as discussed above; and, the hand-drawn line never fully touches the vertical line to indicate that all three aspects are present in each domain of the STS.

As I’ll elaborate a bit further below, these can be seen as energies that are “nested” in every PP, hence “nested” too in the PPE of every phenomenon. Thus, a straight-forward bottom line definition of subtle energy based on this can now be given – at least as a place to begin the discussion:

Definition 2:

Subtle energy is the hyper-complex aspect of any phenomenon.

Notice: although in PSESM I discussed at some length the fact that the subtle domain is associated with electromagnetism, the definition of subtle energy given in **2.** above is *not* an equation between subtle energy and electromagnetism. You’ll recall that I made the point that although electro-magnetism can be seen as a *predominant feature of* the mid-region of the STS, electro-magnetism itself has new features in this scheme based on a) the aspects of Maxwell’s equations that have been obscured over the past century and b) the fact that here electro-magnetism is *necessarily associated with both outer gross context and inner causal contents*. Thus, based on this approach, we might suspect there is much more to the photon than has yet met the eye of Science. Although there is no simple equation here between subtle energies and electromagnetism, the two are clearly *associated* and, I think, in important ways. However, I argue that a deeper understanding of electromagnetism is possible and, for our purposes, necessary.

Where Am “I” on this YSM?

This is a most important, deep, and wonderful question that I didn’t explore in PSESM and that I’m sure will bear a great deal of discussion. I think the answer depends on who

exactly is asking the question. Without going into a whole lot of esoteric detail, I'll here just refer to the ordinary self, the high self or soul, and the True Self or SOUL.

In our ordinary day-to-day activities I think we are typically seeing things from a perspective that in terms of the YSM is rather superficial. Based on our biologically given and socially adapted embodiment, we are typically living in what I call "the psycho-physiological pseudo-present." We have a sense of "now" that is based on how our brains parse, group, or break up the constant stream of sense impressions and thoughts into time-frames established for us by biological evolution. We move flexibly from thinking in terms of "nowadays" to "now-a-hours" to "now-a-seconds" depending on the situation.

These time frames are all on the YSM in what we might call the "peri-Heartian" – a region centered on the heart-beat duration of roughly one second. On a good day we might be able to distinguish "split-second" timings, to some degree. Meanwhile, while our thoughts sometimes race along at some number per second, our brain waves are oscillating in the range of tens per second. So, I think it is fair to say that in general we experience our lives passing in terms of seconds, and/or low multiples or fractions thereof.

The notion of the "high self" is one we have likely encountered at some point in our esoteric journey, perhaps as inner guide or helper. Esotericists will often speak of "contacting the high self" and some speak of "living from the high self." We sometimes refer to sensitive individuals as "soulful." My current working hypothesis is that this high self is "located" on the YSM in the upper regions of the H-Q domain, the "peri-Quantian," if you will, and associated with "high subtle" energies that may be "on the border" with the causal domain. I think we can learn to "be in touch with the high self" through intention, prayer, and intuition. I think it is contacted routinely, but *not consciously*, in deep sleep. I think it can also be contacted with full consciousness via deep contemplative practice. I suspect that there is some correlation here with what is known in Tibetan Buddhism as "the substrate consciousness" which marks the deepest dimension of the *personal self*.² And all of these ideas will be subjects for further investigation via Yoga Science in the years to come. Those familiar with Elmer Green's Planetary Field of Mind Diagram will find some obvious parallels.

The notion of the Real Self or capital "s" Soul is also one we have almost certainly encountered before. This we might think of as the Divine or Cosmic essence of who we are, the "ocean of Being" out of which we arise as individuals. There are perhaps two distinct ways to think of this dimension of ourselves in terms of the YSM – as the deepest Planckian *point* on the map, or, as I tend to prefer, *the map as a whole*. If every phenomenon consists of a huge array of PlanckPrints, and if every PlanckPrint represents the entire cosmos in that Planckian instant, then this analysis implies, in fact, that we are always in fact in any and every moment, "the map as a whole."

So, here is another sketch that suggests where the various "I's" are:

² See discussion below on "Personal and Pre-Personal Energies"

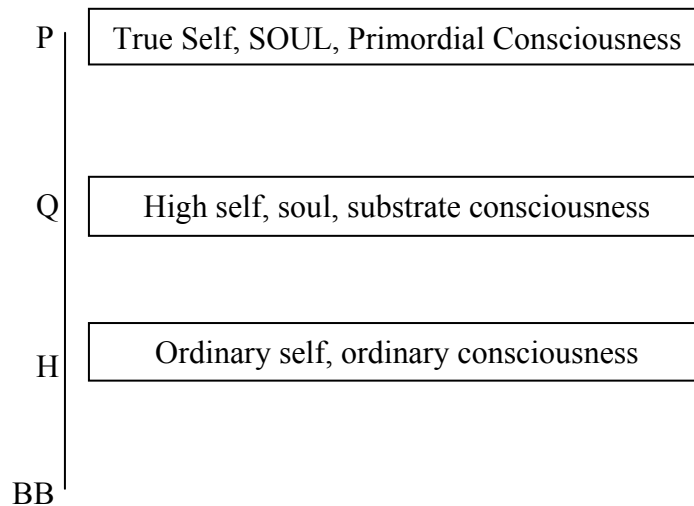


Diagram 3: Where “I” may be. Note: here the True Self is posited in a specific position at or around P, whereas I feel a more accurate depiction is that it embraces the entire YSM *and* its timeless context.

I refer to the ordinary self as “living in a psycho-physiological pseudo-present.” This diagram suggests there is a “truer present” around Q and an even “Most True Present” at P. Please note that this terminology is tentative and that we’ll probably need lots of discussion to sort out our “best” Yoga Science terminology.

OK, but what about an “other?”

If as my “True Self” I am “always the map as a whole,” what about other individuals? How can they be “the map as a whole” too? I think there are two ways to think about this. One is that the map is *different* for every individual. Although we all share an *outer world and cosmos*, the subtler domain of the map – from Heartian to the Planckian – are *interior to* and “*personal*” to a single individual.³ Thus, since I think we can presume that every *individual* is unique, so too is the Yoga Science map for that individual.⁴ The second is that the map is “only” *a way of understanding our experience* of the world. The map is not necessarily a description of the world itself. To paraphrase what Niels Bohr famously said of quantum mechanics, “it describes what we can *know* about the world, not the world itself.”

This relates to the mystery of the observer in quantum mechanics. To me, key to understanding this mystery – without diminishing it at all – may be to appreciate how all of our experience is *uniquely our experience*. We cannot know anything apart from that aspect of *our experience* that we call “knowing.” All of our knowing is also something

³ However, I do want to allow for the possibility that the deepest domain, the Q-P region, may be pre-personal and may be “shared” as a realm of archetypes by all or many of us by virtue of its being non-local and perhaps quantum-entangled.

⁴ I think it is safe to say that no two individuals can occupy the exact same space at the exact same time. But this point may bear further discussion in the future.

that we experience *as individuals*, even if any number of us come to agree on what it is *we think* “we know.”

This is why I like the approach to quantum mechanics being taken by Carlo Rovelli in his “Relational Quantum Mechanics.” He *starts* his consideration by assuming that the quantum mechanical system *includes both* the observer and the observed. They are not presumed to be separate, as is typical in most forms of QM. RQM presumes that the observer is just as much a part of “the quantum mechanical system” as is the observed. This seems to correspond in some basic way to the approach I’m proposing here.

Spiritual Energy:

Perhaps a most important thing to add to the description given thus far, because of its importance to ISSSEEM members, is that “spiritual energy” is an idea that can be accommodated “on the map” by including *the timeless context* of the map itself. I consider a “spiritual” form of energy to be one that is felt to be somehow *more than* any of the energies embraced in the categories of gross, subtle, and/or causal.

I’ve described how implicit in the YSM is the notion of the PlanckPrint (PP) – a snap shot of existence taken with a Planck time shutter speed. I proposed we should consider that the entire cosmos is, in every Planckian instant, *nondual* with its own timeless context. I think this is the “more than” we need for the notion of “spiritual energy.” However, nonduality is a concept that is somewhat difficult to think about. Since it plays such a central role in the esoteric tradition and therefore in the YSM, let’s see if we can unpack it a bit further:

We begin with our ordinary dualistic mode of seeing things – by definition a mode of seeing twos everywhere: this and that, near and far, up and down, etc... In the case of the YSM, the basic duality inherent in the map is between time and timelessness. One strong tendency, when faced with dualities, is the “One Tendency” – the impulse to try to *reduce* the two to a one. Perhaps we share such a strong intuition that somehow reality “is all one,” that we are disturbed by the two-nesses appearing everywhere. We are moved to find a way to comprehend and describe our existence in terms of an “essential oneness” and so we’ve explored, over the ages, many ways to do that.

Perhaps the most ancient way is via “monism” which starts out with the declaration: “sure, it may *look as if* things are all divided up into many twos, but *actually* reality is one – one substance, one essential nature.” Thus, it is presumed in monism that underlying all dualistic appearances is a single something, whatever we might come to call it. The tendency with monism is then to *differentially value* the one One and the many twos. The One typically gets promoted to a higher status, capitalized even, and our world of twos gets demoted at the same time to a lower or inferior status. This demoting of the ordinary world can then have consequences that are negative for both humans and for the non-human world of animals, plants, and the environment as a whole.

Complementarity is another ancient way – seen particularly in the Chinese tradition. Here the idea is that the one comprises a rhythm of some sort between the apparent twos. Yin and Yang take turns in acting, if you will, and together they comprise the Wu Wei – an underlying singleness that is effortlessness. One of the founders of quantum mechanics, Neils Bohr, saw this as key to understanding the paradoxical nature of QM and adopted the Chinese symbol as a central graphic for the family crest he designed for himself.⁵ More recently, *Complementary Nature* by Kelso & Engström from MIT press explores this theme as a possible key for how science might get out of the dualistic hole it seems to have dug for itself.⁶

Nonduality is another ancient way, one that creates a “more level playing field” for the one and the many twos – and perhaps redeems the many, if you will, spiritualizes the many. The basic idea of nonduality is that fundamental reality is not really only one, nor is it really only twos. Rather it is that both are true *at the same time and with equal status*, if you will. It’s not necessarily the case that the twos are “taking turns” as suggested by complementarity. Plus, the one is not necessarily seen as “higher” or “deeper” than the many twos as is still implicit in the notion of the Wu Wei. For our consideration here of the Yoga Science Map, when I suggest that time and timelessness are nondual, what I mean is that they are both equally true at the same time in the sense I’ve just described.

Thus, turning back to the idea of the PlanckPrint, I think “spiritual energy” is an idea that we can “put on the map” by including the timeless context of the Time Scale with this added understanding of nonduality drawn from the esoteric tradition. The end result, which I think resonates with our deepest intuitions, is that *every energy* is therefore, a “spiritual energy.” What will require further unpacking, however, is how to understand this when we encounter situations where we feel we’re dealing with “non-spiritual,” “anti-spiritual,” or “evil” energies. The whole concept of “spiritual” is one that bears close examination, but I’ll leave that for later discussions.

Nested Energies:

The consideration of the SummaTime Scale, as discussed in PSESM, leads to the conclusion that reality consists of a vast ensemble of PlanckPrints – PPs – with each one representing a specific configuration of the entire cosmos across all time scales “at the same time” – or “synchronically.” Recall from PSEMS:

Definition 3:

Principle of Cosmic Synchrony (PCS): every phenomenon exists across *all* time scales “at once.”

⁵ It was also used as a design motif for the 500 Kroner Danish banknote honoring Bohr (<http://www-personal.umich.edu/~jbourj/images/money/bohr12.jpg>).

⁶ This book outlines some of the successes to date applying the mathematics of complex systems developed by Hermann Haken called “synergetics.”

Gross, subtle, causal (and now spiritual) energy domains are *all included* in *each and every* PP. I suggested that one or another energy domain may *predominate* in the case of any given phenomenon. Thus, I would suggest that one or another energy domain may *predominate* in the case of any given *sub-ensemble* of PPs that compose the phenomenon under consideration.

So how exactly do we “place a phenomenon on the map?” Taking the word as referring to anything that can be experienced (setting aside for the moment any effort to define more precisely what we mean by “thing” and “experience”) a phenomenon can be analyzed into component phenomena. Our life, for example – that “phenomenon” nearest and dearest to ourselves – can be analyzed into component episodes, across many time frames. In the YSM, this analysis is carried to the Planckian extreme. Thus, my life is composed of a *huge* ensemble of PPs, over 10^{45} of them for every heartbeat, and then more than eight orders of magnitude more still in order to include *all* my heartbeats over a lifetime of perhaps 80 years:

Phenomenon	Consisting of	~PP ensemble size
Heartbeats	~ 1 sec	54×10^{45}
Minutes	60 secs	3.2×10^{48}
Hours	60 mins	194×10^{48}
Days	24 hours	4.7×10^{51}
Years	365 days	1.7×10^{54}
Lifetime	80 years	136×10^{54}

Table 1: Estimated number of PPs in various human-scale phenomena.

This exercise gives us some sense of the kind of numbers we’re talking about here. Even though most of us have little actual “feel” for what these huge numbers could possibly “mean,” one inference we *can* draw is that this analysis suggests we will need to take a kind of *statistical* approach along the lines, I think, of what Carlo Rovelli is getting at when he speaks of “thermal time.” Just as temperature is not a property of individual molecules, but rather only a statistical property of large ensembles of molecules, time is not a property of individual PPs, but rather only a statistical property of large ensembles of PPs.

Even the humble photon then, even one with a shortest possible transit time (gamma radiation), is itself a phenomenon composed of some $\sim 10^{24}$ PPs according to this analysis. Thus, as I suggested in PSESM, the photon could turn out to “have a mind of its own” because it has “nested” within it, “billions and billions” of PPs. Recall that each and every PlanckPrint covers the entire Time Scale and thus includes gross, subtle, causal, and timeless elements, all nested within a single photon. Boggles the mind.

What serves to keep a PP ensemble – a PPE – together? How do phenomena get their apparent coherence? I can only speculate that there may be any number of “coupling” forces that come into play, maybe “harmonic” in some sense, that physicists will figure out in the future (assuming for the moment they haven’t already). Some kind of force

enables the “bundling” of countless PPs into a PPE that permits us to identify it as “a phenomenon.” Somehow phenomena arise and seem to cohere across the full range of time scales in such a way that we can identify them and study them in a sort of quasi-isolation: a photon, a cell, my life, a galaxy. In each case, more or less huge PPEs in which each PP covers the whole spectrum of time.

Another way we might think of the Principle of Cosmic Synchrony is along these lines: as I pointed out in PSESM, the STS can be viewed as an abstract representation of all possible cycle lengths. When we try to “place ourselves in time,” we often use what is called a “date and time stamp” giving year, month, day, hour, minute, and maybe seconds. What I’ve called the PlanckPrint is a kind of ultimate “time stamp” in that it includes every possible cycle, not just those of year, month, day, hour, minute and seconds. Rather, the PlankStamp – which may turn out to be a preferable term – is the “time location” of any particular PlanckPrint given in a most comprehensive manner across all possible cycles – the “instantaneous position in time” of that specific PP.⁷

When it comes to a subjectively apprehended phenomenon, basically the same general principles may apply, at least according to this way of thinking: a thought is a phenomenon, even if a fleeting one, and is here seen as being composed of components – most likely associated with (i.e., “nondual” with) some kind of cellular brain electrochemical complex – or CBEC. A thought arises, “hangs together” for a time, and then disappears. While it is “hanging together,” it is being maintained by a meta-stable CBEC, itself composed of an array of sub-cellular, molecular, and quantum-electrical phenomena whose coherence may be attributable to any number of “veritable” and “putative” mechanisms. The thought as a whole, in any case, has a “life time” of perhaps a second or ten – in the same time range as that of the heartbeat.

So what accounts for the difference between a heartbeat and a thought? The easy answer: “different PPEs.” In the case of the heartbeat, the PPE is more “heavily weighted” toward the gross muscular pump function of the organ. In the case of the thought, the PPE is more heavily weighted toward the subtle quality of mind.

Looking at phenomena in terms of the “predominance” of gross, subtle, or causal energies, it becomes important to distinguish between a particular PlanckPrint and the *time duration* characteristic of an *ensemble* of PlanckPrints. Thus, for example, for the heart beating as a pump, the predominance for the PPs is in the gross, in the region of H on the STS *and* the heartbeat itself is a quasi-isolated phenomenon with PPE duration of ~one second. In contrast, for the thought the predominance for the PPs is in the subtle, a way up toward Q from H on the STS, whereas the thought itself is a quasi-isolated phenomenon with PPE duration of one second – approximately the same as for the heartbeat. This may be a helpful way to tease apart the energetic signatures of various kinds of phenomena. We’ll see if this helps as we go along.

Thus, we could perhaps draw a diagram along these lines:

⁷ And remember that no two individuals can *share any* PPs – all PPs are necessarily unique to a given individual.

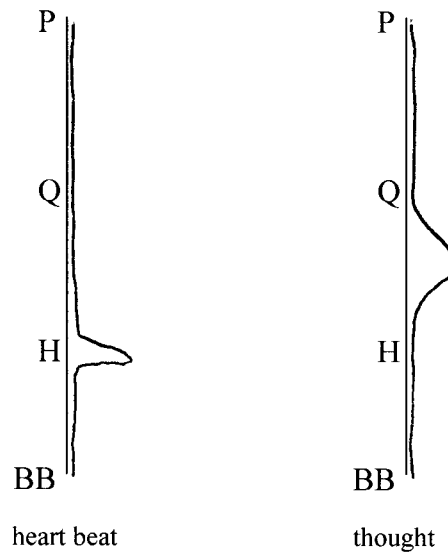


Diagram 4: sketch comparing sample PlanckPrints from a heartbeat and a thought. Note again: what is drawn on the horizontal axis is what I call “weight” as discussed previously. Note too that I figure a thought might be more “spread out” than the heartbeat, so its profile is “fatter. Maybe a sample PP of a thought might look a lot more like that of a heartbeat, but simply shifted *up* along the STS.

This rough sketch helps make the point that for the typical PP of a heartbeat, the “weighting” “predominates” right at the junction between gross and subtle domains, and that for the typical PP of a thought, its weighting predominates deeper in the subtle domain.

What the diagram does not convey explicitly, however, is the idea of “nested energies.” Based on the discussion so far, we would like to think that a thought has maybe more weight in QP domain than shown in the diagram. The sketch here could be revised to indicate more clearly the way in which energies are nested, but perhaps we can simply keep in mind that the STS line itself is composed of a vast array of nested time frames. The sketch was deliberately done in such a way that the PP line nowhere touches the STS line in order to indicate that there is *some* “weight” across the entire STS for both heartbeat and thought. And all these “weights,” however small, are “nested,” “by definition” we might say.

A technical note is perhaps in order here: Kent Palmer informs me that in terms of the complex algebras, it has been established that there are “islands” of complexity within the hyper-complex, islands of hyper-complexity within the ultra-hyper-complex etc... But this kind of “nesting” is *opposite* to the one I’ve been discussing in this section. Here I’ll only mention that I believe this issue has been discussed at some length by Ken Wilber in his Sex, Ecology, and Spirituality in terms of the notions “depth” and “span.”⁸ The basic issue revolves around this question: is the higher nested in the lower, or the lower in the higher? Which is it? Turns out that both are true depending on whether we are talking about depth or span – depth relates here to degree of complexity, and span relates to time

⁸ See for example, the discussion in section “The Problem with Size and Span” on p 95 of SES.

duration. This will likely bear considerable further explanation – the point being only that others have thought about this important issue before and I think that Ken has described one way to sort it out.

Further Analysis of *Interacting* Persons

Since so much of the work of ISSSEEM members involves interacting with others, how might we portray human interactions using the tools of the YSM? Right off the bat we would need to think of gross, subtle, causal, and spiritual interactions and we also need to consider how these various dimensions of ourselves might interact *cross scale*. Each of the four domains of one partner has four domains in the other partner to relate to. This yields a total of sixteen major types of possible interactions to consider. This number doubles to 32 if we distinguish *directionality* in the interaction as well ($a \rightarrow b$, and $b \rightarrow a$). It may become useful at some point to examine all these possibilities in detail. For now, however, I think it may be enough to keep in mind that all these possibilities exist.

It seems important here to re-iterate the PCS – every phenomenon takes place across all time scales. It is worth reminding ourselves that *every human interaction is between two individuals each of whom fully span the YSM*. I think this will help keep us from getting too tied up in the details – no matter what the YSM tells us about the mechanics of human interaction, it is *always* the case that it is two *whole* people interacting, whatever happens to their apparent parts. So, we can expect to find that in all types of human interaction gross, subtle, causal and spiritual elements are *mixed*.

Whatever the nature of the interaction, according to our previous analysis, any event of contact is itself a phenomenon – hence it is composed of a host of PPs described previously as a PP *ensemble* or PPE. Given that now *two* individuals are involved, they *each* are having their own experience of the event, each with their own unique PPEs. The felt quality of the interaction will be reflected in distinct differences of these PPEs.

How does an apparent “other individual” appear in my PPE? This would depend on many different factors such as the purpose of the contact, the intentions and expectations of the parties, attraction or repulsion between them, pain or pleasure of the interaction, etc... In any case, however, we see that according to this analysis, by virtue of any interaction, a complex experience arises in each party.

Notice that this analysis, by allowing the full range of “what it means to be human,” also allows for a full range of possible interactions, not just in the waking state, but also includes interaction via dreams, extra-sensory perception, out-of-body experience, telepathy, etc... – a full range of esoteric possibilities. This may turn out to be a major strength of this approach.

Personal and Pre-personal Energies

My wife Susan and I recently attended a week long retreat with experienced Yogi B. Alan Wallace in Santa Barbara. It was a real eye opener.⁹ Alan elaborated on the notion and the contemplative experience of the “substrate consciousness” and what lies between it and the yet deeper “primordial consciousness.” I find these two terms very useful and have included them in the discussion above about where on the YSM “I” is. These ideas play an important role in what is arguably one of the most sophisticated living esotericisms – Tibetan Buddhism – and may have connections that Alan has pointed out with the ideas in modern physics of relative and absolute vacuum states.¹⁰

Substrate consciousness refers to an irreducible core of the human personality – a kind of source level for all the structures that we identify as “our selves.” It can be experienced directly in lucid deep sleep. I became lucid in deep sleep once, back in 1971, but still have a vivid recollection of the experience – “as if it were yesterday.” I found myself awake as luminous awareness in the midst of a vast field of darkness extending in all directions – however brief the experience, it lasted long enough for me to have a deep sense of the quiet joy and peace of this state and to form an indelible memory of it.

Substrate consciousness can also be entered directly by experienced meditators. During the retreat we attended, Alan described the step-by-step processes of contemplation involved in the attainment of Shamatha¹¹ wherein one becomes established, *while yet fully awake*, in the substrate consciousness. I suspect that this experience will become a source of considerable interest to Westerners more accustomed to thinking of the “soul” as the “irreducible core of the human personality.” My current hunch is that the substrate consciousness may correspond to the “High Self” of some Western esotericisms, such as the one practiced and taught by ISSSEEM founder Elmer Green.

Some suggestion that the substrate consciousness of Tibetan Buddhism may be directly related to the High Self of Western esotericism is provided by Elmer’s Planetary Field Of Mind Diagram (reproduced on page 8 of PSESM). Here we see, at the junction between Levels E3 and E4, what is called “The Lotus.” It is here too that we find a dotted line demarcating the distinction between personal and transpersonal levels. In Tibetan Buddhism, what lies beyond or deeper than the substrate consciousness is likewise considered to be a trans-personal (or pre-personal) domain of archetypes – “The Form Realm” – extending “all the way” to Primordial Consciousness – potentially parallel to the “Jewel” at the apex of Elmer’s PFOMD.

What this has suggested to me, just over these past several weeks, is that the substrate consciousness may find itself on the STS somewhere in the region of the peri-Quantian

⁹ I’ve written a brief narrative about our retreat posted on my blog at svamd.com. ISSSEEM members may recall Alan’s Keynote Presentation at the 2004 meeting.

¹⁰ See his recent book *Hidden Dimensions*, 2007, Columbia U. Press.

¹¹ “The attainment of Shamatha” is when one can routinely maintain for at least four hours a condition of being so completely relaxed that one is in deep sleep and yet remain vividly lucid and awake – also known as the state of *lucid* deep sleep mentioned above.

making the QP domain a *pre-personal* realm. We will have to see over time if it continues to make sense to refer to the QP domain as “the causal,” or, more in accord with Elmer’s diagram, it will make more sense to include the causal as part of the *personal* mind domain *distal* to the substrate consciousness – i.e., below $\sim Q$. Note that in Elmer’s diagram, the “causal body” appears “confined” to a narrow band at the top of E3.

Healing, Harmony, and Harmonics

So, can we say anything in general about *healing* from the perspective of the YSM? Here perhaps a notion that I’ve not yet mentioned needs to be brought into our consideration: harmony. The concept of harmony has a long and august tradition among esotericists dating back to the Bronze Age during which the principles of tuning musical pipes and stringed instruments were first discovered. The rules of harmony have played a key role in many esoteric schools.¹²

It should be noted that the SummaTime Scale, given in powers of ten, can easily be converted mathematically into a *musical scale* given in powers of two (every octave higher represents a doubling of the frequency). Thus, it may be possible to adapt the rules of harmony to our study of therapy and healing. Tentatively, therefore:

Definition 4:

Healing may be associated with enhanced *harmonization* across some span of the STS.

Thus, perhaps physical healing is associated with increased harmony in the gross domain, energy healing in the subtle domain, psychological healing in the causal domain, spiritual healing across the whole of the YSM – something like that.

Closely related to the idea of harmony is the notion of resonance. Resonance gives rise to the overtones in any musical instrument. Resonance *coupling* allows for energy transfer to take place if the two oscillators involved are properly “tuned.” These ideas have also found widespread application in the field of esoteric healing.

However, these ancient notions of harmony and resonance, to be brought into the scientific arena, will, I suspect, have to be coupled with our scientific and mathematical understanding of “harmonic analysis.” Wikipedia’s article on this topic reports that “in the past two centuries, it has become a vast subject with applications in areas as diverse as signal processing, quantum mechanics, and neuroscience.” My proposal here regarding the meta-levels of complexity suggests that in order to develop our notions of harmony and resonance into a robust Yoga Science of harmonic analysis – especially one that spans the entire STS – will likely be a formidable undertaking – one well beyond my mathematical skills *and* far beyond the scope of this brief overview.

¹² See for example, the wikipedia article on the subject at http://en.wikipedia.org/wiki/Musica_universalis.

Here I'll only mention in passing that there are several "harmonic theories of the universe" that have been developed. The one I'm most familiar with is the work of New Zealander Ray Tomes. His work suggests that phenomena are clustered across scales spanning from universe to atom according to the rules of harmony. It is my understanding that he and fellow "cyclers" – those who feel that everything is made of things cycling within cycles within cycles etc. – appreciate that Maxwell's Equations describe "waves" as do the equations of Schrödinger. Thus, the feeling is that this is a promising approach toward a general theory in physics.¹³ However, as far as I can tell, their analysis has not been extended into the Q-P domain, nor has any attempt been made to integrate the conscious observer into the theories – key elements of our attempt at a Yoga Science.

An important caveat about this proposed association between healing and "harmony:" it may well turn out that there are important instances where a form of *disharmony* is actually the therapeutic intervention called for. I'm thinking of situations where what might be thought of as "harmony" actually represents a kind of "stuck place," a "rut" of some sort or other. In such a situation, a "jolt" of some kind, something that may be perceived as being anything but "harmonious," may be just the ticket. Think of the Zen master whacking the aspirant with a stick when stuck in meditation. Think of the fact that studies in brain function are increasingly showing that "chaos" – often thought of as a kind of "disharmony" – represents the *healthy* mode of brain function and that when things get too "harmonious" in the brain we see things like various kinds of dysfunction with seizure disorder on the extreme end. So too with the heart: it has been found that heart rate variability (HRV) that represents a kind of "disorder" is associated with *healthy* functioning of the heart, as opposed to the more ordered states seen in various kinds of pathologic arrhythmias. So, I think we'll need to tease apart our ancient esoteric notions of "harmony" in order to better align them with the medical realities of pathology. My hunch is that the way this will happen is that we will find new ways to define "harmony" scientifically using tools related to the full range of complex and hyper-complex systems as is being suggested here.

Summary of Map Overview

I've elaborated on a number of points that were not discussed explicitly in PSESM. I've expanded the description of the PlanckPrint and how we might begin to think of phenomena as being composed of *ensembles* of PlanckPrints – PPEs.

To stress one final point that may already be obvious: there are no truly "isolated phenomena." I think we're going to have to keep this much more clearly in mind as we try to do the kind of science being discussed here. Our "scientific map" is one in which all phenomena are "spread out," if you will, into their full *outer contexts* and with their full set of energies nested *within* – which I have called their "*inner contents*."¹⁴

¹³ For a good technical introduction to Ray's work, see his <http://ray.tomes.biz/math.html> page.

¹⁴ I've also referred to this as "inner *context*" – in order to stress the paradox of "depth vs span" discussed briefly above. See, for example, my short blog entry of May 7, 2007 – "Context: Outer and Inner."

Practical applications of this perspective will likely involve the deliberate “ignoring for the time being” of one or another feature of this “full inner and outer contextualization.” Making “simplifying assumptions” is routine in science – especially *applied* science. However, my own feeling is that it is far better that this “ignoring” become a conscious and deliberate *practical choice* compared to simply remaining unconscious of the ramifications and entanglements that connect us to the Universe as a whole.

Part 2 – Case Studies Using the Yoga Science Map

Here I’ll try out the YSM on a few “sample areas” of interest to ISSSEEM members: biofeedback, energy medicine, distance healing, and psi. Think of this as a preliminary test drive – even though the YSM approach is far from being well-developed, does it look like it might “work” when applied to some “real world situations” that we routinely encounter as ISSSEEM members? Let’s see:

Biofeedback

Of the various kinds of “energy medicine” recognized by the NIH, biofeedback is clearly the best understood and most widely accepted. However, it remains largely outside of the scientific medical mainstream, I think, for two reasons: its therapeutic applications do not involve pharmaceuticals, and how it actually works, involving as it does “the patient's awareness and conscious control of their unconscious physiological activities,”¹⁵ remains fundamentally mysterious to our materialistic medical science. Biofeedback strikes a materialist as verging on some kind of paranormal “mind over matter” effect (as if what is writing these words could not possibly be a mind directing material fingers). Here I’ll endeavor to see if looking at biofeedback through the lens of the Yoga Science Map sheds any light, especially on this latter issue – how does biofeedback work?

Here is what biofeedback consists of: a physiological parameter is first converted to an electrical signal by a suitable “transducer” device; this signal is then processed as needed to present to the human user how the parameter is changing. Regardless of the nature of the parameter, so long as the “contingency” or delay between the detection and the presentation is sufficiently short, *the user can learn to change the parameter* – either up or down depending on the situation.

This is truly a remarkable finding. It has been demonstrated in the case of *every* physiological parameter for which there exists a suitable detector. In other words, it seems that *any* feature of our physiology can be brought under intentional control. This accords nicely, by the way, with observations first made upwards of three millennia ago by yogis. Thus, biofeedback has a special place in the annals of Yoga Science.

¹⁵ Quoted from the wikipedia article on biofeedback. Amusingly, the article goes on to state that the one biofeedback professional association – the Association for Applied Psychophysiology and Biofeedback – “is akin to the American Psychological Association,” making no reference to the fact that the AAPB has just over 2000 members whereas the APA has nearly 100 times as many.

Scientific instruments are routinely seen as “extending the reach of the senses.” Biofeedback instruments act as extensions of the sensory mechanisms that report to the body itself on various *internal* conditions. These include sensory mechanisms that report to the brain: pain, stretch, and position being among the major ones.

However, physiologists have discovered a vast array of *other* mechanisms that serve the control of virtually *every* physiological parameter imaginable – many acting locally within organs and tissues and *not* involving the brain – blood glucose level, hormone levels, levels of specific proteins in the blood, etc... Many of these are natural forms of biofeedback based on “chemo sensation” that evolved in bacteria and remain with us as “the oldest senses” -- taste and smell being only the most prominent among countless others.

Since evidence to date indicates that an instrumental biofeedback protocol could in principle be developed to serve “*conscious*” control *any* of this myriad of physiological parameters, dozens already have been. I won’t attempt here to analyze or even list these many kinds of biofeedback. But I do want to look at two distinct *ways* in which biofeedback instruments can be used: with and without a “therapist.”

Biofeedback used without a therapist:

In cases where there is no therapist, the YSM suggests that the instrument is acting as a kind of mirror of what are usually *unconscious* physiological processes, and what we discover looking in that “mirror” is that we are able to exercise intentional control directly upon that process. No one who makes this discovery has *any* idea *how* they are doing it – so the notion that biofeedback somehow gives us “conscious control” over the parameter in question is somewhat misleading since it implies that somehow we know what we are doing – we don’t. *Somehow*, we can make use of the information “reflected” in this “mirror” to move the parameter in a desired direction.

In terms of the YSM, the biofeedback instrument is “informing” our faculty of intention most likely *via* the faculties of cognition. Intention itself is “located” on the STS (as you may recall from the above discussion and Diagram 3) perhaps in the peri-Quantian. What intention/cognition is being informed of is the state of some bodily process that is ordinarily sub-conscious that is “located” further down the STS in the peri-Heartian. That information then serves as the basis for intention to act on the parameter in question. This could perhaps be sketched as shown in Diagram 4 below.

So, are subtle energies involved in biofeedback? Yes, at least according to the definition of subtle energies given here. Embarrassingly perhaps for conventional materialism, *intention* plays a *central* role in biofeedback. *How* intention *works* is a deep issue and one that I won’t attempt to unpack here other than to say that we need to keep in mind that what we think of as intention likely takes many different forms depending on the individual situation – we commonly speak of “low intentions” and “high intentions.” Yoga Science will need to investigate this difference in the future. In any case, I think it

is fair to say that the identical mystery is present in our doing of *anything* intentionally. So the “mystery” of “voluntary control” is not at all confined to biofeedback.

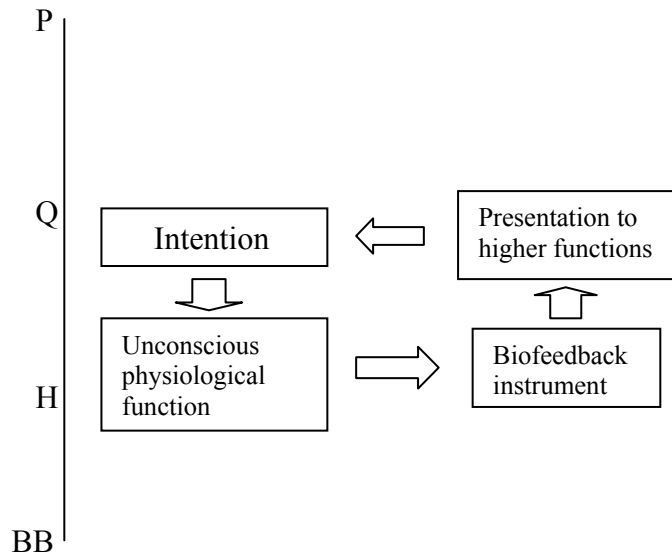


Diagram 4: sketch of how we might think of biofeedback in the context of the YSM.

Biofeedback used with a therapist:

How about a situation where biofeedback is used in the context of a therapeutic *relationship*? Here we’ll need to look at the how the biofeedback process sketched above interacts with the addition of an interpersonal relationship. Clearly the situation becomes much more complex and much is riding on the nature of the relationship. Perhaps we need first to consider further what might make an interaction between two persons – as discussed in several sections of Part 1 – a *therapeutic* relationship? What is it that makes for an increased likelihood that a genuine *healing* may occur. As suggested above in the section “Healing, Harmony, and Harmonics,” a *therapeutic* relationship may be one that serves the *harmonization* of the recipient of the therapy. As I pointed out there, however, it remains to be seen exactly what this will mean scientifically.

Thus, when biofeedback is included in a therapeutic relationship, this instrumental modality might serve the harmonization of one or more aspects of the totality of the recipient. We may have to delve more deeply into the details of each individual case, but clearly, the *intention* of the therapist is always a key factor. We can speculate that the more “harmonious” that intention is with the “highest possibilities” of our humanity – the more clearly the “heart intention” (or better still, the “SOUL intention”) is expressed – the more likely it is that whatever modality is being employed will serve the comprehensive harmonization of the recipient.

Another element regards how the overall energies of the therapist *resonate* with those of the recipient. In other words, the therapeutic *effect* of the therapist may depend not just on the quality of their intention, but the quality of their various energies as well, whether

their energies actually “match up” appropriately with those of the recipient. Here, “stimulus intensity” can be every bit as important as “stimulus frequency.” This has been noted repeatedly in clinical practice of many kinds including the use of therapeutic substances – we docs are expected to pick the right *dose* as well as the right *medicine*.

There is a huge range of possibilities potential in *any* relationship. Recall the discussion above that at any moment there are at least 32 distinct types of interaction possible between gross, subtle, causal, and spiritual aspects of the two interacting parties. To make matters even more complex, the type of interaction predominating in any given moment could be quite different in the next. So, clearly the analysis I’m exploring here does not necessarily make the picture a simple one. Perhaps the best we can hope for, given the extraordinary complexity of human beings, is that we do here begin to see the outlines, however vague, of a picture at all – one that includes, at least in principle, a full range of what it is that makes us human.

Biofeedback as a tool for spiritual growth:

Finally, I’d like to explore briefly the application of biofeedback as an aid to spiritual growth. Some of the very earliest work in biofeedback was based on the hypothesis that it might be useful for this purpose. EEG studies of Yogis had suggested that their brains generated a lot of alpha rhythm (~8-14Hz) when in meditation. So it occurred to Joe Kamiya and others that we might be able to use biofeedback to enhance alpha brain waves and hence reproduce various Yogic meditative states. Lots of energy was directed to this in the early years. My impression is that little came of it. Exactly why I’m not certain – this could itself be a research topic of some historical interest. My suspicion, however, is that meditation is much more complex and subtle a process than just generating lots of alpha.

Another approach that has turned out to be more enduring, although it still remains relatively little known, is called “Theta Brainwave Training” (TFT). Theta brainwaves are in the frequency range of 4-8 Hz. Here are Elmer Green’s words on its origins:

“This theta training idea sprang from the fact that when I moved from Biomedical Psychology in Chicago to the Research Department of the Menninger Foundation in ’64 and set up a Psychophysiology Laboratory, I wired myself to an electroencephalograph and found that, in me, the state of detached mindfulness was always accompanied by a transition from beta rhythm in my left-occipital cortex (the visual cortex at the back of the head) to theta rhythm mixed with alpha. The upshot of this EEG finding, also found in psychiatrist Stanislav Grof and several other creative people, was the writing, and obtaining, of the 1971 NIMH research grant titled “Alpha-Theta Brain Wave Feedback, Reverie, and Imagery” (Green and Green, 1989)”¹⁶

¹⁶ Quoted from *Ozawkie Book of the Dead*, Vol 3, page 702. The Green and Green, 1989 reference is to an issue of *Biofeedback* (the news magazine of the AAPB founded by Green), vol 17, #1, p8-19.

Various TBT methodologies were developed by Elmer, his wife Alyce, and their associates at Menninger over the thirty some years they worked there. One of the best studied was the protocol developed by Eugene Peniston for use with alcoholism and other addictions.¹⁷ However, TBT has also been used as a tool specifically for personal and spiritual growth and enhanced creativity in many “normal” individuals and without any kind of “therapeutic” address to a presumed “pathology.”

Based on his decades of pioneering work with TBT and his interpretations of how it works based on his extensive background in esotericism, here are a few sample quotes from Elmer’s Chapter 9 of Owsakie on TBT:

“TBT is *soul* training. It enables the *soul* to communicate with the *SOUL*¹⁸ and helps the personality express (display, manifest, radiate), the Light of the *SOUL*.

TBT allows one to “log on” to the transpersonal “mindnet” of the Collective Unconscious. All humans on the planet are then found to be brothers and sisters, and Gaia becomes an ally.

But, however useful TBT may be as a procedure, it must be realized this it is merely a mindfulness-training technique.

The trainee’s usual visual imagery shuts down and the mental screen goes blank, ready to receive projections of near-sleep imagery (hypnagogic imagery) coming from normally-unconscious sections of the psyche, including the *High Self*.

It is safe to say that theta training, and all other forms of biofeedback, merely accelerate progress in contacting the *High Self*. Of the techniques we have investigated, though, theta brainwave training has proven to be the most speedy. And fortunately, like every other kind of biofeedback, it needs no metaphysical explanation to make it work.”

These quotes highlight several points of great relevance to our discussion here: that TBT is, in the experienced opinion of a founder of ISSSEEM, the “most speedy” of all biofeedback techniques when it comes to learning the art of contacting the *High Self*; that TBT is not alone in this regard – all forms of biofeedback can serve this purpose as well; and that TBT can, furthermore, serve the yet deeper process of the *High Self* (or *soul*) communicating with the *SOUL*. These are strong claims, and clearly ones that point to why biofeedback, for all the efforts that have been made to bring it into the fold of conventional scientific methodologies, still has a large part of itself “left hanging,” if you will, “outside the mainstream.”

¹⁷ A number of studies were published by Peniston and his colleague P. J. Kulkosky using the terms “alpha-theta brainwave” (with “training,” “neurofeedback,” and “synchronization”).

¹⁸ Here, I think Elmer is using “SOUL” (all caps) in a sense similar to the one in which I have used in Diagram 3 above.

Later in the chapter, Elmer goes on to describe how in a dream the night before, as he recorded on 11/1/94, he was given instruction “on the esoteric significance of biofeedback training.” Here are a few sample quotes:

“The *High Self* of the client, the Causal Body,¹⁹ is the “entity” who in biofeedback training is directing what is being done.

The body is a reflector of mental-emotional-spiritual conditions, and whenever a physical improvement is being made by self regulation, a beam of light comes down from the client’s *High Self* like a laser spear and punctures the specific glamour-bubble²⁰ of EGO connected with the problem (fear, poor self image, guilt, anger, ill will, revenge, jealousy, pride, etc...). When speared, the offending bubble vanishes, and so does the physiologic problem.

It is our destiny to manifest in full the SOUL who is latent in us. And that development depends almost entirely on dialog between the subconscious personality Selves and the super conscious *High Self* – all through mediation by the Conscious Self.”

Elmer concludes by saying, interestingly, and of potential relevance when we come to our considerations of “Energy Medicine” in the next section:

“From the above perspective, it is easy to evaluate every method of treating psychosomatic disease. Specifically, procedures are useful when they promote contact between the client’s Lower Selves and the *High Self*. In this context, it isn’t the therapist’s task to make the patient well, but to facilitate interaction between the client’s various Selves.”

However, here our focus is the matter not of treating disease, but of higher spiritual growth. How does TBT serve that process? Earlier in Chapter 9 Elmer has used examples from the movie *The Matrix* as illustrative of the inner journey that one may undergo, once contact with the *High Self* has been enhanced through TBT. Here are just a few quotes from this section to illustrate Elmer’s general ideas about what is going on with TBT:

“After becoming acquainted with our Sub-selves, we students can begin to look upward (inward, deeper) and can choose to develop transpersonal Love and Will, characteristic of the Lotus and the Jewel.

¹⁹ Recall that I’ve previously mentioned how in Elmer’s Planetary Field of Mind Diagram (PFOMD), the Causal Body is confined to a narrow band adjacent to the “Lotus” (or *High Self*) whereas in my YSM scheme, the “Causal Domain” embraces the entire Q-P domain with the “*High Self*” tentatively situated in the “peri-Quantian” region. These terminological differences will hopefully be sorted out someday.

²⁰ “glamour” is a term Elmer uses based on the work of Alice Bailey, *Glamour: A World Problem*, 1950 Lucis Publishing Company, New York.

The “theta-teacher” guides you to the entrance of the *High Self* tunnel,²¹ and after that you are on your own.

Learning to interpret ones own hypnagogic imagery is part of the student’s task in theta training.”

Taken together, these descriptions of the more esoteric aspects of biofeedback suggest that a more complete version of Diagram 4 might look like this:²²

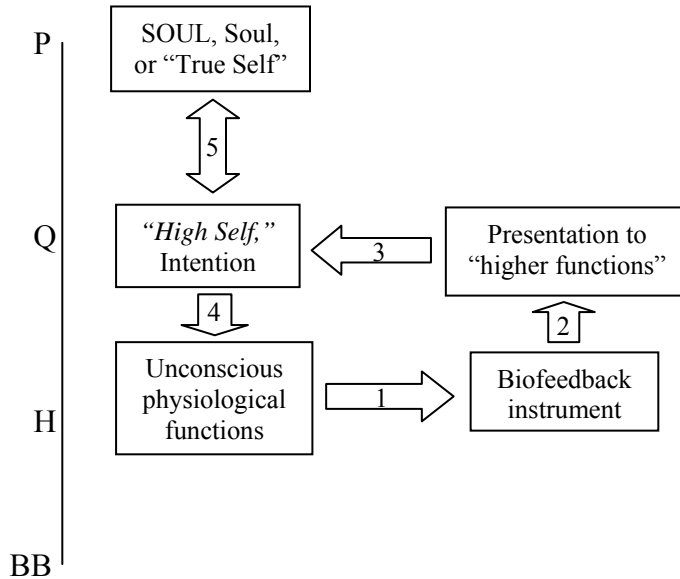


Diagram 5: sketch of biofeedback with some esoteric elements added: *High Self, SOUL, Soul, or “True Self”* according to the discussion in the text. By the numbers: arrow 1 refers to the technical process of signal transduction from the body to the electronic biofeedback instrument; 2 to the processing of the signal into a presentation of the analyzed signal data; 3 to the perception of that presentation by the “higher cognitive faculty” here presumed to be linked to the *“High Self”* and the faculty of intention; 4 to the process (still not at all understood) whereby perception of the analyzed data combines with intention to modify the underlying physiology; 5 to the most esoteric dimension of biofeedback, the process referred to in the text of communication between the *High Self* and the *SOUL* level – the “tunnel” in the quote above.

Biofeedback Summary

In this quick overview, I think I’ve demonstrated that the YSM can accommodate the main elements of biofeedback, including the esoteric ones. How does all this relate to “subtle energy?” And, “does the YSM help us better understand our work with subtle energy?” My hope is that by showing how we might analyze biofeedback in terms of the YSM, we may have at least a place to begin looking more deeply at the ways in which it

²¹ In Elmer’s terminology, this “tunnel” is a sort of conduit between the *High Self* and the *SOUL*. It is represented in the PFOMD as the dotted-line column extending from the Lotus to the Jewel.

²² An important note here: Elmer proposes on *Ozawkie* p705 that “all other forms of biofeedback merely accelerate progress in contacting the *High Self*.” So it may be that the general analysis given here of TBT could be applied fruitfully to all forms of biofeedback.

does, indeed, involve subtle energy, and, how according to Diagram 5 (and the PCS), causal and spiritual energies as well.

There is much more to be said about biofeedback; for example, if TBT is so powerful, why is it not more widely known – why has virtually nothing been published on it? These are great questions, but outside the scope of this brief discussion.²³ I hope I have shown at least that the YSM may allow a more comprehensive analysis of this important modality than is possible using the tools of conventional science.

Energy Medicine

It is with some trepidation that I wade into these deep waters – with roots in our prehistoric past, energy medicine has a very long, complex, and august history. It has become a large and multi-faceted subject with thousands of books on amazon.com and over 650,000 Google hits. In addition, as a former physician, the field is one that I'm acquainted with only by way of referral and “hobby” – I never dared risk my medical license to actually practice any kind of “energy medicine.” My hope is that based on what I've discussed to this point it will already be clear that the YSM permits a very wide range of phenomena to be considered – including those associated with the many types of energy medicine. Thus, in this section, I'll aim to put forward only some general ideas about the subject and how it might be approached from the perspective of the Yoga Science Map.

Perhaps it is important at this juncture to remind ourselves that we are here dealing with an *esotericist* set of basic assumptions about the world, our place within it, and the very nature of our human existence. Both words in this compound idea – energy and medicine – refer here to conceptual complexes *other* than those typical to our contemporary mainstream scientific materialist milieu. “Energy” here really refers to a fuller spectrum of possible types of energy than physicists typically think of and may include *subtle* energy, etheric energy, emotional energy, mental energy, causal energy, and spiritual energy – to name some of the more commonly invoked terms. Likewise “medicine” really refers to a notion of applied methods for restoring health and wholeness that comprise a much broader spectrum than medical doctors typically think of – it includes, most fundamentally, a *whole person* sort of *harmony* that includes physical, emotional, mental, and spiritual dimensions of what it is to be a “whole person.”

The Yoga Science project is aimed specifically at the expansion of scientific thinking necessary to accommodate just these very *esotericist* meanings. The Yoga Science Map aims to portray the *whole* of our being in every moment – a whole that includes gross, subtle, causal, and spiritual dimensions from the start. The hope is, therefore, that faced

²³ In conversation with Pat Norris, who worked with her father Elmer Green for many years with TBT and still uses it some clinically, it appears there are a number of reasons why it is not better known. Her efforts to publish a major study on work she did with TBT in the Kansas penal system met with multiple rejections. To the best of my knowledge, Elmer's *Ozawkie* Chapter 9 is the principle published information on this application of biofeedback, but there may be others I'm not aware of.

with *any* kind of phenomenon whatsoever, the YSM can guide our thinking toward a full appreciation of its totality.

As stated in the abstract to PSESM, however, this does not necessarily make for a simple analysis. It seems rather the opposite may be true – the YSM seems to portray a cosmos that is not just complex, but also has hyper-complex, and even ultra-hyper-complex domains. Even beyond that, from a mathematical perspective, the YSM suggests that the “spiritual” context of all this cosmic complexity is itself a super complexity beyond all distinctions – a timeless sedenionic SummaComplexity.²⁴ So, that’s the “bad news” of this approach.

All the same, my own feeling is that having a map, formulated in scientific terms that can be seen as including the whole of our existence *at all* is a big first step and one that may hold promise for scientific developments into the future. Like with any map, we have to keep in mind that although finding something on the map may give us a general idea of where it is, what we might discover when we get there is another thing altogether. Thus, I assume that the YSM drawn here is extremely crude and will undoubtedly need much revision in the years ahead – assuming for the moment that the general approach turns out to be worthwhile.

The discussion in Part 1 above, “Further Analysis of *Interacting* Persons,” developed the idea that there are dozens of interactions we might need to look at in order to develop a more complete picture of what happens in relationships. Although “energy medicine” does not necessarily require that two people are interacting, as a general rule, and in practice, there is still the underlying idea that one party has an understanding of where the energy is off or has cultivated access to healing energy, and, they somehow transfer that understanding or that healing influence to a second party. This is done with the intention that the desired change occur in such a way that the net effect of the interaction is therapeutic for the second party. Thus, in order for us to apply the YSM to better understand what practitioners of energy medicine are actually doing requires us to keep in mind that two persons can interact in many extremely complex ways.

Therapeutic Touch

To focus on just one specific example, let us consider what is going on in a session of therapeutic touch from the perspective of the YSM. The recipient may be simply asked to lie down and relax. At this stage, the experience of the recipient is one of intentional relaxation – their cognitive mechanism has received the instruction to relax, they withdraw attention from the world of exteroception into the world of interoception – from those sense faculties that inform us of the world *outside* the body to those that inform us

²⁴ John Hagelin’s work on Super Symmetry strikes me as resonating well with this way of thinking. ISSSEEM members may recall his presentation at last year’s meeting in which he showed a diagram titled “Unified Field Chart for Physics.” This same chart appears in *Subtle Energies & Energy Medicine* vol 18, #1, on p43. Here the vertical axis represents a *distance* scale with the Planck Length at the bottom, below which lies the Unified Field of Super Unification and Super Consciousness. Turned upside down this might align well with the STS – the *time* scale I’m exploring with Planck Time at the top.

of the world *inside* the body – and begin, via deep breathing or some other form of intentional relaxation practice, to let go of tension in the muscles of the body, and perhaps relax the breathing, to the best of their ability.

In terms of the YSM, at this stage we have a situation that could be outlined along the lines seen in Diagrams 4 and 5 above as follows: 1) “presentation to higher functions” is the practitioner’s suggestion to relax; 2) the “intention” in the recipient then becomes, “to relax”; and 3) the usually “unconscious physiological functions” of muscle tension and/or irregular/shallow breathing are somehow reduced, to some degree.

Now, the practitioner places their hands on or near the body of the recipient and engages in some kind of process – depending on the specific method they are using – of intending that healing energy be transferred via their own body to the recipient, or directly from a universal source of energy while they perhaps aim only to “get out of the way” as much as possible.

Focusing first on the experience of the practitioner, we might diagram their experience, along the lines of Diagram 5, as follows: 1) their intention involves a deliberate invocation of higher or universal source that we might assume is “up the tunnel” toward SOUL; 2) that “energy” is then directed down into their own body, or directly into the body of the recipient at the level of the typically “unconscious physiological functions.” The interaction as a whole might be sketched as follows:

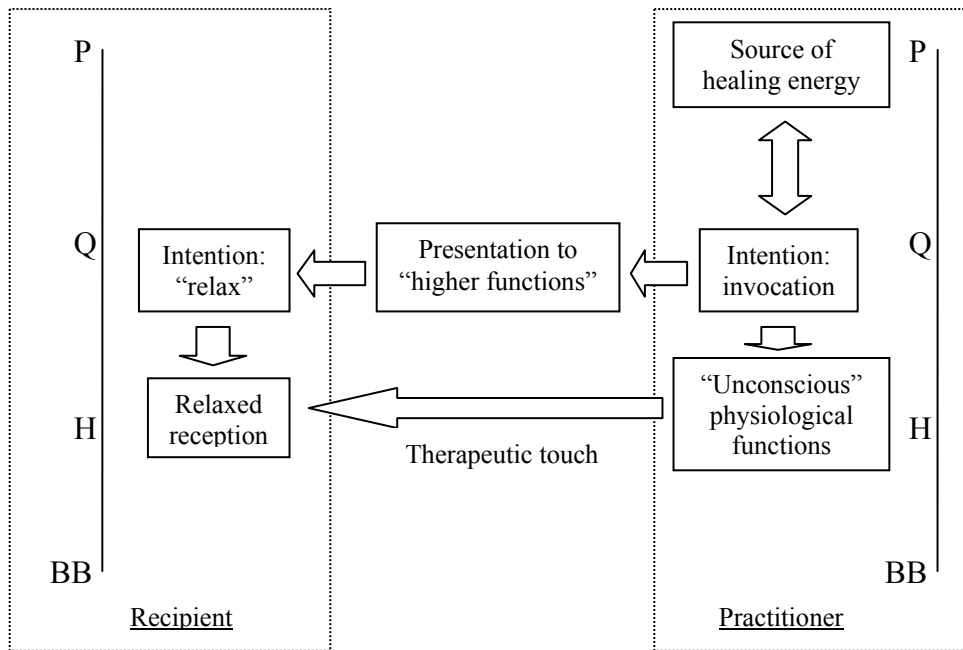


Diagram 6: sketch of therapeutic touch interactions aligned with the YSM. See text for details.
 Notes: I’ve added lines to delimit the two parties involved – for the sake of clarity. I’ve also put unconscious in quotes for the practitioner to allow that some energy healers may have developed abilities to *consciously* direct energy to specific areas of the body/mind of the recipient. It is also possible that the recipient may be involved in doing more than “relaxing.” Keep in mind that boxes and arrows cannot do justice to the complex simultaneous interactions taking place among the various domains of the STS.

Thus I think we can see a way to begin to tease apart, in at least some crude way, the many levels of interaction involved in a therapeutic touch session. It is perhaps worth remembering that by the definitions given previously in this discussion, the arrow in Diagram 6 marked “Therapeutic touch” represents *a set of nested energies*: an electromagnetic hyper-complex *subtle* energy, “within which” may be the ultra-hyper-complex *causal* energy invoked by the healing intention, and perhaps additionally, a nondual *spiritual* energy as well, all of which contribute to a necessarily complex, resonant interaction that, when “therapeutic,” initiates a harmonizing change in the recipient.

Distance Healing

Given the above discussion, I think we can see how Diagram 6 might be modified to represent a session of distance healing: a) there need be no conscious participation on the part of the recipient, so the details of this side of the diagram are, in some basic way, irrelevant, b) we can eliminate the “presentation to higher functions” box since the practitioner need not have any overt communication with the recipient, and c) the “Therapeutic touch” arrow now becomes a “non-contact therapeutic touch” arrow where the degree of physical (and perhaps even temporal) separation between the two parties becomes irrelevant. In this case, however, there may be another key difference, in that the set of nested energies involved here may not involve any significant *electromagnetic component* but rather just the causal and/or spiritual components. Studies of distance healing to date suggest, as I understand it, that the influence involved is not necessarily diminished by distance, as we would expect with electromagnetic radiation.

Psi

Psi comprises a host of phenomena that appear to violate conventional physics. Among the many psi phenomena are ESP and precognition. I won’t attempt an extensive discussion of yet another large topic, but only suggest how we might approach psi phenomena using the tools developed so far.

Let’s look first at remote viewing – a type of ESP that has been subjected to some degree of scientific scrutiny. Here, via an intentional “tuning in” of some sort, the viewer attempts to “see” a “target” – a specific scene or the contents of a specific document located at a distance. On occasion the “target” is located in time before or after the time of the viewing. My understanding of the overall results of the studies that have been done on remote viewing is that they suggest strongly that information can sometimes be transmitted by this means, but that overall it is an unreliable method – you just can’t count on it when important decisions may be at stake such as might be the case, for example when the CIA attempts to gather data related to an issue critical to national security.

What is the viewer doing, exactly? My understanding is that some individuals are better than others in this regard. Their descriptions vary, but suggest that their “tuning in” is a

sort of first resting in a relaxed and open awareness, and then using a wordless intention to aim their minds at the desired target. We might think of this as a kind of directed meditation practice. Using the same general notions we've used here previously, the situation might be sketched as follows:

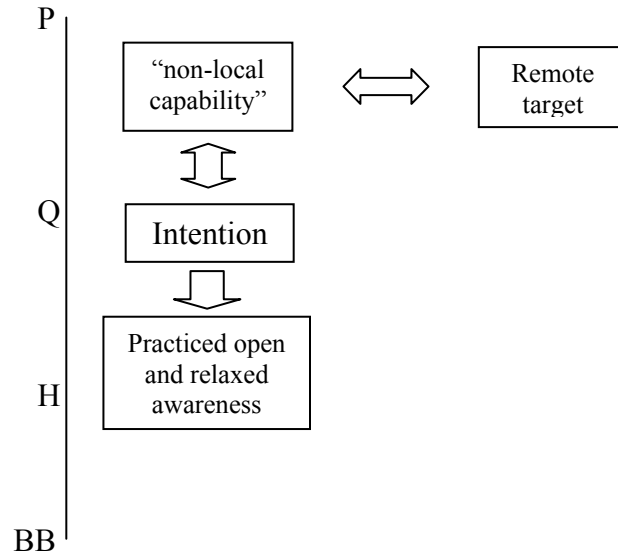


Diagram 7: sketch of a remote viewing session. See text for details.

Here the idea is that as we move up the STS, phenomena become increasingly non-local. It could turn out that intention itself, as I've suggested at various times, is itself a non-local phenomenon. Another possibility – suggested by the PCS – is that all phenomena are non-local and that our localized day-to-day awareness operates in such a way that it deliberately “tunes out” the vast majority of non-local elements in order that we might better survive as biological organisms dealing primarily with circumstances local to the physical body.²⁵

The apparent unreliability of remote viewing is consistent with the likelihood that this latter idea is correct: if we were routinely aware of things in other times and places, it might literally *interfere* with our ability to function in this time and place. Over the course of evolution, however, although most of the time local awareness is the primary servant of survival, there have been occasions when some degree of ESP might also serve survival – hence we find that it is quite widespread in the population as a “now and then” phenomenon. I think a large percentage of the population “believes” in ESP simply because they have, on occasion, had experiences that would be hard to explain in any other way.

Precognition could operate by similar mechanisms where time-displacement predominates over spatial-displacement. According to timeless interpretations of

²⁵ This notion was, I believe, first put forward by Henri Bergson in 1913 as cited by Dean Radin in his [Entangled Minds](#) p267. It is also an idea that Adi Da Samraj has often cited – that the brain is a biological mechanism “designed by evolution” to *limit* experience of the fullness of reality.

quantum mechanics, all phenomena represent timeless configurations of the entire universe, as discussed previously. Thus, there is some sense in which all such configurations exist “at once” as well. As a result, tomorrow, next year, and next millennium are “right next door” in the strange Planckian world. Thus, again, it may have served our survival over the eons to have foreknowledge in certain occasional circumstances. Thus, the capacity is present, just not commonly available – except perhaps to well-developed psychics and Yogis. It remains “relatively rare” among humans.

Conclusion

Much additional work lies ahead. What I’ve sketched in this article are only some very rough outlines. Most importantly, the overall theoretical framework needs to be “validated” by what will likely be a great deal of work involving the issues it raises across many fields: philosophy, mathematics, physics, psychology, and biology just for starters. Then there is the full range of esoteric spiritual traditions from around the globe whose input is needed as well. My hope is that what I’ve outlined in these two papers will spark enough interest to attract at least a few qualified individuals into a serious further consideration. The approach I’ve taken could turn out to be a dead end, of course – we’ll just have to see how it goes in the months and years ahead.

A couple of additional items are high on my immediate agenda: a timeline and overview of the esotericist tradition since the Renaissance for my ISSSEEM presentation next month; preparing the presentation itself with slides and any further handouts; and, perhaps later this summer, the writing of “an appreciative critique” of Ken Wilber’s article, “Toward a Comprehensive Theory of Subtle Energies”.²⁶ This major contribution from Wilber has to date met with a deafening silence by way of response – as far as I’ve been able to tell – from “the subtle energy community.” I’ve been waiting to undertake a formal address to Wilber’s piece until I had further developed my own approach. I feel that time is approaching.

Yet another major item on my agenda is to consider how some of the traditional features of our esoteric anatomy might be seen in light of the YSM. Ken proposes that the real test of any “theory of subtle energies” is that it can “account for” the acupuncture meridians and the chakras. I think he is correct on that point and I’ve not yet turned serious attention to this important issue. My hunch is that the approach taken here focused on “time anatomy” may shed some new light on these ancient esoteric ways of understanding our bodies.

In this brief exploration I have tried to show how the Yoga Science Map might be used to begin a deeper analysis of phenomena familiar to esotericists but generally excluded from serious scientific study. Does the YSM shed new light on the modalities of energy

²⁶ First published on his website, <http://wilber.shambhala.com/html/books/kosmos/excerptG/part1.cfm/> as “Excerpt G,” I think in around 2002. It was then published, with very few changes, in *Explore – The Journal of Science and Healing*, July 2005, Vol 1, No. 4, pps 252 – 270.

medicine I've looked at here? Does the YSM show promise as a way for us to begin to "get a scientific grip" on subtle energies and energy medicine?

Ultimately you the reader will have to be the judge of that. It seems to me that the YSM does at least open up a new way of thinking about the many ways in which subtle energies – heretofore thoroughly marginalized by mainstream science – might be looked at. I'm convinced that subtle energy and energy medicine hold great promise for a struggling humanity. The many forms of energy medicine in particular, legitimized with a new kind of scientific perspective (and potentially via technological developments), could become key elements in a genuine *health care system* for our collective future.

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