

HATHA YOGA
AND
HUMAN EVOLUTION

Steve Dwelley

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NOTE TO READERS

I've had a blog up on my website since 2006, slowly adding posts. I invited readers to view each post as a chapter in a book I'm writing but I was never very happy with the blog format because it seemed that newer posts buried older ones and prevented any kind of sustained development. So I've gone through the whole thing, keeping the basic frameworks of the last four posts I wrote as bones to be fleshed out, adding a new one to start things off (*Psi-net*) and combing through the gravel of the older posts, preserving the worthwhile nuggets and integrating them into the new book format. It was a rat's nest, I found so many loose ends, I labored on and on, searching out and eliminating repetitions, verifying questionable claims, making it readable. Those who have already read the blog will find familiar pieces of writing but the overhaul was such that its really a whole new, hopefully cohesive thing.

Chapter 1 offers a basic cosmology that lays a groundwork for many of the claims made by the yoga tradition. I needed to handle professional philosophy's attacks here because much of the rest of the book takes the subtle realm for granted. Chapters 2, 3 and 4 cover similar territory to each other from three different perspectives; all three present a view of a mature hatha yoga process and how it can attain to the highest yogic values, which I hold to be the highest values humanity has come up with. Chapter 5 addresses again the threat to these values from materialist doubters who at first blush (and multiple blushes thereafter) can be quite intimidating to the spiritually inclined.

This book contains some paradoxes. Here's a big one: if much of yoga is about quieting the mind, what's with all this thinking? In particular, some of this seems pretty intellectual, why should a yogi care about that? My answer begins with my claim that meditatively oriented yoga makes you smarter. And it also conspires to bring the practitioner towards and into the subtle realm. When one's soul begins consciously moving about in the subtle realm, the subtle nature and subtle "footprint" of thought becomes evident and *quiet mind* and *thinking mind* take on an it-takes-two-to-tango relationship. Many yogis have been non-intellectual but fewer of them non-intelligent. The paradox lies in the fact that to get going with yoga, we need to make efforts to control discursive mind, and may go through phases where engaging yoga related ideas is the last thing we want. But I've found that getting a grasp of the larger yogic landscape is enormously beneficial, and I regularly get requests from students for concepts, talks, things to read.

Sometimes people extend a critique toward self-oriented practices such as yoga, claiming that there are far more pressing issues to be engaged. My response is this: let's take the potential human and sentient-creature disaster of global warming as a suitably pressing issue. Any success addressing this requires not just technological skill but also, and at this point according to scientists, mostly, political success. In democracies, a high level of awareness spread through-out the populous is needed for the political will to tackle the risks perceived by cutting-edge thinkers. People need to evolve in order to cast votes which will give us a chance to survive. Meditative hatha yoga, practiced on a regular basis over time, is the finest tool I am aware of towards individual human development, and this book is an attempt to back that claim up. Not just trying to help others evolve but being an example of evolution oneself is needed now more than ever.

I chose to present this as a free online book as opposed to self-publishing, or e-publishing as a print on demand, primarily because it is a constant work in progress and a life-work. My intention is to continually add to, update and revise this. Also, I've been told that my yoga studio has an intimidation barrier to entry for some, which I'm not sure is warranted, so I wanted to make this writing as easily accessible as possible. May it shed light on your path.

1. PSI-NET

The "big five": sight, sound, smell, touch, taste. These are the gross senses, the blatant senses, expressing the body's adaptation to light, vibrations in the air and other mediums (such as water), particles in the air, matter, and chemicals in food, respectively. And there is a sixth, which I will attempt to elaborate in this chapter: let's call it *Internal Subtle Feeling*, which picks up information from its own landscape. It reveals another dimension of the terrain represented by the big five, as well as getting into regions of experience that the big five can't perceive. These other regions exist in what we can call the *subtle realm*.

Internal feeling has its own gross, blatant component which can be roughly divided into two terms: *proprioception*, which physiology tells us comes from muscle placement and movement, and *interoception*, which covers pain, pleasure and internal organ sensation. But if one maintains attention over time on the information from interior sensation, that sensation capacity will begin to register subtler phenomena which don't have obvious location in everyday space/time. A truly vast terrain containing subtler things begins to present its contours through such a practice.

This subtle sensing may be given as a gift to some people from cultural/familial heritage or genetics or accidental disposition, but for many of us it will need to be developed with practice over time. I will make the claim here that Internal Subtle Feeling (ISF for short) is an emergent capacity in humans that is just getting going at this point in human evolutionary history. Although reaching back two thousand years we can already find it well underway, in literature from India and Greece for example, this amount of time is still quite recent in the development of our biology. For at least that long, practitioners and thinkers in India have been pondering the processes captured by the Sanskrit term, *sukshma indriya* which means "subtle senses", and the subtle realm came to be seen there as a step toward realization of higher goals in yoga. My idea of ISF is a development upon *sukshma indriya*. I believe ISF will evolve far beyond where it typically operates right now in your average human.

Now, in our contemporary situation, it is really not possible to claim that the phenomena disclosed through ISF can qualify as scientifically proven in the full rigorous sense of the term scientific. This is because the *confirmation* of exactly what is perceived, by checking it with and against the perception of others, is difficult to do with anything resembling the overwhelming robustness of shared experience that the big five offer every second of our waking lives. But that doesn't make it impossible to undergo a personal and communal confirmation process, and it doesn't make it untrue, and it doesn't make it unempirical. In fact, I am claiming here that the things that are disclosed by ISF, and the landscapes containing those things, and the processes involving those things, are *cognitively significant* in every way demanded by even the logical positivists at their most severe (Carnap, Hempel). And the future will very likely see the transformation of this realm from merely empiric to actually scientific. Trends such as Consciousness Hacking work with methods and instruments that show how this may play out.

ISF is cognitively significant because, with gift or development, the realm can be *robustly experienced as real*, just as real as any of the big five, moment to moment. Similar to outward vision, it can become stable and present in real time, and it does not deliver information subject to whim, or present to us merely what we want to perceive. Rather, it faithfully presents data that is then turned into a dimension of our overall sensory *representation*. It also offers up a landscape whose features are *enduring and reidentifiable*.

Since Kant, in philosophy, it has more or less been recognized that when we see a tree, what we are really doing is taking raw data from our visual system and then applying mental categories to that data. Discoveries in neuroscience which have been integrated into cognitive science lean toward affirming and building upon Kant's view. We take raw colored patches and then *make* them into a tree with our mind, the process completed before we recognize that it has happened. Two people see the same colored patches and both call it a tree because both of their minds are using "essential facts" shared in variation by all minds to arrange those colored patches into a tree. This approach to vision, and all senses, sees them as generating *a representation* which is created within our own minds. Applying this process to ISF, we can say this: we internally *feel* processes and contours and then attempt to organize that raw data into things that can be recognized. I say "attempt" because my position is that both our biology and experienced minds are still only at the infancy state in the subtle realm. Despite this, I've noticed that, especially in India, the subtle realm is taken for granted and, at least in basic ways, used as part of the daily routine in spiritual circles, and stable adaptation within the subtle realm is often seen as necessary toward realization of the next step, that of the witness or emptiness. That being said, I've been struggling to understand this subject for 25 years and I'm often at a loss as to how to interpret both the things I'm perceiving as well as the lay of the landscape in which those things reside.

I have discovered many things however. One exceptionally interesting aspect of ISF is that it discloses a field that we can operate within and alter in a way quite different than how we alter the landscape perceived by our other gross senses. For example, if we see a shovel against a wall, we can walk over to it, pick it up and move it against a tree. When we then stand back and look, we have altered the visual landscape we see. By contrast, in ISF the subtle objects perceived are directly responsive to actions from what we can call the subtle body (*sukshma deha* in Sanskrit.) We can effect things in this realm, but like the shovel, we can't effect them any way we want. If you try to mold that shovel into a ball with your hands, you are going to run into splinters which follow laws that you cannot simply overcome or ignore. In a similar manner, the objects in the subtle realm are also governed by laws, although they can be said to have greater plasticity than gross matter. In dreams we may very well mush that shovel into a ball, and dreams are one mode of expression of the subtle realm. But even though dreams can manipulate gross data such as images in ways that can't happen in the gross waking realm, there are still forces in the dream world which are real and can only be fluently navigated once they are accepted and understood. A good pitcher in baseball has not altered physics but has found ingenious ways of working with it. Likewise an accomplished yogi or shaman with the laws of the subtle realm.

Some have called these laws aspects of a fifth fundamental force in addition to the four accepted by science, namely: gravitational, electromagnetic and strong and weak nuclear forces. Lets call this theoretical fifth force *subtle force*. Other suggested names include *pranic* or *akashic*. Another possibility places it within the electromagnetic field, suggesting that our nerves have an ability to be profoundly sensitive to such forces in a way that transcends normal space-time. It could potentially be explained "within casual closure", meaning that it might fit into the materialist world view without any need for an unexplained spirit behind it; or it could be related to quantum gravity which humans haven't figured out yet. It may involve dark matter, which makes up 26.8% of the universe, or dark energy,

which makes up 68.3%, both of which we know next to nothing about. (Ordinary matter makes up 4.9%). 95% of what's out there (and in here) is still basically unknown to the sciences.

The pre-eminent way to develop this sensing capacity is through the yogic arts which specifically teach practitioners to develop non-discursive mind, or what I've called *Yogamind* (see *Yogamind*). Skeptical thinking mind won't do it. *Yogamind* reveals the underlying internal landscape that has accompanied thinking mind all along, a landscape of which most people are only vaguely aware. This landscape is not "lingua-formal", not language based, not discursive. Conceptually, "biological" would capture it better although it is not totally biological. Our biology works in concert with the *psi-net*. (For the skeptical scientific materialists out there, my first question is: how much yoga have you done? Why do I ask? Simply due to the fact that it is difficult to get accurate with- or even consciously sense- subtle data without sustained non-discursive internal focus over time.)

My current experience, after a long time in the yogic arts, is that as soon as I free myself from discursive mind in the moment, ISF presents itself plainly, clearly. With practice over time it has gotten clearer. Like outward vision, it can be experienced as something quite amazing, but often it is just there, matter-of-fact, a source of information. What does ISF disclose? I'm currently calling it the *psi-net*. It could be called the world-wide-web-before-computers. Great Chain of Being could work. In this chapter, I'm also referring to the underlying realm in which the *psi-net* exists and functions as the *subtle realm*.

Each person is a node on this net, and a source of energy, actions and information out into it, as well as a receiver of energy, actions and information from it. In one solo backpack where I slept under the stars and engaged a bear in the middle of the night, and a bobcat the day before, I came to conclude, in agreement with Native American views, that animals are nodes on the net as well. The bear was somewhat crude, but two day's hike into the back country with no people anywhere near, its signal wasn't weak. I've also had an unusually clear dream where a blue whale out in the Santa Barbara channel communicated colorful psychic shapes to me. Was it "just a dream" or can there be something more to "just a dream"?

My answer to that is this: dreams are the most powerful and obvious place where the *psi-net* presents itself to most people. The overlay of the states of sleep onto the states of spiritual development is well known, and goes back in India from Upanishads pre-dating the common era. Even the least spiritually inclined person goes to both the subtle realm while dreaming and the causal realm while in deep sleep every night. Yogis and other kinds of mystics can go there while wide awake, with practice (see *W-C Lattice*).

In dreams we enter the subtle field, with our subtle senses operating, and undergo events with other people or animals or other entities, in subtle landscapes with subtle objects, enacting the *psi-net*. Those people with whom we are involved in our daily life will be our primary companions in our dreams. We can draw an analogy here from neuroscience, which tells us "nerves that fire together wire together"; so, "people that hang together, dream together". We can liken the *psi-net* to a huge global brain, each sentient being a neuron.

We need to work things out with others in the subtle realm, where we meet them in their subtle body in subtle landscapes. The profound part of this is that we *need* to do this to sustain health, intelligence and even to survive. Those who don't adequately sleep and dream die before their time. And the scientific literature on the ways that dreaming sleep contributes to the brain's abilities to organize information is extensive (see *W-C Lattice*). My view on the process is that there is a physical component and a subtle component to dreaming, again, an interaction between biology and the *psi-net*.

The further implication is that there is a healing aspect to the subtle realm, and my claim is that conscious or sleeping forays into the subtle realm *exert organizational pressure* on the bodymind. This

happens to both recently gathered data, such as that which is still held in the hippocampus, as well as to more established knowledge and abilities. There is a growing body of literature on how yogic practices actually increase the size of the brain, including the thickness of cortex.

The standard materialist contention to much of what I've said so far is that higher yogic states are just alterations in brain chemistry and in yoga we are merely experiencing they way such alterations feel and their various dynamics. Lab evidence mentioned in the previous paragraph is now convincing, so materialists need to cede the fact of brain and chemical changes, basically deemed positive by the health sciences. But they can still argue against the psi-net, against the idea that ISF is sensing anything outside of ourselves, against any idea that it functions as the activity of a sixth sense organ such that psychic communication becomes possible. My response is this: denial of the psi-net made by those who don't understand ISF can be dismissed outright because the relevant data is not going to show up in that lab. Those taking on an ISF oriented practice, including any skeptical materialist willing to undergo a few years of yogic training, will most likely experience an internal field that grows in vividness and detail over time. Informed by this attained skill, they simply cannot with any assurance make the claim that what they are experiencing is not a representation of something "out there." Skepticism is one thing, which I support, but flat out denial is altogether different, and likely is a result of feeling threatened. I'm with Kant here, our senses are a representation created within our bodyminds in a high percentage attempt to successfully grapple with whatever is out there. I've had extensive experience with ISF, daily in my work life as a yoga teacher with rooms full of people doing yoga, to the point where I have as little doubt that what I'm feeling is as real as I have with what I'm seeing. I sense things with ISF and I apply categories to them. In turn, the resulting concept of the psi-net presented here is well supported, through spiritual literature and testimony, as a way of organizing ISF data- many many others have come to the same concept.

When faith groups such as Christian churches practice prayer, they are attempting to tap into the psi-net. A percentage of people in the West in sports, business and politics take psychic communication as a given, either through prayer centered in the Judeo-Christian matrix or from more esoteric sources. Scientific studies on the effectiveness of prayer have not panned out too well, but this has much to do with the environment in which the studies were carried out. Psychic exchange studies have been conducted with statistically significance confirmations, especially when they've been done with people who have shown subtle realm familiarity (google Russell Targ, the parapsychology lab at Duke University, Rupert Sheldrake). Despite this, such studies often don't hold up well in the scientific lab.

Just as sleep is susceptible to disturbance, so are subtle realm operations; dreams are often ephemeral and difficult to remember in the glaring face of waking consciousness. Likewise, achieving specific psychically transmitted data in a lab, for example, mind-reading the number on a card that a person is repeating in her mind, unfortunately often kills this more sophisticated aspect of the subtle realm. Which is to say, my claim is that there is an aspect of the subtle realm which allows transmission of actual mental discursive content such as a number or complete thoughts. But the more reliable and more routine subtle exchanges are that of *feeling based* content, which is a different kind of data than labs can typically measure, and is often less about specific discursive information, and more about what one's subtle body is expressing, which can be emotions and their subtler extensions, such as feeling someone's anger or confusion. This sensing often picks up feelings that the person who is having them may not be aware of, or is in denial of. Also note unfortunately, the Judeo-Christian tradition provides few tools to the average lay person for the practice and development of psi-net skills, and it has even violently suppressed them at times.

The subtle realm can be used for good or bad, consciously or unconsciously. In fact, I will claim that it is a substrate to everybody's experience at all times, and, perhaps ironically, provides the fullness with which we recognize our representation of reality to be robust and real, through the connections

that we have with others which contribute an underlying inter-relatedness feeling tone to our moment-to-moment conscious experience. I say "ironic" because for many people, this feeling tone barely and rarely consciously registers. This is to say that although we likely perceive and engage inanimate objects just by using the big five, when it comes to perceiving and engaging sentient beings above some threshold intelligence level, ISF enters the story in addition to the big five, whether the participants in that story are aware of it or not.

"Good" subtle realm engagement, helpful to others, healing, positive, is an art that can be cultivated. Again, some have a gift for it, but most of us will have to work hard at this. The yogic arts reveal capacities in this regard that can be developed within ourselves to likely an endless degree. Masters in this realm often hover around the healing and spiritual arts, i.e. yoga teachers, therapists, clergy, gurus, but they are also scattered around all fields of human endeavor. Many parents share this bond with their children, although this can happen in a range from helpful to non-helpful, conscious to unconscious, as can subtle exchange between any two people. The more intense and intimate the relationship, the stronger the mutual transmission; intense relating includes love as well as strife and conflict. Effects can be transmitted from afar, even across space and time, but those who are closely situated in space-time will make the strongest connections with the potential for the most transformation. A good metaphor here- which is likely more than just a metaphor- is that our exchanges with another person place in both of us a transmitter and a receiver, and the more frequent and or intense the exchange the bigger these "devices" get. Our circle of people receive what we transmit and vice-versa, like radios.

When I put my hands on someone in class, the sensed connection increases greatly and a field of exchange presents itself clearly. As the years of my practice have accumulated, the ISF perception of the field between me and the person I'm engaging gets more elaborate, allowing a process of recognizing enduring landscape features. It has also allowed for the development of layers of subtle skills which in the "hooked-up" relationship field can transform subtle things into more mature and integrated versions of themselves. In a class setting, it's not just me doing this, but a collaborative effort conducted at various levels of consciousness; some students seem aware that they are doing this, others less so. This non-discursive direct field-engagement work in turn exerts evolutionary pressure on the current states of our bodyminds and the various contents therein: organization at the subtle level has a trickle down effect into denser regions as well as clearing the way for even subtler work.

Psychotropic drugs can offer an experience of the subtle realm which makes our subtle connection with others seem undeniable. These drugs provide an experience akin to vivid dreaming but while still awake. However, one of the (many) problems with drugs is that when they wear off we may wonder if the disclosures were real or not. On the contrary, stable consistent yoga practice offers a stable consistent access to the subtle realm which makes it as real as the gross realms shown by the big five. ISF, steadily developed with strong arduous practice, is an inherently evolutionary act, and, while contributing to material development, it has its fullest power toward gaining comprehension in the spiritual realms, where it can slowly put in place a subtle state which is as stable and enduring a bodymind state as one can have. Hard work sculpts cytoarchitecture slowly but surely and securely. On the other hand, the fundamental contribution of psychotropics is exceptionally unstable and temporary; once the drug is metabolized out, the resultant restructuring of the psyche may attain to degrees of permanence- for better or worse- but the "wire to nirvana" is gone. Compare this to the yogi, who wakes up the next morning with the higher state still there, often not dramatic or profound or mind blowing but simply, beautifully, even mundanely, present.

2. WHAT I WAS WAITING FOR: THE W-C LATTICE

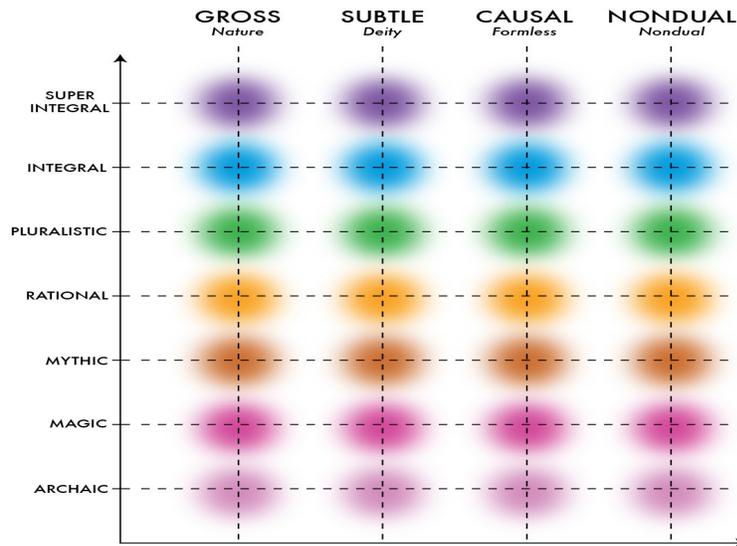
Way back in 2005, I embarked upon the process of addressing what I'll call an *urgent internal issue*, in this case not so much a psychological crisis but rather a theme my mind kept returning to, accompanied by a strong unconscious push to find a solution. It began when Michele gave me the book *Sex Ecology and Spirituality* (*SES* for short) by Ken Wilber for our anniversary in 2004. A big long book, I took it to Mysore, India for Patabhi Jois' 90th birthday in July the following year and sat there in my Gokulam flat, at a beat up plastic table for six weeks, taking notes in the hot nights after the rest of the family had retired under the mosquito net. I kept at it because it was one of the few spiritual books I'd ever read where I had a keen sense that some grand revelation was going to come from getting to the end of it.

I'd encountered variants on the phenomenon three times before. One: Jung's "magnum" *Mysterium Coniunctionis*; it knocked me over in my early twenties as his full world came in, but finishing it was a Herculean chore. After I read the first 20 pages something weird and wonderful appeared on my inner horizon, again I was in India doing intense yoga and I felt Western and Eastern subtle contents merging together. This carried me through- I read every word, even most of the copious footnotes- to the last chapter where it all falls into place. Two: Shankaracharya's *Brahma Sutra Bhashya*: after an initial conversion experience, Vedanta in all its profundity, it wound up putting me into a coma every time I touched it; the book is longer than you can imagine, leaves no 8th century didactic stone unturned, and would've morphed me into Rip Van Winkle entirely if I hadn't done the right thing by putting it back on the shelf, thereafter only referring to it periodically, allowing me to return to normal waking consciousness. Three: Aurobindo's *Life Divine*, another book known to cause spontaneous sleep- is it boredom or is it weighty transformational vibration? One of the biggest bricks you can find, the first 30 pages blew my head clean off and may do the same to you. I also found out how God comes down to earth, such a large number of angles into this theme that I finally skipped to the part where human rises up to God, much more on this later. But Wilber's brick was clearer and quite exciting in the way it integrated so much cutting edge materialist thinking into a glorious hard-won spiritual context, so I slapped at mosquitoes and finished, footnotes and all, wiser for the experience and...something wasn't quite right.

There is a happy ending though: two years later I was teaching in Manhattan and realized that Wilber's *Integral Spirituality* had recently been published, and there it was, St. Mark's Bookstore, East Village, page 90, the thing I was hoping for but couldn't figure out myself: the *W-C Lattice*. The icing on the cake of *SES*. It has taken several years, right up to the present day, for me to recognize the helpfulness of this tool- I feel thankful for Wilber and cohorts for getting it out there. I see it as the keystone to his overall model of human development which is his primary project. Since then he has added many refinements to the story, a few new ones each book, and I can't imagine a more thorough, carefully considered and rigorously vetted model of human evolutionary process and potential, both in theory and in practice. His mature approach currently boils down to this: if 70 percent of the world's population is at "us versus them" levels of development or lower, how are we going to deal with the urgent problems facing humanity, such as climate change, which require a global perspective? So he puts his efforts into getting people to evolve in the fullest and fastest way possible. In this chapter I am using his basic developmental structures as the bones upon which to elaborate my own ideas about development and the cosmos.

Sex Ecology Spirituality is where his mature basic map originally came into view. First written in 1995, and revised since, it was where his grand organizing scheme, the *four quadrants*, initially

appeared. Laid out roughly the opposite of Life Divine, the first part of the book draws on front edge science- in addition to everything else under the sun- to explain how life evolves into greater complexity and inclusiveness: *ascension*. The second part integrates this with a cosmological view of how a Platonic understanding of Spirit *descends* to Earth and the way it has played out through the course of history. The WC Lattice has explanatory value for either direction. Here it is:



There are two axes to this box, vertical: *stages*, and horizontal: *states*. The vertical axis charts lines of human development through successive *stages*. We all develop differently as we go through life, and this can be captured by different “lines” which rise up through stage levels, for example: emotional line, interpersonal line, kinesthetic line, morals line, cognitive line, (the grid above doesn’t show the lines but you could fit them in there, climbing vertically up through the colors). Each line is a slightly different region of the body and brain, with different learning areas and skills. A variant on this approach to the diverse ways that people can learn and grow has also been offered by Howard Gardiner with his well received idea of *multiple intelligences*.

Individual lines will climb up the vertical axis depending on the degree of evolutionary resource and endeavor the person might have and apply during her lifetime, and some lines for some individuals can eventually reach up to that “purple”/super integral stage or even above. Different people are inclined toward different groups of lines, so some will push the emotional line up there, others kinesthetic, etc. Each stage has increasing degrees of inclusivity, embracing more of the cosmos, as well as increasing the sophistication of the patterns and algorithms of connection within that larger field- to reach a stage, one must satisfy certain criteria in this regard. These aren’t tests with God sitting there report card in hand, threatening to give us an F, so much as what Wilber calls cosmic habits or grooves, and they correspond to broad generalities that appear to reflect the way human bodyminds evolve over time; for those who are inherently or deliberately working at an evolutionary process, the claim of this grid is that it describes stations through which such individuals will progress, and once we actually understand the structures and vibrations at each level, we will naturally settle into them. Before that, these levels will be "over our heads".

However- and this is a glimpse into the complicated kind of issues the lattice clarifies- other processes, such as yoga, take us along the horizontal axis, growth through *states*. Regarding states, the

W-C Lattice uses the classic divisions, first set down in the Upanishads before the common era, which correlate spiritual states, or yogic attainments, with the main states of sleep. The gross/nature column corresponds to normal waking consciousness, the subtle/deity column corresponds to dreaming sleep, the causal/formal column corresponds to deep sleep (also called nidra: “yogi sleep”), and the non-dual column corresponds to the ability to hold all of these states stably and hold two or even all three at once, i.e.: realizing the causal state while functioning in gross and/or subtle reality. This arranges the territory of the spiritual life into four basic divisions, which themselves have been further broken down into subdivisions in spiritual literature. Everybody, including the *degenerate couch potato who stays as far away from yoga as possible* travels their way through these four basic states in their nightly sleep; but the spiritual life, as it has been expressed through cultures and time by adepts in different traditions, has described spiritual development as the realization of variations on these states of sleeping mind while still fully conscious.

Many of us know of classic images of meditating yogis whose eyes are rolled back in their head behind semi-closed lids. This also happens to the eyes of people during sex and orgasm. In 2003 I saw the Rolling Stones in India, poured rain the moment they started and stopped the moment they got off stage. Darryl Jones, their bassist during that period- considered among the finest- had his eyes rolled back the entire time. These are examples of someone entering a zone similar to the dream state while still awake- in REM sleep the eyes fly all over the place behind the lids- seeing things inside, or using the visual capacity to add dimension to *internal subtle feeling*.

So, the beauty of the WC Lattice is that it makes room in the cosmos for spirituality while still affirming and even supporting the “manifest” parts. It actually goes further than that because it casts the spiritual dimension as the ground from which the other parts rise; the aspect of existence that cannot readily be perceived by the “big five” outward senses is cast as the foundation of the whole thing.

Now here was the initial problem I had with *SES* before the lattice showed up. In that book, and a few later things, and in all of his previous books, Wilber made no clear differentiation between states and stages and simply placed the highest yogic states at the very top of the vertical axis, on top of the very highest stages of cognitive, emotional, kinesthetic and other types of achievement, as he later and wiser put it, “Bam bam bam bam...East and West integrated!” He also noted with hindsight that since the higher stages “have characteristics that appear similar to those of the 3 or 4 higher states, it was almost impossible to spot the difference.” After reading the book, I sat there scratching my head for a while. It occurred to me that a scientist or a basketball player or even a hatha yogi (who engages both an exercise part and a meditation/spiritual part, with the latter often somewhat neglected in Western yoga class circles) could integrate himself way up an active developmental line, doing almost all his work in the gross waking state, barely scraping the subtle and when he did only in an unconscious manner, and never getting anywhere near the causal state other than in his sleep: he could attain high levels on various vertical lines but have zero conscious awareness or realization of the spiritual states. If you look at highly accomplished people in life, this is not an uncommon situation; worldly frequently doesn't mean spiritual. It seemed to me that yogic/spiritual states were a different kind of line, a certain mode of intelligence that unfolded in a learning way just like the other lines, but one that often developed by omission rather than proliferation when seen from the gross perspective, and uncovered foundations within which our deepest identity dwelt, an identity far larger and more profound than the part of us which is the typical doer in any particular activity. It wasn't until I finally found the lattice and its addition of the horizontal line against the vertical line that I was satisfied with Wilber's attempts to integrate human development with spirituality.

So, let's look at hatha yoga development in this light: a person walks into her first of many Ashtanga classes. She brings with her a life history of somato-motor experiences which have given rise to a series of developments in the somato-motor systems in her bodymind. We'll call this her

kinesthetic line on the vertical axis of the lattice. This history starts with wiggling around as a baby, reaching for things and trying to eat them, figuring out crawling, walking, running. For most of us it develops from there. She has been using her somato-motor capacities non-stop since birth, and all this practice has entered data into her memory, and her brain and nerves have been crunching it up and putting things in the right places towards the goal of effective action, with much of this occurring beneath her awareness, unconsciously. The nerves have been making connections in an *autopoietic* fashion, organizing themselves, following their own informed-by-experience yet subterranean will. And, most interestingly, periodically through time, there have been incidents of global reorganization, where suddenly a threshold is passed in the bodymind, many things shift at once, and the somato-motor movements, awareness of them, capacity to do them in the moment, and to put different pieces of them into coherent wholes, suddenly increases. She has moved up a level on the vertical axis: the crawler suddenly stands (balance is added to the mix), the stander suddenly walks (balance problems are now solved in a complex spontaneous manner).

Where can this go? Let's switch the example from yoga to sports to discuss issues around the higher reaches of development of the "vertical" somato-motor line. Then we'll pursue the "horizontal" potentials that yoga adds to this process. I spent the first eleven years of my life in Boston and my Dad is an inveterate Celtic fans (pro basketball), occasionally we still watch, they advanced to the conference finals in 2012 and lost a great series. Their chief foe: LeBron James of the Miami Heat, age 27 at the time. He had put in thousands of hours of intensely focused basketball practice and play by that point- he had probably attained the lauded 10,000 hours by the time he was twenty- much of it in heightened prana environments during games, often with millions watching, thousands actually in his physical space, the rest on TV. He was putting together spontaneously improvised moves of enormous complexity, every fraction of a second presenting the possibility for large numbers of new adjustments, each one coming both from his internal toolbox- partly conscious, partly unconscious- and modified on the fly. All NBA players do this. But for a good percentage of the games he plays, he operates at a vertical level up- or more- on most of the other players: greater complexity and thus greater options for new arrangements, or as they say in neurology, greater calculation speed through more efficient signal routing and "richer high-level representations" (Lynch & Granger). That which less advanced players would see as a chaotic situation, he sees as a whole; where others see a mess, he sees patterns.

And there was another force operating on that floor too, one with implications for yoga and longevity: another great player, Paul Pierce, age 34 at the time, more hours logged on the court than LeBron which means that his toolbox likely has more relevant information to work with, and also very high-level, but having to add another twist into the neurological data-crunching: all that time in all that physical intensity has left him with a few strained and even broken parts; he knows more than when he was 27 but his musculo-skeletal body can't do what it used to. He can still evolve along the vertical axis of somato-motor development, which is largely neurological, but that doesn't necessarily mean he's better at winning basketball games than a young guy whose gross body parts aren't broken down yet. In this particular series, the beat-up-smart-old-guys held their own until the structurally sounder young guys finally passed them right at the end.

Basketball, like ballet, is a young person's game. 34 and you're nearly over the hill. But yoga is a different story- hopefully. One of the points I want to get to a little later is that conscious residence in the subtle realm is a huge contributor to creativity, such as our bass player above: eyes rolled back, that's the zone from which his creativity flows. Those who have managed to get themselves to the higher states have the potential to tap a special creative fund that can be applied toward gross-level artistic and other forms. And in Hatha Yoga, as opposed to basketball, gaining traction along the horizontal path of the lattice, along the states corresponding to sleep, is really the basic intention of the practice, at least as it has developed in Indian history. NBA basketball (and much of the material world)

is about winning and money, so that vertical stages- and aggression and luck- rule the roost. Yoga is about enlightenment and happiness and these need some horizontal progress, something that is known to mature with age if valued and given a chance, with the potential of getting progressively more developed even as the physical body wears down, i.e.: into old age.

Back to the basketball players: a typical non-mystical player will put in hard practice time during gross waking hours and then sleep at night. What happens within him as he sleeps? On the simply physical level, sleep is the time of maximum anabolic activity: growth and repair activity. It is when the body's response to exercise happens the most, the complex process of muscle upregulation along with neural growth and neural organization. This is also when more severe strains and injury heal most quickly, partly because deep sleep is when the most growth hormone is released. (Yogis can take a unique kind of advantage of this, see below.)

At the neurological level, things get very interesting during sleep. A prominent theory in current brain science is that memories stored from experience are "interleaved" in a progressive process into the cortex from the hippocampus, with this happening the fastest during sleep. The hippocampus stores memories short term, the cortex stores them long term. And they get put in the right places in the cortex. Essentially, impressions received by the bodymind are organized autopoietically into coherent, intelligent patterns, the process being steered by the same kind of wisdom that guides the cells in their profoundly complex operations. (An almond has around 21 amino acids; when we eat one, we do not need to worry about where to put them or what to do with them, the body does it for us and does it with a nearly incomprehensible biochemical genius; likewise, I'm drawing a parallel to what the brain does, especially during sleep, with the daily intake of data.) If our player has actually done a lot of basketball that day, these impressions will arrange themselves. If he sits around watching crap TV all day, those impressions will arrange themselves, poor guy. If he does lots of focused basketball, day after day, he will, without conscious effort on his part other than the practicing itself, begin neurologically developing higher order representations and longer lines of association, brain items which indicate degrees of *mastery*. He puts in the focused basketball time, his self-organizing bodymind does the rest.

This physical and neurological progress also happens during waking hours. But if sleep doesn't happen- if he never moves horizontally along the lattice- he will eventually catabolize: break-down, the opposite of anabolize. And it doesn't take long; the feeling we get at the end of a long hard day is that of our subtle and gross systems wearing down. They call out to us to get horizontal, both in bed and along the W-C Lattice. Once rest and sleep begin, then everything suddenly switches to the positive, and the strong impressions received from the tough day become the evolutionary fuel for greater development, for both vertical and horizontal attainment- and those who advance furthest in this life, along either axis, have a hunger for strong impressions. Our basketball player is going to need to get himself way up that vertical axis if he wants any chance to make it in the NBA, couch-potato lifestyle isn't going to work. And his nightly sleep can be seen as the matrix which regularly, reliably- miraculously- brings him into the force that can get him there.

Vertical development in the gross waking state cannot happen without regular passes through the deeper horizontal stages. Put differently, regular passes along the horizontal axis are required to get anything going vertically. Yoga is the art of getting into these horizontal stages while still fully awake.

So, returning then to the "grand revelation" I mentioned earlier, the one I thought I was onto as I read *Sex Ecology Spirituality*. For a long time, I had a burning question: how can hatha yoga bring us to the highest goals of the yoga traditions? By that time, I had settled on my understanding of the tantric ideal as the best way to live a yogi's life, an approach to the time given us in this life which is fully aware of the material world and alive to its dynamic forces and participates in these forces, but is also able to tap into the deeper realms of consciousness. Not all spiritual people have chosen to live in the world this way, see below. The great paradox at the heart of tantra- of which hatha yoga is a branch-

emerges when we take even a perfunctory tour through the corpus of yogic and Buddhist literature, and the fact of the drashtu or seer or Brahman or witness or causal matrix (in the WC Lattice it is represented by the dark night/causal column along the horizontal axis)- there are many more names for it- jumps out at us. It can't be ignored and is clearly set out ad nauseum as the goal of spiritual life and the realization of enlightenment, either integrated with the grosser realms or not. This causal matrix is not a thing per se but is the absence of things, it is not the result of our yogic efforts but rather the presence that was there the whole time and has only, with the moment of recognition, and in a mysterious fashion as a result of our efforts, been uncovered. OK. No problem.

But the burning question and my urgent internal issue I mentioned at the beginning of this chapter: how does all this relate to active life and practice, such as hatha yoga, where we aren't doing *nothing* but rather, are developing *something*. Like most meditations, hatha yoga is a deployment of attention, and that very attention develops the contents upon which it focuses. Also, it is a practice that develops hierarchically and as Wilber puts it, holarchically. What does hierarchical development of contents have to do with spiritual life?

Here's an example of a hatha yoga move higher up the hierarchy: kharandavasana is an ungodly difficult asana two thirds of the way through second series in Ashtanga. It puts together several pieces of things which require development time on their own. To begin, one must be able to do lotus, and for some, this is a huge hip-opening undertaking unto itself, requiring full attention; for many people, putting the parts of lotus together is as much as they can do at their present level of practice. If things are given a chance to progress, with practice, all the separate openings and movements required for lotus become unified in a coherent whole: the many have become one. The same goes for the next part of kharandavasana, which is forearm balance: the strength and balance may take a while to develop before any kind of success sets in. We then put these two together, lotus and arm-balance- and there's even more to the asana than that. I don't need to go any further with this description to convey the main point, which is a different angle of my take on LeBron James from above: to achieve kharandavasana, one must put together multiple wholes, which themselves are comprised of multiple wholes, each of which needed learning and development time before it could even be realized as a whole. Before that we were just struggling through the parts, which themselves can be broken into parts, which themselves...you get the idea. Development within active life and practices- the vertical axis on the lattice- proceeds through the transformation of parts into wholes, which then become parts of larger wholes, on and on as far as we have the guts to keep going. This is progress up the vertical axis of the lattice. And the thing that was bugging me: when and how does this process eventually help us to get over to the subtle realm, or especially the causal matrix which is...gasp...nothing, nothing at all. How does hierarchical physical attainment uncover the blockages to our recognition of the causal matrix?

Here was how I viewed the problem: we can keep doing asanas for years and, while we will get physically fit and better at performing the asanas, what exactly about it is spiritual? Does spiritual progress just sort of show up one day? Why do we even want it? One clue to answering these questions has to do with that which happens to us as we focus our minds. Most yoga teachers at least make some reference to quieting the mind and staying in the present moment. Many also emphasize focusing on the breath, and in Ashtanga, hopefully, these guidances are overt. Making attempts to focus the mind on an actual sensate field in the present moment- which is different than giving energy to memories and plans for the future- and adding breath control to this, transforms hatha yoga from "just exercise" as Pattabhi Jois used to say, to something greater. The goal of the yogi is stable residence in either subtle material or in a realm where the word "material" isn't relevant at all. All gross-level goals in yoga are subsidiary to these. Notice that the overt goal of the basketball game is to win the game and/or entertain the people.

Wilber's earlier, all vertical model didn't work because it never made the *yogic shift* that turns

the project of getting better at the asanas into a calm observation while material work is being done. The addition of the horizontal axis was needed to make calm observation both a skill that we get-better-at and one that can transform any and all gross level improvement projects into spiritual ones. The horizontal axis can also be seen for its potential to infuse the get-better-at project with unusual creativity. Think of what it is like to dream: unending, inexhaustible creative energy toward the presentation of stories. What's the source of *that* creativity?

Two things begin happening at once to the yogi. One: time spent doing the asanas will have its developmental effects on her body, upgrading it, developing it, neurologically stimulating the generation of higher order representations, etc.: movement up the vertical axis of the lattice, particularly in a somato-motor line. But then, two: what does the steady mental focus and breath do? My answer: it can simultaneously move her into the *inner sheaths* (Sanskrit: koshas) of existence, and these contain phenomena and connections with qualities different than those of the gross waking state; dreaming sleep is viewed as a sheath interior to gross waking states, and deep sleep is seen as interior to dreaming. Mental focus and conscious breath will generate horizontal movement along the lattice; calm observation will eventually move us toward the subtle sphere (see *10,000 hours* for a closer look at this.)

Seated meditation is a way to get horizontal without the distraction of bodily movement. One aspect of seated meditation is that it is the absence of doing anything, we've pared it all down to inner focus, minimizing distractions. Of course, what is really happening is just a more simple and subtle version of hatha yoga, because the back and neck muscles are still working and the hips are being stretched, and anyone who has gone on meditation retreat knows that around day three these areas begin to express their opinion about the forces to which they are being subjected. Hatha yoga, rightly understood, is a meditation with an elaborate physical aspect, with the recognition that as long as we are on this planet, we have a body to deal with.

At some point along this act of focusing and noticing- or as it has been in the west, praying and contemplating- the bodymind begins to move into a realm where different kinds of things present themselves, and these things take a form akin to the dreaming bodymind- less logical, more visionary and flowing, more connected to spheres of subtle energy, heartfelt, transcendent to the time and space of the practitioner's body. Psycho-spiritual technology, East and West, has developed as a way of getting us there and beyond. The path is robust and has been repeated countless times all over the world; there appears to be an innate human curiosity to follow the roads opened within us every night as we sleep, but to follow them while awake, and to plumb their depths with our witnessing consciousness fully aware.

In the yogic literature, this path is said to reveal and eventually integrate and/or let go of our *samskaras*, a word which can be translated as "past experiences unconsciously held in the bodymind". Before conscious revelation, they give us hints to their existence within us by manifesting as "vrttis" or subtle fluctuations of consciousness, and the classic goal of the yogi is to get them quieted down. This quieting process has a paradoxical effect: the yogi learns skill and gains strength at moving from discursive mind to yogamind (see *Yogamind*), but that very act of quieting will simultaneously "activate" the samskara to reveal more of itself, as if the deeper psyche senses that the appropriately prepared environment of yogamind is a good setting to bring strong and relevant unconscious material to the surface. Also, notice right away the parallel to the dreaming mind of normal sleep, seen in many of the mature psychological arts and sciences as the revelation to the psyche of previously hidden unconscious stuff, a "gift of the unconscious", which night by night slowly reveals us to ourselves, and provides the possibility of getting some purchase on the task of mastering our inner demons by providing us with objects to work with.

On the yogic path, this stuff must be integrated before we can stably go further into the subtle

realm; at a point in this integration process, the yogi will attain *stable adaptation* at some percentage of the subtle level, which is akin to learning asanas at the gross level. By *akin* I mean this: a person can want to do handstand, can visualize doing it, but basically nobody can just go right into it and stay in it without first practicing to the point where the strength is built and the nerves know what to do. And so it is with the negotiation of subtle currents: actual adaptation at the multiple levels of the subtle realm is the result of subjecting oneself to the vrttis and gaining the soul skills which will organize themselves following adequate time invested in the vrtti laden subtle environment. And it can't be easy, although some have more gifts here than others, ("old souls"); just as parenting can't be easy because kids will go until they find their parent's edge, unconscious stuff is by its very nature not something that we have been holding in awareness, and therefore can be likened to a song that we simply haven't consciously listened to yet although we may have vaguely heard it playing in the background. We need to hear it a few times before we can sing along.

And another mystery of sleep: at some point as we lie down at night, we get *taken* by the dreaming mind. If we have any will in the switch from waking to dreaming it is in our will to relax. Those who are good sleepers have the gift or acquired skill of getting themselves into the place where the dreams can take them. And likewise the move to deep sleep: it follows on its own once we've hit the layers of the dreaming state, it claims us. And thus it goes with the spiritual life, and those who have attained to the mysterious and elusive causal or yoga nidra state: having brought themselves by their skill at the yogic/meditative/contemplative/inquiry arts to the place where subtle phenomena present themselves, at some point of penetration into this subtle state- and this expression of it seems to be universal- they get surprised, grabbed, engulfed, claimed, taken, submerged, *as an act of grace*, by a profound stillness and quietude which presents itself as *more real* than normal waking reality, indeed, which appears to be the matrix from which normal waking reality originates, the womb of the whole thing. In fact, a reticence and reluctance to return to daily life can be a by-product of this realization. Spiritual people become less material because they have found something... better. (How many of us enjoy being awakened from deep sleep?)

Adept yogis can get themselves to these higher states at will and sometimes quite rapidly, once the state territory, the horizontal axis, has been objectified and traversed several/many times. There is a very interesting implication here toward healing: if the yogi can maximize her stay in the subtle and/or causal realm while still awake and functioning to varying degrees in the gross realm, she will have *access to the organizational and healing powers of sleep while still awake*. As previously mentioned, without sleep, body and mind begin falling apart. Death from complete insomnia occurs around eleven days. Again, research has shown extensive aspects of how dreaming sleep promotes mental organization in the waking state, as well as the fact that the body releases the most growth hormone during deep sleep. Long term yogis (including meditators) exhibit various well-developed brain regions and are relatively free of many stress related health issues, indicating that conscious relaxation does more than just free one of tension but also generates positive, healing, evolutionary metabolism. Sleep researchers have often commented on how sleep is not a low energy, conservation state but actually a time when the brain burns through calories with heavy neuron firing. Studies on meditators show that they frequently move in and out of light sleep states while practicing, which can be interpreted as a conscious cultivation of the states of sleep, as an illuminating of the transition between awareness and sleep.

The history of renunciated East and West includes many individuals who have decided that as long as they have the ability to consciously hang out in these sleep spaces, then typical waking human life has little draw for them. On this issue, Shri Aurobindo, a deliberately transformational figure within Indian spirituality, had a bone to pick with the rishis who preceded him: "*through many centuries a great army of shining witnesses, saints and teachers, names sacred to Indian memory and dominant in*

Indian imagination, have borne always the same witness and swelled always the same lofty and distant appeal- renunciation the sole path of knowledge, acceptance of physical life the act of the ignorant, cessation from birth the right use of human birth, the call of the Spirit, the recoil from matter." (Life Divine, p. 29) He helped found the city of Auroville in an attempt to realize the physical in harmony with the spiritual.

And herein lies a vindication of hatha yoga and the beauty of the W-C lattice. For my three cents, Hatha yoga is the path par excellence for integrating gross and subtle states, which allows the subtle planes of existence to consciously co-exist with the gross realm, as well as "sublimating" gross phenomena up to the subtle. By witnessing our gross level projects, and recognizing the importance of that witnessing process itself, we can make any activity into a hatha yoga- doing the dishes, playing basketball, having sex- holding as many horizontal depths as we have access to while we go about our lives, very much in the world and yet evolving beyond worldly concerns through our very participation in that world.

How does worldly participation help spirituality? Why not just renounce it all and go into a cave and ignore the body? When considering such a cave yogi, we see a person who has radically limited his inputs and, if successful in the long line of cave-yogidom, has thereby managed to sit in his cave and enact non-dual mental perspective. But what if real estate guys develop the land where his cave is and he needs to go into the city? How will he do with attractive women walking around, with the need to have money, etc.? Surrounded by these things he may well discover that his samskaras begin flying, his limited experience has left him clueless to many of them, and his non-dual perspective vanishes. Conscious engagement with the body and life, placing value on calm observation and mental quietude can be the tortoise to the cave yogi's hare: slower, but bringing the whole thing with you, and durable.

Mastering both spirit and the world will not always be easier than focusing on one or the other. But it's better. Pattabhi Jois likened this to that of a woman walking along with a bucket full of water on her head, a common sight in the Indian countryside, and one which is dauntingly difficult at first but eventually appears effortless: bringing God down to Earth, living the spiritual life in the material world. While others are merely walking along, the accomplished tantric is keeping track of a much bigger project. And is it ironic that many of the women doing this are quite beautiful to look at? Is it ironic that the human form doing hatha yoga is often among the most beautiful incarnate sights to be found? Hatha yoga is India's great gift to the world. It is the realization of how to bring the rishis' profound dedication to the horizontal axis- to the higher yogic states- back down to the very muscles and skin of the waking state, which stimulates the bodymind up to the higher reaches of evolutionary development. It is the horizontal progress itself that allows extraordinary vertical progress to happen. The W-C lattice has room for both heaven and earth.

I'll say it differently: although many seekers who have achieved the further horizontal states can show an indifference to the vertical realm of material life- either because they lean in the cave yogi direction or they have actually defused some or all of the drama of worldly existence by living in it- the great gift of higher spiritual states is the beautiful elegant organization they present to the material realms, should the yogi choose to return to them. In the yoga tradition one way to express this was through the siddhis: flying around, ability to read minds and disappear, to shrink, to grow, to be two places at once, walk on water, that kind of thing y'know, abilities beyond the ken of typical people, said to be acquired by higher yogis because their spiritual achievements allowed them an entirely uncommon penetration into gross "mundane" matter. Many of these siddhis are somewhat, uh, fanciful; but your ability to use yogic skills to radically develop your own abilities is anything but.

...and the causal, the next step beyond the subtle? It is called "causal matrix" because from the mystical eye, from the eye of one who has experienced it, the forms that make up the world emanate originally from this place. It is the source of form, from very subtle form to gross form. Sri Aurobindo

called it "massed consciousness". Those who travel the spiritual path open the possibility of understanding- and participating in- world creation itself. The pre-eminent techniques for causal realization seem to require relative stillness of body and mind, such as seated or lying down meditations. But the time spent mastering and continuing to master hatha yoga can get the yogi to a robustly supported place in the subtle realms where, inviting the causal in, and everything ready, divine rapture hovering, she gets taken.

3. THE 10,000 HOURS

The "10,000 hour rule" has captured the interest of the public, with journalist Daniel Coyle claiming it went "mainstream" in 2008. By that he is referring to Malcolm Gladwell's book *Outliers*. Much of Gladwell's inspiration seems to come from a paper written in 2002 by Canadian Physical Educators Joseph Baker et al, *Sport Expertise: Factors Influencing the Development of Elite Athletes*. A prominent developer of the theory was K. Anders Ericsson in the early nineties, who extolled "deliberate practice" which entails "forms of training that are not intrinsically motivating, require high levels of effort and attention, and do not lead to immediate social or financial rewards." This includes, "negotiating motivational constraints." Ericsson also notes that "many characteristics once believed to reflect innate talent are actually the result of intense practice extended for a minimum of 10 years." Earlier foundations by Chase and Simon- who called it the ten year rule- were worked out in 1973, who, along with Ericsson, found that "masters" develop powerful working memories for the kind of data that shows up in their circumscribed fields.

The essence of working memory is the ability to temporarily hold pieces of information in mind bearing on the situation at hand. Baker et al: "In a study of expertise in chess, Chase and Simon indicated that differences between the expert level players (grandmaster players

x[z] and lesser skilled players (master and novice players) were attributable to the ability to organize information in more meaningful 'chunks' rather than the possession of a superior memory capacity." One way to express this is the metaphor of the forest and the trees. As, the saying goes, "these people had a name for every tree but no name for the forest." But if we spend enough time with individual trees, at some point a forest pops into view; only one thing to remember but with lots of pieces in it.

Coyle also conveys the disappointment of some prominent voices in sports training on the subject of 10,000 hours: "It's absolutely nuts,' the head of one nation's soccer federation told me. 'Coaches are tracking practice hours and the athletes are clocking in and out with time cards like they're working on an assembly line. There's no ownership, no creativity.'"

So, obviously, although learning happens through dumb repetition, just logging the hours won't necessarily cut it. In his fine little book *Mastery* by Esalen co-founder George Leonard, we find four learning curves for those who undertake a discipline, in his case, Aikido. The first and of course the best is *the master*, who gradually develops from plateau to plateau, each one a little higher than the previous. The plateau is where outward progress isn't overtly visible, but where inward things under the surface are developing physically, neurologically and psychically, and they typically emerge and become evident in surprisingly mature form in a sudden rush. Leonard contends that those who are inclined toward mastery love the plateau.

The next three types: *the dabbler*, who goes from one thing to the next and always quits when

he hits a plateau; *the obsessive*, who goes like crazy and then burns out and burns her bridges; and then, the great bummer for our soccer coach above, *the hacker*: “after sort of getting the hang of the thing, he is willing to stay on the plateau indefinitely” a guy who loves “hacking around with other hackers”. So, even if he somehow makes it to 10,000 hours, the hacker is still hacking because he isn’t really focusing during this lifetime. Why? Well, one possible reason: staying with a practice over time will eventually ram us directly into ourselves, including our shadows, the places where the light doesn’t easily go. Keep hacking and these difficult uncomfortable things can be avoided. If we stay in the moment with focus (which is not hacking) at some point we’re going to discover the facts of our limitations, which are often surrounded and shrouded by unresolved emotional content. Not everybody is up for that.

So, we have to pay attention while we practice if we want to get to a place which could be called mastery. And if we look at this from a yogic perspective, paying attention is the point and it leads us somewhere, somewhere that likely will become more important than the skills gained in the gross realm by the practice. And if we keep paying attention we get better at paying attention. I’ll get into these last two points in a bit.

The literature of 10,000 hours is by and large one of gaining abilities at competitive human endeavors, such as sports, chess, music, law, business. Gladwell’s outliers are almost entirely those who have achieved fame and wealth, with a major character in the book, the Montana-raised-fighter-bouncer-elite-elite-elite-genius-writer-of-a-theory-of-everything Chris Langan being portrayed as a failure because he didn’t make it in academia. As we discovered in the previous chapter, such abilities would by-and-large be deemed development of “vertical” lines by the Wilber-Combs Lattice: they exist mostly in the gross realm of existence, in a cosmic map that also articulates spiritual levels subtler than the gross. These subtler levels become relevant when we’re talking about mastery and yoga. From the worldview expressed by the W-C Lattice, gross level mastery, fame and wealth are all fine, but they are not the whole story, not by a long shot.

One way of looking at Patanjali’s yoga sutras, that quiet brooding living text still hiding there behind the profusion of market-place yogas, is one long celebration of what happens when we focus our attention, allowing it to turn itself inward. The sutras are also a guide to what we will find if we do. Pattabhi Jois used to say, “Ashtanga Yoga is Patanjali Yoga.” Which is to imply: 10,000 hours of focused hatha yoga practice will do something to us, will take us somewhere, other than just getting better at the asanas.

However, we can begin our discussion in the gross realm, because physical changes to the body are important in themselves as well as laying the foundation for the special whole-person transformation that sincere hatha yoga can make possible. From a fitness perspective, hatha yoga as it is in Ashtanga- which is a root form for most of the hatha yoga in the world at this point in time- offers primarily strengthening and stretching in about equal measure, the strength coming from weight-bearing movement and static holds, the stretching sustained in a stable manner between five and eight breaths. To a lesser but still significant extent, Ashtanga also develops balance and coordination, and it has us turn the body upside-down and stay there multiple times per practice. The breath in yoga never gets as deep into aerobic conditioning as the classic aerobic endeavors such as running, but Ashtanga’s emphasis on Ujjayi pranayama develops awareness and intelligence in the lungs and respiration process. These are the basic physical exercise categories in Ashtanga.

Like any other kind of physical training, the muscle exercise over time does many amazing things. The following is a list of the main discoveries on the subject from exercise physiology. To begin: the enzyme systems that get nutrients and oxygen into the muscle cells will genetically upgrade, which progressively allows the entire muscle to generate more energy. Mitochondria, the engines in the muscle cells that burn the nutrients, will increase in size and number. This will up the energy

consumption of the body, speeding metabolism, which, among other benefits, burns excess fat: fit muscles burn fat. New capillaries will grow, surrounding the muscle fibers, allowing greater blood supply. Likewise, the myoglobin content of the cells will increase, which allows faster transfer of oxygen to the mitochondria (the "fire" which puts energy to use in the mitochondria needs oxygen, just like a flame does). The nerves which control the muscles will steadily improve their synchronization at the level of the motor units (a motor unit is the group of fibers that one nerve controls). Coordination between agonist and antagonist muscles is refined. These last two are known as "increased neural drive". The muscles will grow both the size of their existing fibers as well as the number of fibers, i.e.: muscles will get bigger. The filaments that force movement between the fibers within the muscle- the basis for muscle contraction- will increase in number. The muscles will increase their storage of exercise-ready fat and glycogen as well as the speed that they can restock these stores after exertion, especially in endurance trained people. To sum all that up: the muscles have multiple responses to regular exertion, they are just waiting for it to present itself.

These gains are temporary: muscles worked on Monday will typically peak in their growth response by Wednesday, or later than that if soreness takes more time to clear, and will begin to degrade thereafter, so if one practices on Monday and then goes on bedrest, much of her progress will be lost somewhere around Saturday for endurance type gains with strength type gains degrading slower than that. Which is to say, to keep the muscles on an upgrade curve, they need to be worked at least twice a week, and with progressively greater loads. If one works up to a certain level of asana intensity, and keeps it there, the muscles will improve up to that level and eventually go no further. If the yogi quits asana and just lives a daily life without specific exercise, the muscles will downgrade to the level that is required of them, lots of chores, couch potato, whatever.

Ligaments, the collagen bands that connect bone to bone, and tendons, the collagen bands that connect muscle to bone, will also upgrade. The repeated strains on these bands will stimulate an increase in collagen production. The fibers within the bands will organize with maximum alignment advantage towards strength in the direction of the forces being asked of them. If exercise stops, the advantageous fiber alignment gradually loses its organization, and the "band width" decreases.

The same goes for bones. Exercise makes them stronger, more durable, less brittle. In particular, bones need at minimum the weight bearing loads of the earth's gravitational force to be healthy. There is a unique page in Wikipedia called "Spaceflight Osteopenia", which is the unforeseen calamity of gradual bone deterioration that astronauts suffer from the mere fact of no gravity out there for the bones to work against. Fittingly, the best bone workouts are load bearing, which yoga covers quite nicely, for upper and lower body bones. If you are hiking, it is the downhill part that really convinces them to upgrade. The cells that make up bones are called osteoblasts and they need movement and stress to even function. Bones will be most dense in exactly the areas where the most stress is received. And similar to the muscles, when the exertion routine is stopped over time, the bones, as well as tendons and ligaments, will get closer to the strength of what is asked of them, and they will also become more brittle.

Surprisingly, most of the fitness gains that happen to athletes are covered above. Believe it or not, this is even the case for distance runners, with whom many of us would associate strong hearts and lungs. The heart, as a muscle, does upgrade like other muscles, but apparently not as much; a very fit individual will have larger stroke volume than he did before he began exercising, which is the amount of blood his heart can pump per beat. But this has been described as a "drop in the bucket" compared to what happens to the muscles that are primarily used in the exercise, i.e.: for runners, legs and hips (Hahn, 2003). As for lungs, they barely change at all, with endurance athletes primarily gaining greater neurological skill at using the lungs. We know that this also happens to yogis who regularly engage pranayamas: the lungs get "smarter", but, as per the literature, they really don't change much. What

does change is blood volume in the entire body, which goes up with exercise, as well as the chemistry that delivers the oxygen to the cells, as mentioned above.

All of these strength gains happen equally across gender. Of course, mature women have a special hormonal situation with their bones, but if a woman is dealing with bone loss, the more exercise she can get the better, as long as nothing gets too rough. Interestingly enough, as far as muscle strength, women's muscles are exactly the same strength as men's on a fiber to fiber basis. The difference is that women have more adipose tissue (fat) mixed in to a muscle with the same area as that of a man. Women's muscles are also usually smaller than men's. Otherwise, the training curve and ultimate limit per fiber are exactly the same.

That's all strength conditioning stuff. Yoga also obviously has the stretching part. Intelligent stretching will lengthen the fibers of muscles, tendons and ligaments, as well as creating a little more space between fibers. *Modulus* is a mathematical term used in exercise science to express the elasticity of tissues; increasing the modulus of muscles, tendons and ligaments will allow them to receive a blow by warping but not snapping. Stretching will increase the modulus of these parts. (Modulus will be increased in bones as well, but primarily through the strengthening work.)

A primary indicator of stretching's benefits is that of increased joint mobility. Such gains allow freedom of movement and far greater options for movement, which, in addition to the obvious physical advantage, has big psychological benefits in terms of felt interior spaciousness. This last benefit is a major aspect of hatha yoga's larger purpose of reformatting the body and opening it up, allowing the soul to reside deeply within it, which provides a foundation for an approach to the timeless pursuit of the spiritual life, more on these last few points in a bit.

Range of motion gains by stretching seem to go on the rule that six weeks of practice will be lost after four weeks off. (The published physiological studies primarily reflect stretching effects on dabblers [or maybe even hackers]; in one of the most cited studies, they only stretched for six weeks; I've found that those of us who do this over years eventually gain a very durable flexibility once we're warmed up.) But it is true that if you stop stretching, the body will become less flexible.

All of these are essentially the body's incredible evolved need to not just receive the shock and awe of life on earth but actually dial up its abilities in the face of such challenges. After an exhausting workout the body doesn't merely recover but also upgrades its abilities. All of it happens completely unconsciously, higher mind and deeper awareness not needed. Millennia of nasty brutishness for cavemen and women bequeathed us moderns a set of genes prepared for messages of stress and strain, genes that respond by sending out developmental materials that won't be forthcoming otherwise. Couch potato cavemen got assimilated into the bellies of saber-toothed cats and did not pass on their genes.

The statistics on total bed rest are astonishing. Studies on coma patients, where the body doesn't move at all, shows that just getting up to putz around in the bathroom for a few minutes before getting back in bed does a lot. Twelve weeks in bed and the bones will be half their beginning density and strength, tendons and ligaments will be sixty percent. All three will greatly lose elasticity. Muscles will atrophy at twelve percent a week- after twelve weeks that's not much left. Nerves will die back and lose their capacity to organize motor function. All told, not a pretty picture.

Keeping all this science in mind, I'd like to move on to a deeper dimension of exercise, that which physiology terms the *training effect*. It is one step up on the consciousness/evolutionary ladder, although it too shows up on its own as a response to experience, it's just that it can also be subjected to helpful degrees of conscious awareness. That is to say, it will happen unconsciously if need be, but awareness can make it happen more and better. Physiologically, it is primarily neurological and is

likely a function of receptor processes in other types of cells as well. It can be exemplified by the phenomenon of learning to ride a bicycle.

We can see two parts of bicycle training, one obviously being the fact of learning how to ride the bike itself, the other being the building up of strength and stamina through training. The latter comes and goes, as per the conditioning factors considered above. The former is rarely ever lost once gained. I've noticed that women who logged long hours in dance studios as girls have better balance than most everybody else, even though few of them are still practicing dance. And in my own experience, once I've discovered a solution to an Ashtanga challenge, I don't lose it. On inwardly hazy days I may lose sight of it, but once clarity returns, it's still there. This is a problem for the aging ex-basketball player: his nerves still remember how to slam dunk, but after doing so, his body says to him, "What the hell did you...?"

In developmental psychology, once a cognitive level has been attained by the child, it is not lost except under situations of regression or dementia. Once the stressor that caused the regression is resolved, the highest attained level is typically regained. That level then becomes the foundation upon which development eventually proceeds to the next one. So, the general conclusion here: muscles, tendons, ligaments and bones come and go; barring illness, nerves are relatively permanent. Once laid down, a nerve circuit will lose a nerve or two (or million), will lose details and refinement with non-use, will be subject to potentially constant modification according to experience; but the basic foundations of the overall circuit will remain in place, even if rarely used.

Sequential cognitive levels of development, as mentioned above, can be likened to computer operating systems; our current cognitive level becomes the software running the background engine which powers the entire show moment to moment. As we go through life, particularly in the earlier years, just by gathering experiences and data- doesn't really matter what kind of experiences- the bodymind will eventually gather enough information and stimulus to get the wherewithal to self-update its own operating system in a relatively sudden process, into something more adequate to the life complexity encountered. For adults who choose "the road less traveled", this can continue throughout life.

Recent lab findings have also added a new dimension to the neurological picture: that of exercise's incredibly positive effect on the brain. The brain is like the muscles in that its training and use will positively condition it. There are those who see a hill to walk up and they do not want to do it and they don't. Likewise, there are those who sense intellectual and developmental challenges and they don't want to accept them and they don't. Body and mind not used up to their capacity.

Fortunately, the more common problem for your typical person is on the other side of that equation: she is too stressed out and feels daunted by life's difficulties. Her mind and emotional chemistry are over-taxed. Such a situation releases crisis chemicals into the body and brain, such as cortisol. Put a neuron in cortisol and it tends to shrink back its dendrites, which are the branches that connect it to the rest of the brain. The unhappy conclusion: too much stress causes brain damage. So, inconveniently, the mental exercise which helps the mind develop now crosses over into too much, which becomes stress, which starts to break the brain down, whereby one needs to find a way to rest the brain so that it can be ready to receive such strong inputs and translate them towards mental fitness. The stressed muscle, when rested and fed, will become stronger. The same with the brain. And hard work followed by rest is different than constant rest without the hard work part. In yoga terminology, the latter leads to *tapas*, thick dark sluggishness. The former, if done in balance, leads to *satva*, lucid illuminated energetic peace. The only problem is that resting the overworked stressed brain isn't always easy to do. (Enter yoga.)

Cortisol is not the whole story. There is another chemical called Bone-Derived-Neurotropic-

Factor (BDNF). Put a neuron in it, and it *grows* dendrites. One of the best ways to release BDNF is exercise. A way to release more BDNF: stronger exercise. And BDNF has cousin chemicals, also released by physical exertion and with similar effects. There is lots of research on this, and a good starting point for it is in John Ratey's book *Spark*, where he outlines the ways in which nature has set us up so that exercise allows incredible optimum chemistry for both brain health and mood. Up to a point, the stronger the exercise the better in this regard. Most of the research is based on aerobic studies. My personal experience was that as a competitive runner, I knew the joys of relaxing after the workout, the "runner's high"; I also discovered that different kinds of exercise had different "cocktails", all of them pretty good once enough rest happened. When I got to strong hatha yoga, I couldn't believe it- it was by far the best. Studies still need to be done to get into what the "yoga high's" exact chemistry is, but the consensus is clear: yoga helps you feel really good, you even begin to take such a state for granted.

So, 10,000 hours: any discipline taken up with focus, Ashtanga, ballet, piano, chess, will emphasize exercise in a specific set of bodily regions and nerve circuits. Put in the 10,000, and those circuits will be utterly robust, bushy, fleshed out, ramified, with huge numbers of connections within the circuit as well as to the rest of the brain and nervous system. Play chess with a 10,000 hour guy, and you will not be seeing the same board as he sees. Not only does each piece pattern fire off actual experientially learned circuits for him- not speculation, but actual, hard knocks been-there, seen-that memory- but also, as per the literature, he has an ability to hold more chess patterns in his working memory than you do in yours, even if you have a better than average working memory. In piano playing, he will not have that working memory advantage. In chess, he does.

How does this operate in yoga? Well, for one thing, by the time one has done 10,000 hours of focused hatha yoga, she will no longer view the practice simply as physical fitness (unless she's a truly committed hacker). Depending on her inclination, she will have varying degrees of achievement in the subtler spheres of existence by then. If one does Ashtanga, and settles year after year into pose after pose, staying in each one for at least five breaths, focusing, noticing, there will be some results from the universal human need to remain on our *evolutionary edge*, our creative edge, our interested curious alive edge. One would have to actively fight to stay down to avoid this. (As a cavewoman, it was essential to her survival. In our cultured age, we can now take this same urge and apply it toward self-realization.) And 10,000 hours is way too long for people who don't want to go in this direction. They'd already be onto video games, yoga mat forgotten in the corner.

This human trait will take us on a particular path in Hatha Yoga. Specifically, all that time in feeling and breathing and generating a somatic representation, while attempting to quiet the surface mind to get at the authentic felt process-in-the-now, will take us from grosser to subtler experiences. Following bodily felt sensation, *vedana*, which presents itself prominently in hatha yoga, the gross sensation- that hamstring stretch- will give rise to subtler energetic currents that flow throughout the body, with stronger concentrations in the areas recognized by subtle tantric physiology as the chakras, the most obvious emphasis winding up in the heart and the brain, and eventually flowing out beyond the physical body into the transpersonal subtle realms, outside of the body but still clearly and obviously felt, in a progression that gets ever subtler, without end as to how subtle it can get.

So the above paragraph's sequence went from gross to subtle in a straight journey. Such a description is an ideal and illustrative model, basically accurate. But most people come to yoga as full fledged adults, having already passed through the gross "younger" realms by whatever walks life has taken them, many of them already with some spiritual experience, basically all of them intellectually developed to lesser or greater degrees. Anybody with a reasonably developed intellect is already flirting around with at least the denser regions of the subtle realm. So the normal yoga situation becomes one of culturing an already developed mind, one that may be quite competent in its regular spheres of activity. It frequently becomes one of taming that mind, teasing apart discursive mind from yogamind,

and training it to develop from mind to bodymind, transforming stress into bodymind exercise. I came to hatha yoga as a Dionysian Buddhist meditator, seeking somatic grounding, which is to say that I was already out there, and wanted to turn my body into a vessel which would help me realize the gifts, abilities and profundities of the subtler spheres in a manageable way. Like most everyone, I had already gone from gross to subtle in a kind of zigzag fashion, I had thorny issues at all levels of that spectrum, and was hoping to shore up gaps that manifested as unsuccessful, less-than-happy experiences. I was also drawn by the possibility of consistent bliss.

So I would put the hatha yoga master- different than the chess master- in this category: someone who can navigate the subtler spheres of existence while firmly and powerfully grounded in the gross realm. Whereas the chess master has been gaining a primarily intellectual ability to interpret chess board configurations into predictions and actions, the yogi has been attempting to bring the body with her as she ascends the gradations of spiritual states and has done this not by detaching from the body but by mastering it from within.

Before I sketch out features of this process, I want to mention here that one of the common themes of sages and yogis through the ages is that the individual's path along the great chain of being, and specifically through the higher states of spiritual life- through the subtle realms- is one of movement toward something less illusory and more real, from an individual experiential perspective. Note right away that this puts the scientific-materialist realm exactly on its head, with science only accepting gross realm phenomena that can get through their labs as real. Physics is getting pretty small with bosons and gluons, but even these become knowledge as a result of "outward/ it" investigations, gigantic incredibly expensive machines devoted to getting a material measurement, which are essentially tiny little pieces of the gross surface realm. And also note: creating the machines that get these exceptionally particular outward measurements, and interpreting the results, requires immense internal intellectual work, work that can actually have great leverage in transforming internal consciousness states if valued and applied in that direction: a powerful intellect can become a strong engine for psycho-somatic evolution; scientists can potentially become great yogis.

Concerning the highest states of consciousness, the causal realm, Sri Aurobindo says *"the mind when it passes those gates suddenly...receives a sense of the unreality of the world and the sole reality of the Silence which is one of the most powerful and convincing experiences of which the human mind is capable."* (Life Divine, p.28)

From the yogic perspective, the subtle realms begin to carry more weight, and become *more interesting*, than gross level experiences. If our yogi from above stays on her mat for 10,000 hours, she hopefully will not devalue the hamstring stretch, although that tack has been taken heavily in the history of the world's spiritual life, as we've seen. But it is quite likely that she will eventually become unable to ignore how alluring the subtle currents themselves are, especially when the more she does it, the more they become very very real. And as discussed in the previous chapter, one of the reasons the higher realms are so compelling is the organizational possibilities and *organizational pressure* they offer upon the more normal spheres of life, the fact that a larger sense of identity can greatly help one's work in smaller realms. So we have two directions: spiritual life can help outward abilities, such as scientific intellect, and well developed outward abilities can contribute to spiritual attainment. (see *Yogamind*).

Alas, for most of us coming to hatha yoga, staying with the hamstring actually won't be an easy thing to do, a lot of work will be needed simply to get that in place. In fact, willingness to undertake the effort to keep attention on the gross somatic field presented by the asana will be the first great value of the "spiritual" aspect of yoga, because it will be a focusing point, an alter if you will, for the mental process she had when she walked in. That mental process will want to simply carry on with business as usual, and it takes some determination at first- and regularly thereafter- to drag the consciousness in

the yoga practice direction. If instructed or instinctively inclined to put the focus on the sensations in her body during practice, working with a focus point, she will feel the effects of and eventually notice a force that not only organizes the mind but also matures the emotions, so that after practice that mind stream she walked in with will be clearer, its themes a little further along, less wacky, less tortured. If she goes through an hour and half yoga class where she struggles and at times succeeds in focusing on her body and surrendering to her breath, this will be the beneficial cumulative effect, to greater or lesser degrees, pretty much guaranteed.

Using bodily sensation as the object of concentration allows a unique degree of mind-body integration, and the process of leaning into this object on a regular basis is the beginning of "what happens to us if we keep doing this." As per the training effect from above, if hatha yoga practice is done over time, its subtle moves will gradually become stably established and habitual, and fluency will be gained at using the experienced-in-the-moment body to benefit the life of the mind. The physiologic benefits discussed above, strengthening and stretching from muscles to tendons to ligaments to bones, can become the body's way of reformatting itself towards greater capacity to embrace and contain the stream of the mind. As we all know, that mind stream has periods in time where all is well and easy; other times are not easy, stretches of fear, despair, hurt, anxiety, misery, the various and sundry things that have always bugged us and still bug us, the dark side of the fact that our thoughts are accompanied by feelings. Difficult feelings have a depth to them that can seem insurmountable, they reach so far down and come in so strong. The ever-more-fit regularly practiced hatha yoga body begins to become a resonance chamber big and robust enough to handle the intensity of these feelings. When things get hard or confusing or awful for the mind, it has a resource in place to draw upon: the body. And like muscles, practicing that very resource will make it into an even stronger resource.

If we stay with yoga, moving towards mastery, there is the possibility to eventually rise through all levels from gross to incredibly subtle, allowing landscapes to form within ourselves which can potentially contain any and all existential dilemmas (except for the one final big one, more on that in a moment.) Trying to keep the mind quiet while we practice, continually returning our attention to the work of the asana and noticing how eventually the mind floats away. Bringing it back. Noticing that it is not always thoughts that pull us away from our gross level focus region but sometimes it is the unspoken, authentic subtle environment behind the thoughts once the discursive part has been quieted. When we explore this region we begin registering phenomena that we didn't notice before because they were hidden beneath discursive mind. Very interesting phenomena. These are the subtle currents, nakedly sensed, and they will begin to beckon. And when we are ready we will willingly go, there is something inherently attractive about them. And as presented in the previous chapter, if we are properly positioned, there is also the chance that they will simply "take us". They are the "stairway to heaven". Navigating these new realms needs learning time, the bodymind needs time to lay down the subtle structure just like grosser level skills. We won't lose what we had, but we will be integrating something more. My experience with the subtle realm has 10,000 hours as just the beginning.

The gross realm is what our senses see, hear, smell, taste, touch in the concrete outside world, not an illusion, very real, right there. In turn, a spectrum expressing the realm of finer-stuff-than-the-gross, is sometimes labeled psychic on one end of the spectrum and subtle on the other, with subtle disappearing into the ether in its endlessly increasing subtle-ness. I've been calling this entire area "subtle", that which isn't registered by our gross outward five senses. Again, common spiritual wisdom points to this realm as the same place we go when we dream at night. Like dreams, it can be quite vivid, unbelievably beautiful- more so than the gross realm- deliciously exciting, terrifying like a nightmare, full of resonant meaning, totally absorbing, weird. It can feel awful but it often feels really really good, as if things are falling into place and healing, which I contend they are (see *W-C Lattice*).

Occasional peak experiences of the subtle are one thing, but to live from there, one needs a very strong yogabody, which I would call a body that has capacities from the gross to the subtle.

The subtle end of this yogabody is like a retractable antenna. It is not easy to keep our consciousness up there. Initial glimpses, giving rise to a steady practice which is open to the subtle, will lay down yoga-structure over time. A strong teacher and community of fellow practitioners helps immensely. Nevertheless, as we get stronger and manage to sustain the subtle life for a while, we will unavoidably- even regularly- run into situations over our heads, either as a result of what is happening in our lives, or due to the potency of what is coming in. Even if we've done the 10,000. At which point, the antenna will retract, and we will keep our awareness closer to the gross body. But as yoga practice continues, we will be able to stay out in the subtle regions longer, eventually centering our gravity at a higher state, ready to get curious about the country beyond it. The subtle life brings with it tensions that are different than the tensions of gross-level world exposure and my belief is that hatha yoga historically rose from the basis of meditation-only raja yoga, bringing in physical exercise and exquisite concern for bodily regions- the spine in particular- as a way of building a strength that allows these subtle tensions to relax. The weaker yogabody is tense, the stronger one relaxed.

Movement along this path is not a new found discovery. The sages have been clearly or mysteriously talking about it for millennia. Some have been yelling about it. And it has been universally described as not just a path of increasing scope but also of increasing bliss. Just in case you as reader had any questions why one would want to go there. It arises inevitably and authentically and irresistibly from the matrix of our regular practice which already brought good things in the way of physical fitness and mind-body integration. Proliferate awareness of the subtle currents in subtle territory is only more good things. Taking this path will put many of our previous dreadful crises into perspective, they will lose their awful bite. Delights will be felt more delightfully, meaning will resonate powerfully, humor begins to lurk around every corner, the grim drama turns to heartfelt sorrow expressed by healing tears.

I mentioned above the "one final big one" and it is this: the great sages in history have merged their identity with what Patanjali calls the "drashtuh", the seer. Like it or not, he is already onto this eleven words into his sutras. One need not get all the way through the subtle realms to reach this state. Several traditions bypass a percentage of "all this yogi stuff" and through variation on inquiry and perspective altering techniques, get the practitioners to realize that the awareness behind the eyes by which you see these words right now is that very drashtu, you are already there as we speak, it can't be attained because it's already in place, always was...yes the language of the ultimate perspective sounds like that. Anything less than that solution brings about issues of division. If you can survive the first 200 pages of Aurobindo's *Life Divine*, you will understand something of division (it will be pounded into your head, really), and I won't belabor it here, so much as to say that the entire gross-realm-into-the-subtle-realm which is the subject of this entire chapter until now, all of it is initially experienced in a divided manner. Doesn't matter how subtle it is, it's still divided. This brings a paradox that the deepest sages have felt a need to resolve. For these saints, and zen masters, and yogis, this incompleteness was unbearable, and it spurred them on to the *non-dual*, which is another story and not one which I will go into much further in this book beyond the previous chapter and the following issue.

Hatha yoga is a *gradualist* practice, which can be contrasted with what we can call an *inquiry* or *go-straight-to-non-dual-do-not-pass-go* practice, very briefly touched in the paragraph above. Hatha yoga is actually even more gradual than many gradualist meditation approaches because it brings the whole body with us. And it clears psychic stuff out as its method, clearing the internal field in a way that can be likened to a light bulb covered in mud. The mud is our karma, our mindstuff, our attachment to dense egoic ways of seeing and acting. The light bulb is the pure seer, the jivatman, the witness, and as the karmic mud covering it is gradually removed its light begins to shine forth. Through

practice, as old drives toward thought and action are transcended and replaced by subtler and more sophisticated forms of themselves, the "worldly" issues and nags that once tormented us begin to lose their bite. This work will require an evolution of our personhood, which will include variations on the following: working beyond old emotional patterns, integrating incongruous aspects of ourselves, telling the truth to ourselves, laying down deeper emotional resources that can handle the diminishment of ego, acting in the world with greater consciousness, gaining access to and control over depths of the bodymind which were previously unconscious.

Ken Wilber speaks in a hapless tone of "non-dual schmucks", characters who, through one of the straight-to-non-dual practices, has realized an identity with the witness without having gone through much of the trial of internal transformation mentioned above. They didn't clear everything out to gain the light from the lightbulb, they simply skipped right to the light, leaving the bulb covered with varying degrees of mud. All gradualists have mud still, but the gradualist process intentionally removes it to reveal the light. Non-dualists often stress that not very much of this is needed. This may be accompanied by a strong urge to evolve the whole person, but it also may not. For example, let's say that I, Steve, have attained a stable identification with awareness itself and that I have no identification with this Steve guy who walks around and does Steve stuff. He's there, doing what he does, acting out his internal drives, and I can observe this process with very little sense that he is who I am. From this perspective, I may choose to go through the evolutionary trials belabored in this and the previous chapter, or I may not. Such trials and efforts lead to "vertical" development and from a non-identified yogic perspective *can* be pursued with an intensity that is likely impossible from closer-to-ego identification perspectives. But if I'm a non-dual schmuck, I may watch Steve NOT go through the internal trials required to reformat the way he acts, and merely observe him as he gets drunk, hits his wife, and has sex with porn stars. (See Adi Da for an example of a guru who by all accounts had achieved great degrees of yogic freedom and yet indulged a lifestyle not far from- and in some ways worse than- the failings just described.) As Wilber has belabored in his book *Integral Spirituality*, non-identification yoga practices do not necessarily lead to a full maturity of the person *by themselves*. Specifically, non-dual practices may not have sufficient transformative traction on psychosomatic material to effect the kind of change that psychotherapy can have, or a well-intentioned householder life requires. On the other hand, gradualist practice requires *essential development of the person* as the way to get to the light.

I want to affirm a yoga which does not in any way negate the subtle currents, or even the gross currents. The gross mind opening up to the subtle mind is a way of following the path from waking to dreaming while still awake. The dream realm is the way the sleeping mind prepares itself to go into deep sleep. A tiny percentage of those who center themselves at the subtle level will want to press on, and will succeed at it, largely through an act of grace. Others, having centered at the nidra state- deep sleep while still wide awake- will then move into sahaja, the no-taste where all states are integrated, without needing to get the subtle realm worked out too much. My proposition is that a stably grounded residence in the subtle realm is a good idea in and of itself, as well as for those who have the guts to go onward, partly because, I contend, to remain there on a consistent basis one has to clean oneself out and get through one's stuff, shadows and all. Also, it is the most likely place from which to realize non-dual reality. And also...because it is such a wonderful place; the muse lives there, the gods and goddesses, they periodically peek through in bliss hints which have stirred sensitive artists throughout history. The perennial poet's longing instincts through the ages haven't been wrong- it is a place of haunting beauty and awesome aliveness.

On the incredible journey of hatha yoga, 10,000 hours is just the beginning. And the adventure into bliss that awaits is very real. If I were your teacher, I would try to help you get out there stably first, with deep strength. From there, the divine may claim you. At which point, we will become one,

you and I.

4. YOGAMIND

Take your non-dominant hand and try to press the index finger and middle finger together and separate them from the ring finger and pinky which are pressed together, a V shape with two fingers on each line of the V. Spock used to do this. Make it flat. Not too hard? Now press the ring finger and middle finger together and separate the pinky off by itself and the index finger off by itself. Make it flat. Can you do it?

Apply yourself for a moment and you'll get these. They require a bit of concentration as we tease muscle groups apart which usually work together. This act of *leaning into* our nerves so we can come up with something novel, by teasing apart something that usually works as an unconsciously composite piece, is an act of *tapas* and I will call the region upon which it works a *tapas-field*. Tapas is a Sanskrit word which means "glowing fire" or "heat" and is used by yoga to convey a transformative act of concentration. The fire that will burn you clean, will burn you both toward higher personal development and deeper spiritual realization. The tapas field here is this: that moment where you can't quite get the two middle fingers apart, the fingers don't just jump to it because they don't yet know how; an act of learning something we can't do yet.

The Ashtanga system is designed to always have us up against this field. Learned through a teacher assisted self-practice setting (Mysore style), the student basically gets the green light to progress through the asanas until she encounters something that she can't do. At this point, progress through the series stops and she stays there until she learns at least basic competency with the difficult thing; she learns to do something that she can't do yet. An act of evolution. As the progressive series unfold in Ashtanga, the degree of asana difficulty becomes an insurmountable curve, and even the most willing and gifted yogi eventually peaks out and gradually slides back down. Tapas is built into the system.

After succeeding at the Spockfinger thing, we can move onto greater tease-apart challenges. A good one is Urdhva Mukha Svanasana, Up Dog. Try to tease apart firm squeezing of the thighs with total relaxation of the buttocks. (For people with tender lower backs, this is a good skill.) Mula Bandha goes further. If Ashwini mudra is the anal complex of muscles, and Vajroli mudra the urogenital complex, Mula Bandha is recognized as the cervix for women (apparently not easiest thing to do) the and muscles further back at the base of the penis for men. Try teasing those apart: 1. genitals from anus; 2. for women: the cervix from the muscles that hold back urine; for men: isolations between the front and the back of the root of the genitals. You get the idea. (Check *Mula Bandha* by Swami Satyananda Saraswati for more than you ever thought you wanted to know about this, as well as reasons why one would want to pursue it).

We can then move into the lungs, a movement which will take us from the gross physical level into the next layer of subtlety, the pranic layer, hence pranayama. Hold your breath until you feel the urge to breathe; notice the nature and quality of this set of urges and the associations that may come with it. The prana, the life force, that comes from breath is fairly important- hold your breath for a while and you'll see what life is like without it: nasty, brutish, with an emphasis on short. Tease apart: 1. a deliberate relaxed decision to resume breathing from 2. the unbearable need to react to the urges. I see

this as a very easy way to get right at the heart of yoga: an intentional exercise of pushing ourselves all the way to the edge of life, in a highly safe and contained manner, to *open a laboratory of reactions* in which we can train ourselves. Every little reaction-urge not acted upon is growth of yoga. Hold your breath long enough and the grim reaper himself shows up: what better teacher?! And how great that you can get him after only a few minutes. All yogas of any depth directly address death, and some even flirt with it. And the irony is that such death-encountering practices release and assimilate fear-trapped life force rather than destroying that life force. It gives us a chance to "get over it" which is incredibly freeing.

And then moving to the biggie: teasing apart what I will call *yogamind* from discursive mind. This too requires that sense of bearing into, a quality which will be a joy and a rapture at times when we are up to it, and a burden requiring discipline when we are less inspired. It includes a sense of *taking on inner work*, driven by the intuition that we are following an evolutionary path. It is the act, while sitting or doing asanas, of trying to quiet your mind. Not easy, especially during the first few years of practice.

Why do this? I will present the idea that *yogamind*, although to varying degrees an aspect of the experience of many of us throughout life, is a way of being that can develop deliberately and stably as an accompaniment to the development of discursive mind; *yogamind* is a possible option after a degree of development within discursive mind, and a necessary step for those who want to gain true bodymind integration, an alluring beacon for sure. In most people, these two minds are enmeshed, fused together, and it is the tapas of trying to quiet the discursive mind that allows them to separate. This separation enabling a higher integration is at the heart of the hatha yoga mystery: the relation between the deeply somatic and the spiritual. If cultivated, *yogamind* can develop the capacity to unleash and manage potent psychosomatic energies which have the potential for immense positive effects on physical and mental health. And it makes possible a sufficient carrying ability in the bodymind of the practitioner toward sustaining and embodying the states of higher spiritual realization promised to us by the yogis and sages throughout history. But without the hard work of teasing the two minds apart, discursive mind muddies up the needed information and results will be very limited yogically.

What level of discursive mind is required before we can enact *yogamind*? Research around the WC Lattice has shown that individuals at many levels of personal development can develop spiritual abilities, a basic one being the deliberate capacity to quiet one's mind. At some point the individual, instead of just thinking, must be able to recognize the option of not thinking. Such self-motivated recognition requires more internal awareness than most people possess, but it appears that people at many levels of personal development can enter a yogic tradition and be taught to value *yogamind* and get good at it. I'm using the term yoga in a broad sense here to mean any of the multitude practices whose historical roots can be traced to India including meditation and "mindfulness".

Now, I also want to mention again at this point that within the yoga traditions such a student may encounter, we can roughly sketch out a continuum between two kinds of schools, of which the *yogamind* I delineate in this chapter would be considered on the *gradualist* end. Hatha and Raja yoga traditions, including Ashtanga, as well as Vipassana Meditation reside here. The other pole can be called *inquiry* or *pointing out* traditions, which include Dzogchen, Zen, and Ramana Maharshi's practices. Gradualism was characterized by Pattabhi Jois when he talked about "cleaning, cleaning, cleaning." It digs deep into tangible felt karmic residues within and clears them gradually, eventually getting the practitioner to the highest internal states and to enlightenment by removing the inner obstacles and building yoga structure. On the contrary, the inquiry traditions discovered that one need not do this to achieve a consistent residence in enlightenment, and instead emphasized pointing out who it is that exists at the root of all living and striving. Having already outlined my personal bias for gradualism in the previous chapter, suffice to say here that both kinds of practices appear to work, each

with their own strengths and liabilities.

Also, by taking non-discursive efforts and placing them in a Hatha Yoga context, the object of meditation and the content of yogamind as I want to present it naturally becomes bodily sensations and states, which range from gross to subtle. The Sanskrit word for this is *vedana*, a complex term that includes the idea of Internal Subtle Feeling (see that chapter). Vedana is a field, which like all fields, is in constant flux; the act which focuses on the field also changes the field; attention upon it will also eventually organize it into something higher, thus another term we can use here instead of yogamind is *Alchemical Mind*, more below.

Stable, deliberate yogamind is born from the state of a discursive mind that has learned to value the benefits of yogamind but, paradoxically, has a terrible time getting out of the way; too much of a klutz. Discursive mind periodically even engages in heated debates with the ego, attempting to talk it out of practicing yogamind; jilted former favorite son. The practitioner has to fight through all this just to get yogamind established. And I want to note here that most adults reach the level where this could happen but do not pursue deliberate yogamind, rather simply continuing development of the complexity and scope of their discursive mind, either haphazardly or deliberately; discursive proliferation and refinement is the typical way a Westerner's mind has developed in history. Many people do yogas now in the West but I want to clearly state here that true yogamind is not easy, at least at first; it works against many of the native inclinations of the mind.

Before going further, I want to do more to characterize my understanding of these two minds, discursive mind and yogamind. Discursive mind is the default mode of interiority for most people most of the time. Within discursive mind itself, there are different types of thought paths, from the highly structured mechanizations of logic and syntax, "left brain", to spatial/associative flights of fancy, "right brain". For this reason it has been called "mentalese" in philosophy because it is not merely language based but also includes sense memory, various association processes, and logical (or illogical) moves, and is also viewed there as the process of applying "the categories" to the raw material of sensate data. For categories, Kant gave us twelve "pure concepts of the understanding" in the late eighteenth century all of them of the higher intellectual type. Contemporary Paul Churchland expands this number significantly in an array from higher intellect to basic biological. Within such a range of mind forms we appear to be wired to spend the vast majority of our life as an interior self conducting a discourse, trying to understand the flow of our outward sensory-collected information and squaring it with our inner feelings and drives. Forms of this might be: highly precise applications of hard-won logic and outcome percentage calculations in a clear and rationally capable mind. It might be rumination, which involves an unresolved difficult emotional root which has thought patterns tied up within it, in a situation where the unstoppable thoughts have little to no effect on transforming the emotion. Or it might be enacted in a young man fantasizing about the great things he wants to do, or a scattered composer wrestling with inner music, a mother strategizing in an anxious manner about how to help her wayward daughter, or you yourself as you read this right now. It may be an executive sitting in her office deliberately and systematically thinking through solutions, or may be her later that same day walking home letting her mind drift where it will.

All of these are discursive mind. None of these are yogamind. Yogamind is *the* great Other to discursive mind, to language and logic mind, to associative and sensory recollection mind. It can be seen as the often ignored *ground* of discursive mind in all its varieties. As such, yogamind, specifically isolated and cultivated, is a great Other to almost all of that which has been generated by Western culture. In the history of the West, some cloistered monks, dancers, athletes, musicians, painters, manual laborers, alchemists have gotten close, but their expressions of it haven't been as clear as those that have come from the East, although the final highest stages of realization, or at least mindbody integration, may have been equally realized. Plato and Plotinus are every bit as astute to levels of subtle

consciousness as any Vedantin, but they lacked a yoga- a step-by-step method- anywhere near as lucid and effective as we find in the East. The Western Vedantists- Fichte, Schelling, Hegel- also reveal a highly sophisticated spiritual perspective, partly informed by then current European orientalist research, but again, their *yoga* appears to consist of philosophical research, teaching and writing with some lucky such practitioners gaining privileged access to elite knowledge. Philosophers Husserl and Heidegger and some of their followers flirted with yogamind but their project can hardly be seen as adequate enough in the non-discursive direction to call a yoga. (Also, many pot smokers have gotten a strong taste of yogamind; Eastern yogic cultural items have had a funny way of popping up in stoner circles of the West, tracing from the advent of the hippies. Undoubtedly, this is because pot and other psychotropics can open the door to yogamind, generating flashes of a dramatic visionary version of it.)

The West has certainly had its share of mystically informed religious people, and the Plato-into-Plotinus worldview is not far from Vedanta, and even offers perspectives not clearly found in the East. A highly valuable dynamic spiritual landscape can be found from Augustine through Aquinas which I hold to be an accurate representation of the territory yogis will find themselves traversing today, with a living spirit behind it all, a far subtler and better account than Bearded God Sitting Out There On His Throne Fairly Unhappy With Women. This is also the case with the Catholic mystics and Kabbalists. Typically following their own inner path, with guidance from their given traditions, Western mystics have often arrived at a spiritual outlook quite similar to that of the East once we look beneath surface cultural forms. Conceding this, my efforts to clarify and teach what I'm calling yogamind are largely about finding an accessible and durable *evolutionary engine* that anyone can work to put in place which will help her along the spiritual path in a stable way. That doesn't mean it's easy to *realize* so much as it's easy to *recognize*; yogamind is not easy. My biggest beef with the West is that the "stairway to heaven" is not clearly spelled out, and has indeed often been outlawed.

So, although the spiritual life is typically associated with right brain poetic/associative mind, the yogamind I'm getting at is closer to a somatically grounded non-discursive mind, which is less about right or left brain and more towards a mind learning to differentiate raw sensory information from the other data streams processed by the brain, and to arrest the application of categories before they start. As a basic human capacity, aspects of yogamind aren't all that strange to Westerners so much as the Western experience of it never really had the discursive and outward sensate (ie: outward vision, outward hearing, etc.) aspect explicitly teased out of it so that its own intelligence could be experienced in its purity.

Perhaps Western philosophy's greatest strength is its mind altering insights into sensory experience, one of which is that all "outward" sensing is really an internal "representation" within our minds. Seeing a tree is to actually reconstruct a concept of a tree from colored patches picked up by our eyes. There's actually no such thing as external for us, it's all internal; even sophisticated scientists recognize this. Within this realization, we can then make a distinction between representations of the outward world and those within our own body, the latter of which lie predominantly within the domain of internal feeling. For example, we can feel the food we just ate in a representation based on the nerves in our belly. In yogamind, we are trying to get as close to that representation as possible.

So, at first yogamind is a state of focused attention to the experience in the present moment, as close to the root of our perceptual capacities as we can get. It might be seeing the field in front of us as it is, just looking with a minimum degree of interpretation or need for it to be different; this can also apply toward hearing or touching or tasting or smelling. But at a certain point, these outward senses are folded into an inner sensing which is based on internal sensation, (*pratyahara*, the fifth limb of *Ashtanga*: taking outward senses and turning them inward), based on the data that the nerves take in from inside, based on *vedana*. Again, crude forms of internal sensation include feelings in our belly when it is full of food, or the stretch sensation in our hamstring as we do forward folds, two examples

of the most rudimentary forms of internal somatic sensing: interoception and proprioception. Not outward touch, like running fingers along a textured surface, but inward feeling. This makes the somatosensory cortex the part of the brain that is the mature ground for yogamind. The one tendency that is almost universal in spiritual literature of higher states is that we must feel our way into the higher state of being; just thinking about it is not going to cut it, and close examination of the content of outward senses won't either. Incidentally, by feeling I'm not talking about "feelings", ie: emotions, but rather data from somatic nerves, which is one part of emotional experience.

Now, raw sensation such as full belly or stretching muscles, or simple nerve discomfort or delight, is the predominant form of *cognition* in infancy. Needless to say, cognition steadily gains in sophistication (hopefully), as the individual grows and develops, moving beyond mere sensation, (and often negating aspects of the somatic sensation process itself unfortunately) and giving rise to the discursive way of viewing the self and the world, which includes internal sensate data among other kinds of information in the calculations it makes. We could call this the basic cognitive capacity, an ability to turn attention to various fields and begin to work them out using different kinds of data and thinking. This can evolve from quite crude modes which only accept particular and limited forms of data and arrange it in stereotypical ways, to incredibly broad and complex functions at humanity's front edge. Some people are highly aware of the bodily sensate data parts of their cognition, others less; the discursive minds of some people are quite "grounded", others are "out there".

And here we come to the crucial required act, and a radical move it is for many Western minds. It involves the psychological concept of fusion which I was getting at earlier in this chapter. Fusion is a condition that is necessary and unavoidable at each point in development and is only viewed as fusion when seen from a higher state of development. So, if you never tried to do Spock fingers, you would never wonder about your inability to do it. But the moment someone shows it to you, you become aware of a fusion of muscle groups as you take a moment to tease them apart. Only when you began reaching for the greater differentiation of hand muscles did anything like a fusion become apparent. Before that you were happily fused. Let's draw the concept into finer material: as a two year old, it was entirely appropriate to scream out "MOMMY!!" As an adult, if you get off the phone with her and aspects of yourself are still screaming this at some level, you may well get curious about it; you recognize that some parts of your personality are still fused with Mom. A little *fusion item* is noticed, drawn into awareness as a result of the basic psychological urge to evolve, in this case, the urge to individuate from our parents.

And here is my claim for the teasing apart of yogamind from discursive mind: having arrived at the state of mature adult mind at whatever level, based in discursive mentalese, we remain there for a while before we begin to get itchy for something more. One essential outcome of this urge- and the source of it really- is the internal bodymind evolutionary process itself, which progressively upgrades our "operating system" to higher, more sophisticated, more adequate-to-reality levels of thinking and acting. But these are usually just more intricate versions of discursive mind which can continue upgrading without ever hitting on the possibility of yogamind.

The problem is this: whether we are at rational levels of cognition, or lower, or higher, we are frequently in thrall to the flow of this mind and it doesn't always lead us in great directions. If we remain in our typical discursive state, we occasionally or frequently get caught in thought patterns that don't feel good, or are akin to spinning our wheels. This doesn't seem to be an issue when we are happy and everything is going well. But happy and going well is frequently not the case: we often find ourselves in less than ideal external and internal situations. These are the times when discursive mind typically does not help and instead is prone to negative thoughts and unhappy interpretations. We can address this by gaining skill at replacing bad thoughts with good or productive thoughts, we can let our emotions flow and try to understand them. But what about not thinking at all? What about just being?

What about the act of simply existing in the present moment and letting go of the mind that needs to think and plan and remember and desire its way through everything? This strikes us as somehow a higher way of being, partly because we begin to get a glimmer of how such a way of being allows traction on deeper material in our psyche; and indeed, this is getting at the ways of being that the spiritual traditions of the East overtly advocate and those from the West obscurely so. Western psychotherapy has attempted to manage these psychic depths- which can be seen as a sea on which discursive mind sails, complete with storms, surf, sharks- by addressing these depths discursively. Yogamind addresses them directly with minimum mediation.

Yogamind can be contrasted to the rational independent inner witness that was born with the maturity of discursive mind as it rose above mythic levels of thinking. Western philosophy has made much of this Rational Subject, and invested immense effort trying to figure out what needs to emerge next, partly based on a keen sense of the limitations of rationality. Ideally, the rational witness can put its attention capacity wherever it chooses, although total freedom as such is quite an accomplishment. But, assuming such a level of accomplishment, the rational person could will herself to work on, explore, enjoy whatever she wants. She is the ego and she has her objects freely at her disposal. What could be the problem?

The main response in continental philosophy was that rationality's "enjoyment" was actually quite a bit more removed from life and sensuality than the mythic level of mind which historically preceded it. This was diagnosed to have caused painful and even violent divisions on various levels. Solutions ranged from romantic embrace of nature experience to wild Dionysian orgies to redirections into non-rational thinking. Many of these can now be seen as historical expressions of a reaction phase in the attempt to discover the next level of mind beyond rational, a new mind which clearly needs to have well-developed rationality as an important and foundational component. And of course, all these solutions were still discursive mind, none of them were a sustained deliberate focused yogamind.

Here is my "critique" of the rational witness: I would say that she is a witness that is free on surface levels, (ie: she can read this if she wills it), but if we look at the bigger psychic picture, she is often riding larger waves of primarily self-inflicted karma over which she has little control. If she were to turn her attention away from things to think about, discursive noticings about events and gross satisfaction of needs and urges, and actually hold in attention the deeper movements of the psyche which supports that witness itself, she may very well begin to get a bit shaky; this is material that discursive rational mind can take notes on, point out logical processes about, recognize images and themes, refer to what came before and predict what will come next, and so on. But the deeper aspects of the self on which this ego depends have such a strong psychic charge that discursive mind is nearly helpless to take them and transform them. For this, the ego needs a mind which can contact felt reality itself, learn its valence in a wordless manner, and build the strength over time to begin the work of transforming it. This different kind of mind needs to be able to take long excursions away from "applying the categories" and instead just remain with pure sensing itself, and subtle somatic sensing in particular.

Nature experience and Dionysian orgies can definitely get us into these deeper psychic layers, but my claim is that even if practiced in a disciplined way- for example by psychonauts who take notes on their trips- the crucial step of *struggling to deliberately quiet the mind* will never happen, will be haphazard and not stably realized. I see no way around this, no way of skipping this struggle that yoga puts front and center.

So anyway, having spent some time in yogamind, and recognizing the benefits of it, we eventually perceive intrusions of discursive or analytic mind *as fusions*, as something we would rather not have during meditative moments but can't control...yet. And so the urge, when we are inspired, is to lean into the tapas field of mind control, and to seek tools and teachers who can help us with the project

of teasing apart discursive mind from yogamind. I see the Western movement toward yoga as a way of addressing this emergent developmental thrust.

Mature yogamind "thinks" by constructing complex sensation representations, based in feeling but containing inner senses, inner seeing, inner hearing etc., in response to perceived fields, and "crunches" such data in processes of integration and resolution that can be felt. One implication here is that the mind is a sense organ, and, if this inner process of integration continues, the fields it can sense go way beyond that of the rudimentary mechanical functions of our own body, although it begins with that. What does subtler yogamind sense? My basic answer: subtle fields, received in ever increasing scope, strength and collectivity as yogamind matures. (See *Psi-net* chapter).

So what I'm calling yogamind covers a range from getting as close to sensate representation as possible, into grounding the senses in internal feeling, into gradations of refinement of internal subtle feeling that can take on a pan-sensory character. When non-discursive mind operates within subtler feelings it enters a region that has been called *the heart* in various global-wide spiritual treatises. This is a place where yogis have often situated the mind, and Pattabhi Jois would speak of "the mind which is in the heart". Heart thinking is grounded in feeling and is part individual, part collective, the subtler it gets the more collective it becomes.

Discursive mind, now seen as a state of fusion when it interrupts yoga practice, gives way to the work of separating itself from yogamind. Free yogamind from discursive mind, then yogamind has a chance to really get to work. It "thinks" within the feeling substrate which gets marked up, affected, determined by outward experience but also by internal thoughts and emotions. It engages felt objects directly, feeling its way into the trace fund that has built up from outward and inward experience, and it transmutes the traces, the greater the focus, the faster and more complete the transmutation of the trace into something more integrated, more evolved. Focus can be intensified with practice over time and the great yogis attest to how far this can go.

How does this transmutation work? Well, as mentioned in the psi-net chapter, if we see an outward visual field, that tree over there, we can't really do much to it, without picking up a real chainsaw and going mad with ancient antagonisms toward the great mother; or better, going over and hugging it, that might do something. But, following the fifth limb of the eight limbs of Ashtanga, pratyahara, which tells us to take outward vision and turn it inward, we can then begin to work on the fields that present themselves. The Tibetans would have us establish inner mandala-like visions, and then begin manipulating them. Acute outward vision can help put this in place, but it is the inward theater where the work happens. The visual Tibetan yogamind does inner work mostly on subtler levels. With felt inner sensation, which is closer to the Hatha Yoga way, the capacity to feel a full belly matures into the capacity to feel subtle emotions, matures into the capacity to feel the feeling substrates to intellectual work, on up to highly subtle and powerful perceptions of cosmic processes. Let's call this *radiant heartfelt somatic vibrational presence*, a state of higher and deeper feeling. (It is not a negation of the Tibetan tantra which relies heavily on the visual cortex, or nad yogis who go with the auditory cortex; for those ways, look up one of those teachers). These sensings begin to move beyond the merely felt and become pan-sensory access to the larger cosmic bodymind, the big collective mind outside of ourselves, of which we are a part.

So, we have samskara fields within us of varying size, potency and quality which can be transformed with yogic focus, (*samskara* is Sanskrit for "traces left by past actions"). Here is where the alchemical roots of hatha yoga assert themselves: samskaras become seen as fusion items and yogamind can sense them in their elemental form, and like the complexities of chemistry, many patterns begin to emerge along with a qualitative aspect, ie: this here samskara is definitely not gold, but a little bit more like shit, or static, or the crud in the drain of my kitchen sink. But, I clearly sense it, and I'm willing to bear attention into it, I'm willing to work with my gross and subtle body in the

recognition that these are the theaters in which this transformation process must happen. Thus asana, mula bandha, pranayama, energy of teacher, energy of a community of at least a few others doing the same, etc: various methods to get the energy level up so that we can do the work of yogamind. The samskara undergoes the alchemical process of purification, of teasing apart the strands that are mushed together, of feeling the greater energy that emerges from it as it becomes a finer substance, of feeling the energy that is released as that which was locked up in the crud is revealed and goes to work, of noticing how the other senses begin to merge with inner feeling, begetting seeing-feeling, hearing-feeling, taste-feeling, etc., of feeling the cosmos come in as another doorway of perception is opened once the blockage is cleared, of feeling the heart quicken and come to life as it instinctively senses something exciting happening which opens its desire to love and feel and engage.

The next step here can be to recognize blockages as aspects of a larger tension pattern within the bodymind. A readily recognizable result of application of yogamind is that of relaxation. Yogamind can hover over a tense area in the bodymind as long as need be until the tension eventually lets go. This kind of *steady bearing into* a specific bodymind location is something discursive mind simply can't do. This overall tension map in the individual can be seen as the collection and history of ongoing attempts to define and limit oneself against experiential onslaught. Today's tensions within oneself indicate that this delimiting project is still happening, and for the most part, this is conducted unconsciously. Yogamind can follow a tension pattern into the depths, beginning by locating one that is conscious, perhaps in the jaw, and then following it as it leads down into a bigger pattern. By releasing and opening a tension event, the result of making it the object of meditation, channels open, freedom is gained, energy flow expands, the bodymind enlarges.

This is one of the things going on inside the life of actual sages who are sitting there "doing nothing". Such work can go on into evermore subtle sheaths infinitely, and it may altogether cease at times as the realm of Vedanta's Brahman is entered (another name for the causal matrix, a state of apparent nothingness, the creative matrix itself). Those who come near such a sage (either materially or psychically) may feel something, because intense inner work like this registers in the energy fields of various material locations as it flows through subtle channels, frequently including the general vicinity of the sage's own physical body when she's in tapas mode.

Yogamind and discursive mind are not enemies, although discursive mind being the default mode of humanity makes it frequently the target as we go through the arduous winnowing of coming to higher awareness through yoga. The bodymind seeks to move perceived fusion towards differentiation, and such a need will continue to assert itself until purified elements can stand on their own and both minds get a chance to do their work, which eventually will give way to higher integrations. Once yogamind has been established to a degree, has wrestled itself free from the matrix of discursive mind, the correspondences between the two minds remains intimate. Busy intellect makes yogamind's work much more complicated- the play in which discursive mind may take delight can result in long hard labor for yogamind as it tries to sort out the vibrational chaos left for example by addictive impulse gratification, or even intellectual experimentation or fantasy play. Habitual emotional-mental patterns can be rough on yogamind; if the psyche is in the grip of an old negative piece of ruminative history, discursive mind may be playing archaic unfortunate tape loops which are secretly fueled by unsatisfied needs of which it is ignorant, while yogamind desperately digs down into the psychic dirt endeavoring to root up the mess once and for all by actually trying to learn to contain the associated psychic charge. If yogamind succeeds in its adventure, typically by defeating hidden tyrants down there so their fiefdoms can be free to grow and become civilized, discursive mind will be ready to engage more integrated bodily forms; at a certain point in mindbody development, discursive mind needs yogamind.

Going the other way, a more sophisticated intellect will allow the potential for a more sophisticated yogamind, though it makes yogamind's work more daunting. A deep masterful yogamind

can make for truly compelling discursive expressions should the individual choose to make them. The process gets subtler and subtler with no apparent end to the subtlety.

A couple notes here: the yogamind I'm referring to here is not absence of cognition. It is rather *yoga cognition*, or alchemical cognition (alchemical implying precise inner experience of elemental interactions, as well as applying the "chemical" that catalyzes the desired transformation, all done without utilizing outward measuring devices; the "chemical" catalyst in yoga is bare attention itself). It is a preliminary stage in yogic endeavor. It will be conducted along the contours of internal background "maps" that have been established in our bodyminds partly by certain facts of how human nervous systems work and partly by our cultural inheritance and our own experience, maps the mind constantly updates beneath our awareness based upon ongoing experience. These maps are part of the deeper levels of mental structure that disappear into the unconscious, at the depths of which discursive mind's resources simply give out. Not just tension patterns, but also imagery banks, basic styles of perception and thinking, instincts. Yogamind can work its way down to these depths, but this process remains within *active* yogamind cognition. By contrast, the greatest attainments in yoga are either immersed in or have access to states of mind completely devoid of either discursive or yogamind cognition, and which register wave forms on the EEG machine similar to deep sleep. The gradualist yoga paths would have us work our way through our maps, steadily transforming them at greater depths, in a discursive/yogamind struggle/harmony process, until the level of causal cessation or Brahman takes us. Here the work and the struggle ceases.

When Patanjali delineates yoga in the almighty second verse of the first pada of the Yoga Sutras: "Yogas Chitta Vrtti Nirodhaha", ("yoga is the cessation of fluctuations in the consciousness") we can see this at three levels at least: 1. freedom from distraction, 2. freedom from discursive analytic mind, 3. freedom from any manifestation at all: realization of Brahman.

This is given a little more detail later in the Sutras, in the progression from 1:42 to 1:43, a subtler version of what I am calling discursive mind is referred to by Patanjali as *savitarka samadhi*, "concentration mixed with awareness of name, quality and knowledge", and since this is a kind of *samadhi*, it must be taken to imply cognition in its finer states, near the end of the game. And an accomplished version of yogamind is the next step, *nirvitarka samadhi*, "concentration so that the object alone remains".

5. THE MOTHER OF ALL THREATS TO MY YOGA

Sky full of rippling cliffs and chasms/That shine like signs on the road to heaven

Bruce Cockburn, *Northern Lights*

It is not uncommon for a student who has been practicing for a while to inquire about the literature behind the Ashtanga practice. I often recommend the basics that were offered by Pattabhi Jois when I asked him that question. He said Patanjali's *Yoga Sutras* were the first and most important, followed by *Bhagavad Gita*, *Hatha Yoga Pradipika* and Shankara's *Aparokshanubhuti*. When I pressed further, he suggested Shankara's *Brahma Sutra Bhashya*, and he gave me a look that this one was important. He would often chant quietly under his breath while teaching, and when I asked he told me

it was the *Isha Upanishad*. In his book *Yoga Mala* he quotes from the above texts, and also references Shankara's *Yoga Taravali*, Vedanta and Ayurveda in general, various other Upanishads, and the *Rg Veda*.

When one begins to pursue this library, it quickly becomes complicated. In particular, we begin to notice that disagreements have arisen and debates have ensued on almost every topic under discussion. These debates have been part of the story from nearly the beginning: around 500 BC, the Buddha argued and disagreed with, among others, Upanishadic thinkers as well as materialists who were remarkably similar in their ideas to many scientists and philosophers today who argue from scientism (which is the belief that empirical science has all the answers to everything). The 8th century *Brahma Sutra Bhashya* is a very long debate between Sankara the vedantin and his opponents. How do we sort through all these arguments and find the truth about yoga?

I've come up with three categories that we can see today for those pursuing the theoretical aspect of the yogic quest. First: those who put their work into mastering and even memorizing a chosen canon, and for a large part, accepting those teachings exactly as presented. This is essentially taking a perspective of faith, and especially in the older texts like the *Yoga Sutras*, it is also considered one of the main ways of gaining knowledge: resort to textual authority. If this seems quaint to you, think again: when the media presents a scientific finding, do you subject it to rigorous scrutiny or even try to replicate the experiment yourself? Most of us accept such reporting on faith; we have faith in science, and those who don't come off as crackpots, such as climate change deniers. However, this first category *is* the least critical and the most poetic, if you will, of my three categories, sinking deeply into the languages and, in particular, how the meanings therein can influence practice. And with good reason: all of the texts above, if pursued with sincerity, will reliably guide one's spiritual practice towards relative degrees of what has been considered enlightenment. I would put Pattabhi Jois in this first category. When he gets critical, it tends to be about practice guidance rather than scholarly quibbling, for example, criticizing those who consider themselves "scholars beyond compare" who nonetheless give in to lust and rage.

The second category could be exemplified by Georg Feuerstein, who took the position of a critical scholar of yogic culture and languages in addition to viewing the literature for its spiritual value. In the process, he clearly declares himself as one who follows the guidance of these texts, not just one who looks at them from a distance.

The third category can be represented by a group loosely calling themselves the Modern Yoga Researchers, who identify more as cultural and linguistic historians and critical scholars; they just so happen to be focusing on the yogic/eastern spirituality field, and as a rule, make no claims as to their own experiences. Spiritual values are less important from this perspective than truth (whether modern or post-modern), morality, analysis of historical influence, and attempts at precise determinations of the meanings of old texts. Santa Barbara's David Gordon White and his entertaining writing (such as *Sinister Yogis*) is an exemplar.

If we put aside practical debates about the best ways to practice, we are left with arguments about the ideas themselves and the world views contained within these ideas. Of the above categories, the first category values primarily spiritual ideas, the second both spiritual and materialist, and the third primarily materialist and postmodern.

What do I mean by materialist/postmodern? In academics today, almost everybody is either materialist or postmodern, or they take the spiritual angle through aesthetics, or they do some combination of the three. This is to say that by and large they belong to my third category above. They often don't agree with each other but what they do agree on is a wariness toward actual spiritual practice-generated *spiritual data*, which I'll get into in a bit. This has been the circumstance with

intelligent respected thinking; academics doesn't have a yoga and doesn't seem to want one. As Pattabhi Jois used to say, "No yoga there!"

Which leads us to the following situation: if we pursue a practice such as yoga with the intent of self-development, with perhaps a quiet or not so quiet yearning for the possibility of enlightenment, we will begin to familiarize ourselves with the history of ideas behind such a quest. Researching these ideas, we will find that although the traditional literature clearly has spiritual intent behind all the debating, this literature is often surrounded by modern scholarship, much of which is neutral towards- or even dubious of- the value of spiritual practice itself. As we try to discern our way through these different perspectives, both within the traditions and in the more recent scholarship, we come to recognize that we have undertaken a process of philosophical inquiry, and that we're going to have to weigh the evidence and come to our own conclusions. And if we follow any thread in philosophy, it will not take long before we run into a flat out declaration that the entire spiritual pursuit is...*One Big Illusion And Thus A Falsehood*. Or, at best, begrudgingly, of possible practical benefit. The entire spectrum of higher spheres of which almost the whole corpus of spiritual literature, East and West, is built upon is typically cut to ribbons and left for dead. And we will begin to note that this voice is very loud and very prominent: the voice of materialism. The biggest current version is scientific materialism. And it is a formidable opponent.

So the view we've been gaining through practice, and through familiarity with spiritual materials and literature and community, gets directly and rudely "trumped" by aggressive and sophisticated materialist negators and debunkers. In the face of this, many yogis just steer clear, carrying on with their practice and/or teaching entirely unconcerned. I did this when I was younger, but lately, for better or worse, I've found the subject impossible to ignore. As I go about my research, I've learned to recognize when my "geiger counter starts clicking" as Ken Wilber puts it, which indicates an intensification of my interest level, and this is often the loudest when I feel a *threat* to my worldview, typically when the threatening thing contains something I recognize to be true.

I've developed a taste for such threats. As a long time professional yoga teacher, I can now say that the scientific materialist negation of spirit and ultimate meaning in life had been the mother of all threats to my yogic bliss. At existential hazard, I chose to face it and it led me on a lengthy search for light in the darkness. This chapter represents one way through this maze. The argument I will engage has played itself out through history in a lengthy and dauntingly complicated process, but it can be generally simplified as that of *Materialist vs Idealist*, which I see as the main issue. (Post-modernism has its own attacks against both fields but I see this debate as now relatively peripheral, post-modernism's more powerful contribution and extremely lively debate currently applied more toward multiculturalism.)

Aggressive materialist negation of spirituality can lead us to doubt some of the more hopeful implications of our yogic experience. It certainly has in my case. This is not necessarily a bad thing. If what we are doing is real, it will be able to withstand challenges, and any serious practitioner will feel doubts coming and going as the self inquiry process proceeds. Discernment in yoga is just as needed as it is in science. On the other hand, a common teaching in yoga is the value of some protection for our practice realizations, treating them like delicate plants which require loving care until they can get rooted more strongly. I believe this is true, and if you put yourself in this category, you may want to stop reading this now (spoiler alert: this chapter has what I take to be a happy ending). The first 15 or so years of my efforts at practicing, teaching and holding a community of yogis together were periodically marked by internal and external upheavals that could make it extremely challenging to gracefully face the room of students in front of me. To make a Mysore-based Ashtanga Yoga Shala work day by day, with the many trials of what it is to hold a higher kind of energy which manifests collectively and maintains interest month after month, one often feels he has little room for error. My

first five years I would sometimes nearly get whacked right out of the room. Somewhere around that 15 year mark of teaching I must have finally put down deep enough roots, and I felt ready to drink the materialist kool-aid straight, determined to get at the truth.

One of my drives in this was to engage the larger picture behind a feeling I get after being exposed to some materialist ideas and approaches, a feeling captured by David Loye as “degraded world view”, a view also frequently referred to as “flat-land”. The strongest I’ve felt this has been after reading Stephen Pinker’s *How The Mind Works*. And when it comes to that feeling of *raw threat*, a sense that something precious and essential is being gutted and raped, the best author has been Daniel Dennett, especially his *Darwin’s Dangerous Idea*. One of the reasons that they both rattle me so effectively is that I admire them and their work, especially Dennett.

Indeed, about a decade ago, I began to hear geiger counter clicks around neuroscience. I had been swimming in the yogic arts and literature, as well as psychology, both developmental and Jungian, and had been a working yoga teacher and musician. I did lots of meditation and hatha yoga. This was where my experience and research had been, this was the kind of data I had been taking in. I recognized I was fairly ignorant about science. Undaunted, I began studying the sciences, in particular the literature of the brain, as much as I could, and derived great benefit. But as Stuart Kauffman notes, virtually all neurobiologists hold the view that consciousness is entirely mechanically generated. It wasn't long before I felt the tension growing between this materialist outlook and my own view. Simultaneously, I began following the growing avalanche of data from the lab about the material benefits of spiritual practice, i.e: yoga makes your brain grow, decreases stress markers, is good for heart health, etc. This is the current emergence of clear evidence, from the material view, that *spiritual practices* have *material benefit* and can be fruitfully pursued entirely from that perspective. In fact, as I was checking out the popular current atheist group, The Four Horsemen, I pretty quickly sniffed out that Sam Harris, one of the horsemen, has legitimate yogi credentials, which is to say lots of hard practice in meditation, quite beyond just trying the hat on. Which is also to say, it is possible to pursue spiritual techniques from an entirely materialist, even nihilist, point of view. And if yoga and mysticism really are simply ways of tapping into unusual brain states, including getting good at recruiting the brain's happy chemicals, then what's the problem? Don't worry, be happy! But as Daniel Dennett hints, many scientists may not have actually followed that materialist view all the way to its necessary conclusion, don't really want to, because it can be rough and scary, more on that below.

Back in May of 2015, there was a fairly interesting exchange that illustrates that year's model of the ongoing fracas, published in the Washington Post, between popular author Deepak Chopra and Steven Newton, who is the director for programs and policy for the National Center for Science Education. Newton began the exchange with a “tongue-in-cheek” piece that dripped with acidic sarcasm towards Chopra’s apparently obvious pseudo-scientific New Age buffoonery on the subject of evolution, Newton offering instead a perhaps humorously exaggerated grim view of eat-or-be-eaten Darwinism. It may have been tongue-in-cheek, but it was definitely not friendly. Chopra fired back in a manner that made it clear that he may not be such a clown after all, offering his case for the role of consciousness in evolution, in addition to chiding Newton for flirting with internet troll-vibe. Newton responded in turn with an altered demeanor of recognition that he had to take this debate seriously, concluding his conservative materialist outlook with a warning that Chopra is aiding and abetting fundamentalist creationists and intelligent designers because his untested ideas resemble theirs.

Now, Newton had a point as regards creationists in America: one study that year concluded that the number of Americans who believe that matter and life happened as described by the book of Genesis is at approximately 45 percent. And Newton's urgency had some justification: other surveys showed that somewhere between 25 and 50 percent of Americans didn't believe in climate change, and this view was typically accompanied by a skepticism toward science. There was also another dimension

to the exchange: Newton was warning Chopra to stay out of the scientific playground unless he is willing to enter the fire of peer-reviewed discussion, which has nearly zero tolerance for speculation without lab quality evidence. In his response, he marshaled experimental findings to support his points. Chopra, in his turn, while clearly demonstrating his familiarity with the contours of the present rich debate about mind, consciousness and evolution, offered his position as that of provocateur of new ideas. "I work with high-level scientists, including physicists, geneticists and others who believe, as I do, that mainstream science, like mainstream medicine, has a lot to gain from keeping the flow of ideas moving." Presumably, it will be these scientific colleagues of his who will enter the actual scientific journal environment, their imaginations piqued by Chopra as to how to set up the experiments. And Newton also made a big mistake: Chopra is no friend of the creationists; he is a practitioner and integrator of current psycho-spiritual technology, which can be likened to creationist religion in a similar manner as string theory is to medieval alchemy. Chopra has a "substantial audience" partly because of the large number of people who are practicing yoga in some form right now; many people with spiritual inclinations have moved far beyond mythic level religion.

Allow me to present two stories at this point. The first is heavily indebted to Shri Aurobindo, who in turn drew from both the great corpus of Indian philosophy as well as European idealism of the early nineteenth century (Fichte, Shelling, Hegel), to help unpack his own profound yoga practice. We could call this story a version of the Life Divine or the Great chain of Being. It goes like this, story number one, the Idealist story:

There was a Being. Call It any name, it could be Satchitananda, or Krishna, or Yahweh with or without Jesus, with or without the Prophet, it could be Great Spirit: God. Any name. Let's just call it Spirit for now. It had no form that we can understand, but it desired to fulfill itself by coming into being as matter, like that in our universe. So it caused a Big Bang. Hydrogen, helium and lithium suffused into space. The basic laws that governed these elements were either already there or they developed over time. Gradually gravity shaped the hydrogen, helium and lithium into clumps which heated up through fusion and became stars. The hydrogen in the stars turned into helium. As the stars ran out of hydrogen, they begin to create other elements, including oxygen, nitrogen, iron, zinc. Stars eventually began blowing up and expelled these elements out into space. Time passed. Some pieces of these blown up stars got caught in the orbits of other stars and turned into spherical planets. Some of these planets- at least ours- happened to reside in the "goldilocks zone": places in solar systems where the ratios between sun and planet and moons are such that the stage is set for the elements to begin radically arranging themselves into organized patterns. Some of these patterns became complex enough that they begin to show signs of agency: separate units acting of their own accord. Time passed. The complexity of these patterns increased. Some units developed features that others didn't have, which allowed them to proliferate better than the others, or at the expense of the others. They took on more elements and put them and their unique capacities to use, such as iron and zinc, in ways that conferred further advantage. Complexity increased. They gained more abilities. Bacteria arose, and then worms, and fishes, and then lizards, and then rodents, and then monkeys and then...people. There were other branches, such as the dolphins, but it was the monkey line that burst through first. Along the way amazing things called neurons developed and those who found themselves with larger numbers of neurons proliferated abundantly. Humans grew this "cognitive niche" to the degree that they began to outsmart all the other creatures. And they also began to think and reflect on their situation. They created civilization and culture and gained safety and leisure. From this place they slowly accrued a knowledge of the forces that operate in the universe.* Some of them also awakened within themselves a consciousness which was "sleeping" as it subtly guided the elemental play, but now was capable of being perceived. People developed psycho-spiritual technology of various types which allowed some of them- the brave pioneers at first- to go along inner "pathless paths" whereby they awakened to the fact that this Spirit is within them, and is and had been the "eyes" through which they had viewed the*

universe from the beginning.

They are gradually remembering who they have been all along. The purpose of the entire "show" has been to awaken to this Spirit and to realize it within oneself, such that Matter and Spirit are united. From this perspective, humans can become agents of proliferate creation, much like Spirit before them, taking things into greater and greater complexity and beauty, the delight of the experiencing of which joins them with the ongoing Lila- divine play- which was the reason Spirit began the whole ordeal and passion in the first place. The delight of Lila allows us to see that the messy nature of evolution, the starts and stops, mistakes and triumphs, were part of a creative process, like a work of art and a work in progress. People now can consciously assume their role in the ongoing delight, drama, passion and satisfaction of the Kosmos.

Quite an appealing story, isn't it? This is my updated edition; even since Aurobindo wrote *The Life Divine* much has been discovered- by science- to flesh it out.

OK. Now take the above story and cut out the first part all the way to the sentence about the big bang, and turn that sentence into simply: ***There was a Big Bang.*** Now, read along as it is, all the way to ***they slowly accrue a knowledge of the forces that operate in the universe.*** (See asterisks). And from there we'll proceed with the story, which becomes story number two, the materialist story:

Through this process of discovery they conclude that, unlikely as it might seem, all this beauty and complexity and design is the product of mere chance working through the physical forces and elements over time. We are what we are, consciousness and all, merely because certain organization of atoms survive better than others, and right now, the human form is among the best out there suited for continuing as an organized unit through time, up there with cockroaches and ants and rocks. None of it means anything. Organizations of elements are no better than unorganized elements just lying around. There is no purpose to life, not even survival. Urge for survival just so happens to be a trait that gives one organization of atoms a greater likelihood of continuing in that state of organization than others. Complexity often confers greater abilities to a form, allowing it to continue and reproduce. We are here in our complexity because through an accumulation of accidents a design has developed which is fairly well suited to continue in its form over time. There is no value in survival, it is just that forms which survive are the ones still here. Our form is one of the ones still here. There is no value anywhere. This being the case, we might as well take advantage of the accidental by-products of this big nervous system of ours and enjoy ourselves, maximize pleasure and minimize pain, because we seem to like pleasure, we have this personality system that has a hard time without it. But "hard time", suffering and pain are meaningless, they are just survival mechanisms and survival is meaningless. We have a life-span and if we participate in human civilization which was set up to minimize pain, we can make it easier to pass the time that our particular body will be "alive" by attempting to realize variations on pleasure. All culture, and human relations, including the spiritual pursuits, are a result of the fact that we prefer pleasure to pain and happen to accidentally have a brain that can have variations of pleasure rung from it; "meaning" is just a subtle form of pleasure, no better than what the rapist feels during violent sex or the pleasure that many animals feel when they kill. Civilization allows an increasing number of us to "live" until the body "dies" because it has hit the limits of its organizing capacities over time. But pleasure and long life are meaningless. Once the organization which is our body stops surviving the personality system is no longer conjured like a movie from our neurons, and there is nothingness. The big bang happened and the elements exist, and there is nothing else to be said as to why they happened and why they are here.

And, in the words of Daniel Dennett, "that's all there is to it". If we faithfully follow the implications of materialism, there can be no other conclusion.

Degraded worldview. Kinda grim.

A common materialist response to this bleak picture is "We don't necessarily want it to be like this, but, uh, this is how it is. We need to tell the truth. This is the truth that has been revealed to us by the data. The data does not support that first story. We have and must build our meanings and purposes in life on top of empirical truth. Stop worrying about it. Get over it. You can still enjoy your life. Besides, you get to be free, within and without, from all those old power trips parading as religious rules."

Such a dichotomy between these two worldviews! Here's another way it can play out: say you listen to a piece of music. You are quite touched by it, tears come to your eyes and you feel an exquisite feeling, it seems to open your heart; you've had a fabulous aesthetic experience. Straight-up materialist Stephen Pinker would render it like this: the music fan has "a mind that rises to a biologically pointless challenge: figuring out how to get at the pleasure circuits of the brain and deliver little jolts of enjoyment without the inconvenience of wringing bonafide fitness increments from the harsh world." This follows from the observance that "Some parts of the mind register the attainment of increments of fitness by giving us a sensation of pleasure." (*How the Mind Works*, p 524)

Here's a version of the other side: Eros is a force that is woven into the fabric of the universe. It is a subtle guide that beckons arrangements of matter into ever greater complexity through a force which is ceaseless new creativity and, in the case of those who have attained a sufficient level of self-consciousness, (i.e. humans, dolphins?) toward ever greater self-recognition. At the simpler levels of organization, jolts of enjoyment are part of a useful reward system towards self-preservation and reproduction. At the human level- and for animals that play- they become part of the on-going Lila, pulled by a loving urge for ever greater complexity, and ever increasing recognition of the Spirit which lives within us. The experience of musical delight is a significant eros event, a contribution to the divine dance and an education for the listener about her true identity, which is non-different from Spirit itself. It has revealed "signs on the road to heaven".

Alright. We have these opposing cosmic views. Our first cosmic story, the updated variation on the great chain of being, has shown itself to be within the predominant family of views arrived at by people who have seriously pursued spiritual practice throughout history; these often aren't the church fathers or popes or preachers or rabbis or brahmin royalty but rather the monks and mystics and nuns and yogis, the ones actively engaged in spiritual practices- which is different than just *thinking about* spirit or laws or ideas. And it is different than controlling others. There are no laws inscribed on stone tablets from this spirit- although laws such as gravity and electromagnetism are likely closer to the mark- but rather a subtle beckoning towards greater complexity and delight. On the other hand, variations on the second story have been the view of materialists, accepted at varying degrees, since at least the time of the Buddha.

I have argued in the psi-net chapter that there is an additional source of empirical data, available to people either by gift or spiritual practice, from the sixth sense, which I'm calling Internal Subtle Feeling. This adds complexity to a philosophical debate about materialism and mind based on the fact that we can't just rely on sensory data to gain knowledge about the world. So, for vision, sensory data at its root is just colored patches. One can't do any meaningful science from colored patches only. We need to resort to *mind moves* to organize these colored patches. The big question is this: are these mind moves, or "applications of the categories", a use of tools that have an unknown source or did they evolve with the development of the brain in a Darwinistic fashion, thus being essentially biological nerve-stuff? Can the forms of thought be seen entirely as behaviors evolved and shared with others at the neurological level on a par with those which have evolved and been shared with, for example, our hands? Or could there be a spirit-originated source of the mental categories and algorithms which we use to organize raw sensory data, forms that spirit has periodically through time thrown into the mental and even material fray to help elements and forces come to life? This is an angle into the mind/body

philosophical problem, and I'm not going to go too deep into that endless rabbit hole beyond stating this: encounters with the psi-net through spiritual practice such as yoga opens empirical experience of mindbody forms transmitted between, at minimum, people, in a way that would require a transmission medium currently not understood or accepted by materialist world views. This may be the way that spirit conveys organizing patterns and algorithms to life on Earth and categories to mind. The term "spirit" can be used for anything that comes from a dimension not currently comprehended by science. I offer the views of some recent prominent thinkers below who deviate from strict materialism by leaving a crack for such mystery to shine through.

Anyway, those who do yoga and mysticism well, in all its myriad forms, often eventually report a story which is a variant on story number one above, the idealist story. This story has emerged across cultures far removed. And again, these yogas, these psycho-spiritual technologies, are NOT mythic religious stories like the biblical creation myth. They are rather the "contemplative core" of the world's religions: Judaism has Kabbalah, Christianity has monastic monks and nuns, Islam has sufis, and for some reason India just went straight for it and emerged with their yogas close to the public surface within Buddhism and Vedanta. Good yogis are just as intently focused as good scientists, and have equal integrity.

These yogis and mystics residing at the nucleus of the world's religions were not just thinkers and theorizers. Rather, they were primarily practitioners learning, using, experimenting with and propagating psycho-spiritual technologies, with certain features shared cross-culturally, such as intensely focused inward attention and periods of solitude. To deny their validity, one must undertake the practices themselves and then prove them false- without that, no yogi could take you seriously. It would be like a yogi walking into a science lab, looking at a few test tubes, and declaring the whole venture a big charade, which would have the scientists rolling on the floor; any materialist who denies spiritual experience and reality without undertaking spiritual practices is just as foolish, and the intimidating yoga ladies would look at him askance. Add to this that many scientists and philosophers in general don't even conceive of ever going outside of or beyond discursive mind.

I'll lay out my personal position at this point, what I can report from actual experience, without any leaps into "metaphysics". This is to say, that although I am inclined toward story #1 above, I cannot claim the entire thing with much certainty, although it feels intuitively right. My current yogic experience, both individually and collectively, is that there is without a doubt a subtle realm (sukshma sharira) with its subtle senses (sukshma indriya). Subtle phenomena can be seen as less dense forms of matter/energy, for example a person's energy field. Gross phenomena are on the denser end of the spectrum, for example a football. The entire spectrum from gross to subtle to very subtle plays itself out on the stage within a spaciousness that can be likened to the theater in which a play occurs; the realization of this spaciousness beyond the gross-to-subtle play has been widely considered the act of spiritual enlightenment. This spaciousness carries an unmistakable sense of "I-ness"; it feels as if it is our own identity, and this is where the plot thickens. I'm not *inferring* that this spacious I-ness must be there, I actually *experience* it regularly. It presents empirical data to those who experience it; this is not the usual empiricism which is solid knowledge of objects within the gross senses, but non-dual empiricism, which is equally solid knowledge of *shifts in our perspective and identity*, durably experienced through repetition.

Just as Einstein's new physics responded to data in ways that disturbed the scientists who themselves were discovering it because of what it did to the secure Newtonian world view, so yoga practice which generates subtle data tends to do the same to materialism. This is largely because the exploration of the subtle realms is not just a "looking at things" but also brings us into engagement with a process whereby we experience a *shift in our own identity*; it also makes more space for consciousness itself, thereby confirming the reality of that consciousness empirically: we actually sense

it; I have sensed it. And what I have sensed is the potential of my own pure identity. Also, Internal Subtle Feeling (see *Psi-net* chapter) is as much *an engagement of forces* as it is an observation of them. From these somewhat dramatic perspectives and realms, degraded world views tend to lose their draw.

Keeping this in mind, if we practice yoga today, we can arrive at an understanding of the cosmos which includes every shred of good science that's been done through history right up to today, and it will still remain possible to have room for a view that recognizes Spirit. I would like to back this statement up with two approaches, one that reveals the way that a good percentage of hard scientists and rigorous philosophers themselves have viewed the debate, and the second is to offer a few suggestions that speak of data sources difficult or impossible to collect in traditional empirical scientific lab settings.

First, let me offer an extremely condensed view of the rise of materialism: although the strands disappear into the darkness of history, including the above mentioned opponents of the Buddha, the strength of the current Western view stems from the irresistible urge for human thought to liberate itself from the confines of established religion. A first big flower was in the 1500's when Copernicus presented his discovery that it was the sun at the center of things, not the earth, which rattled the Pope's metaphysicians. Copernicus was careful and savvy, and stayed mostly out of trouble, but Galileo, in furthering the ideas, nearly got on the wrong side of the inquisition, which threatened hot consequences. Nonetheless, science was not to be stopped, and it began blooming forth at every angle. By the late 1700's Kant, who himself was not a materialist, blew the candle out of traditional metaphysics, such as the classic proofs of God, unintentionally giving rise to an unfettered proliferation of materialism. 19th century notables were Karl Marx boiling spirit down to the subject who views the products of material labor, Friedrich Nietzsche hoping that a Dionysian frenzy would compensate for the death of God, and of course, the big guy for our current materialists: Darwin, sorry for the blow he was delivering to the faithful and yet delivering it with the force of Thor's hammer. Into the 20th century we find the existentialists, gleeful of the freedoms from the big brother church yet mourning the "god shaped hole in their head where god used to be" and the exceptionally influential Freud, who told us God was just a part of our subconscious, and called it the super-ego. Not long after, The Holocaust left Jews and people of faith everywhere muttering, "What the hell happened to God? There's no God here." Simultaneously, logical positivism took over large swaths of philosophy, influencing scientists and beating up idealists and theologians. By the 70's, even the post-modernists, who were whacking with all their might at science, also attacked Spirit with their assault on introspection, demanding that everybody remain on the surface, far from the depths required for any actual knowledge of Spirit. And today, as evidenced by the Newton-Chopra exchange above, materialism is still trying to carry the day and banish the spookiness in much of academia. And again, in its scientific materialism mode it is formidable; whereas the logical positivists and behaviorists at its roots crossed into the ludicrous, denying any interior life to the mind at all, which is one very efficient definition of insanity, the current crop of cognitive scientists "allow" and even practice much of the richness of life that any humanist or artist would insist upon, but couch it in strictly material causes. However, as a yogi, I still hold the position that there is more.

And the case is far from closed. Within science and academic philosophy, there are many thinkers who have delineated limits to the materialist view, opening up the possibility of our first story above, the Life Divine. Before I get into them though, it is essential to side with Stephen Newton here that this definitely does NOT mean that we can plug our good old fashioned Christianity story, or any other myth, into the gaps in materialism noticed by such thinkers. In fact, every one of these guys below would debunk a merely mythical level religion. Rather, I find that these hard scientists and philosophers are actually closer to a mystical view that can work in today's world than most of the theologians of their times, and they present a very solid theoretical foundation which a strong yoga

practice can infuse with bliss.

Beginning with the new physicists who broke open that field in the first part of the 20th century: Einstein likened his spirituality to the view of Baruch Spinoza, who held that God has *thought* and *extension*, the extension being our creation, this universe, presumably one among others. This view fits in well with updated great chain stories. It is also similar to Erwin Schroedinger's view, which has been described as vedantic. De Broglie declared that "the mechanism demands a mysticism" and Max Planck said that God is "the crown of any reasoning concerning the world-view." Arthur Eddington said "Consciousness is not sharply defined, but fades into subconsciousness; and beyond that we must postulate something indefinite but yet continuous with our mental nature". Wolfgang Pauli had the following side to his life, as quoted in Wikipedia: "The Pauli Effect was named after the anecdotal bizarre ability of his to break experimental equipment simply by being in the vicinity. Pauli was aware of his reputation and was delighted whenever the Pauli effect manifested." This led him to work with CG Jung, no great fan of materialism, exploring the paranormal. Werner Heisenberg held out for Platonic archetypes, and he shares variants on this view with Roger Penrose the eminent contemporary mathematician and physicist, as well as Noam Chomsky, the man who gave birth to Cognitive Science and was convinced that our language capacity cannot be explained by materialistic Darwinism. The brilliant and lauded mathematician, Kurt Godel, was quite sure that his two incompleteness theorems proved that materialism was an inadequate view of the mind.

Stuart Kauffman and Henry Stapp are two scientist's scientists, among many others, who hold a quantum view of mind, which opens the door to the same mysteries that the above pioneering physicists could only fill with Spirit. But my primary interest in Kauffman stems from his other main idea, which he culled from his pioneering work in chaos and complexity theories: that of *self-organization*, which was the result of "years of muttering at Darwin" that there must be some other force at work in evolution beyond simple mindless natural selection. Stephen J. Gould also presumed some additional process in Darwinistic evolution.

Another theme that has developed among serious thinkers has been panpsychism, which views consciousness as existing in all things, the smaller the particle the lesser the consciousness, all the way down to atoms and whatever is below them. Leibniz, the creator of calculus, held this view, as did William James. The esteemed mathematical philosophers Alfred North Whitehead and Bertrand Russell supported it. Russell's view was that mental and physical aspects of existence are the same but not reducible to the physical. More recently, philosopher David Chalmers has offered it as a possible explanation for how neurons and their firings, which is a physical process, can give rise to the experience of consciousness.

Chalmers made a big splash in the mid-nineties with his breaking up of the philosophy of mind between the easy problem and the now famous "hard problem". The hard problem takes up the challenge of how to use strictly materialist explanations for the sense of self that accompanies all of our experiences, the sense that there is an "I" looking at that tree. Many philosophers and scientists currently share his view that mere neuronal processes are insufficient to provide us with this experience, that there is something about consciousness which cannot be reduced to materialist explanation, that consciousness is an irreducible force in the universe. Daniel Dennett claims that there is no hard problem.

The issue with philosophy of mind is that either one affirms this view of irreducibility of consciousness, or has variations of skepticism about it. The skeptics such as Dennett may claim instead that consciousness is, for example, merely a projection of neural spike trains in an algorithmic process, similar to the way pits and lands in a dvd puts us under the illusion that a real scene is being projected onto our tv screen; the sense of I is a creation of algorithms in the brain.

On the other hand, if one affirms consciousness as an irreducible reality, then the gateway to a full expression of yoga has been opened. Yoga has always stated that that very consciousness within you, the entity that feels a sense that there is *someone viewing the tree*, that very someone, if pursued with rigorous focus in various ways, becomes all the god there is and ever has been, the Spirit that is dwelling within you right now and has been there all along without you knowing it. The mystics and yogis tell us that that presence is actually the witness that views the entire "show" of life, and yogic process will allow us to free ourselves from needing to keep it just to ourselves in selfish egoistic form, realizing rather that this is the self that pervades all of the "eyes of the world".

So, all of these above mentioned scientists and thinkers together- each of whom is a heavyweight in the scientific/philosophical world- offer a broadside toward the grim materialist view. Again, they don't in the least herald the triumphant return of Jesus, and they won't bring back God who will answer our prayers with interventions on our personal behalf. Rather, these are guys who bring scientific findings to the table that we cannot ignore while hoping to remain in integrity with the state of current human knowledge. But, wonderfully, they also offer a view of the cosmos into which Spirit can easily integrate. And there is also one other thing to notice about these guys, along with the strict materialist opponents who they debate. That is...they are all guys.

Which brings in the next question, into which I will tread carefully: where are the women in this story? I bring this up because of my belief that there is something about the feminine that breaks another hole in the materialist view.

In Dennett's *Darwin's Dangerous Idea*, there are exceptionally few women among the multitude of characters he draws into the argument. Why is this? Women are just as smart as men and they write just as well. What happened to their voice? Is it because academia has been and still is unfair to women who are having to fight to break down these barriers? This is certainly one part of it; in 2015, the media ran a typical story of women trying to work their way into Astronomy at UC Berkeley and having to contend with a sexually predatory potential Nobel prize winning male professor who ruled the department. This was before the #MeToo floodgates opened up following Trump's election, ushering in a cascade of such whistle-blowing events. One revelation of all this has been that the hard sciences are the academic departments most resistant to female cohabitation. They are also the ones most likely to espouse the materialist world view.

Compare this to my yoga studio where the roster is 90 percent female. That number is a bit higher than Yoga Journals's report of the national average, which is 83 percent. The reasons for this gender disparity in current western hatha yoga have been debated for a few decades; one factor can be found in hatha yoga's history, which shows it to be a far more embodied form of older Patanjali-style yoga and is marked by a surge in the worship of the Goddess. Suffice to say that there is something about embodied psycho-spiritual technology that attracts women, and gets into what has been called "women's ways of knowing". I will take Carol Gilligan as a suitable and relevant feminist scholar whose research concludes that men are more inclined to "rights and justice" and women toward "care and responsibility"; another contrast has been "separate agency" for men and "connectedness" for women. Taking the broad brushstroke of these male/female differences, how can we view our opposing idealist versus materialist world views?

Quite simply, the yoga process, especially a group hatha yoga process among a community of people familiar with one another, can lead to a deep feeling of connectedness, connectedness to community, one's own body and to shared subtler forms of awareness. Yoga, often translated as "union", and spirituality in general, aside from old religious trappings and rules, is a way of connecting with physical and mental process and investing energy in these processes, thereby eventually breaking down inner barriers, out of which floods new life and *new data*, which has always been said to facilitate the capacity to *transcend the isolation* of the separate ego and open one to higher connections. Those

who do this a lot frequently state that they *feel* a presence all around them, a spirit that both transcends and is infused into ordinary life and matter. And *feeling* is a valid source of empirical data, although it has been without value in the scientific lab where vision is god. In intimate relationships, research has shown that whereas men value *looks* in a woman, women place more value on *how it feels* to be with a particular man.

I've noticed that many women who are hard-headed scientists do not buy the materialist view; one example is Clare Pert, the discoverer of endorphins, who in her book, *Molecules of Emotion*, offers a passionate urge for both science and embodied real connection to this earth and the spiritual process; she's big enough to embrace them both, and I wonder why so many materialist men have such a hard time with that. And of course there are also deliberate straight-ahead materialist women, and there are also atheist women, but I believe this is partly because religion has been a dreadful misogynistic force in history; our atheist meditator friend Sam Harris notes that his fan base is 70/30 in favor of males.

One of my big complaints here concerns the fact that in materialist views, there is frequently not merely a denial of the possibility of any kind of spirit in the creation and development of the world, but there is also a *debunking of the entire subtle realm*, which I find incredibly clueless. (See the *Psi-net* chapter.) So finally, my position becomes the following: the materialist world view has missed two things: psycho-spiritual technology, and, the influence of strong women. It has missed the data that comes from a sustained, quality yoga practice, and it has missed the connectedness of women.

I'm a lover of science. I really look forward to what's coming out of the lab next, especially about the brain, exercise physiology and the effects of mindfulness practices. But I've done way too much yoga to ignore what I've learned by doing it. If I keep this spiritual knowledge in mind, I find that I do not love the materialist story and find it exceptionally partial, just one part of a much bigger story. Stephen Pinker has said that science, "to put it mildly", has not been kind to common sense. My response is that history has not been kind, to put it mildly, to scientists who say, in the words of Daniel Dennett, "that's all there is to it."

Experience in yoga tells us there is more.