THE ROAD LESS TRAVELLED

STEPHEN HARROD BUHNER

Philip Franses recently asked if I would write a short piece for the Holistic Science Journal on "how my life and work has transcended the limits of academic biology and pharmacy in which I was born." There are a lot of ways to approach this question but I think the most crucial is to understand that the shift that occurs, that takes one from the dead world of ideas, of reductionist mechanical-ism, into the living world of meaning that is so exemplified in the natural world, is always personal. There is some quality within those of us who take this, at this point in time, rather unconventional move and abandon the dominant paradigm in which we have long been immersed and instead do something different. I believe there are a number of commonalities among those who take this step; I will talk a bit about the motivational forces that led me to do so and perhaps they will open up a view of some of those commonalities to the questioning eye.

Within myself, I have identified four primary aspects of my character that led me in this direction, which are, ultimately, inextricably inter-tangled. Still, I will separate them out for the purposes of this article. They are 1) extreme stubbornness; 2) an extreme sensitivity to how things feel; 3) a tendency to ask the simple question no one else has thought of asking; and 4) certain peculiarities of mind and an eccentric decision (though I think this the least important of the four).

Extreme Stubbornness

Though I was relatively docile, repressed, and introverted as a small child, at the onset of puberty that changed rather remarkably (to the dismay of my family). My family, as most do, constantly demanded that I take on certain behaviours. As examples: kiss my (unloved and unpleasant) great aunt upon meeting her at family gatherings, send thank you notes (for gifts I personally hated), sit at the table and eat with certain prescribed movements, eat foods I found offensive, clean my room to standards other than my own, dress in clothes I found uncomfortable and visually unpleasant, defer to authorities that I found unworthy of deference, believe what I was told without questioning the source, and so on.

For some reason at puberty I developed an extreme stubbornness and invariably replied to such demands with "why?" Unsurprisingly an articulate answer to my "why" rarely emerged. Generally the response, when stripped of extraneous language, was reduced to some version of, "because I said so." I found this unsuitable and despite immense pressure from my family and, ultimately, my teachers in the school I attended, I demurred. I could see, in most instances, that the older people surrounding me did not actually live fulfilled lives (so why should their exhortations be followed in the development of my own life). Nor did they seem to possess any understanding of why they did what they did. Even though my perspective at the time was quite limited by my age and experience it did not make sense to me to structure a life based on precepts blindly accepted from people who did not seem to have examined them.

Within the education system my teachers did not seem to actually understand the material they were asking me to blindly accept as foundational, nor could they coherently respond to my queries. Why does 2+2=4? (It turns out that it doesn't always do so.) What is 2? Or any number for that matter? How do you know that plants are unintelligent? Fundamentally, why is Moby Dick a better novel than The Foundation Trilogy? Why should we be exposed to one as literature and taught that the other is not literature? If sustainability is used as a measure of cultural sophistication instead of technological development, wouldn't the native tribal groups of the Americas be considered more sophisticated? Why is technological development the determinant of cultural sophistication and/or development?

In short, I learned early on to not blindly accept authority and to always question its pronouncements. This is root to my

(ultimately) refusing to accept reductionism as foundational. I think Lynn Margulis and her work is a useful metaphor here (and this connects to the third of my character qualities, the simple questions). Lynn Margulis, in her biology class, once asked about the second nucleus they could see in the cell; what was its function? She was told to ignore it. She didn't and her entire work came out of that stubborn moment of noncompliance. So, for myself, when I was told that herbal medicines were the remnant of a non-scientific superstitious past, I refused to accept it. When I was told plants, even bacteria and viruses were unintelligent, I refused to accept it. I then looked into what was true, finding it through my own experience.

I believe that questioning received wisdom is crucial to true science; there is no way to find the world of holistic science, the living world with which we are surrounded, in which we are immersed, without doing so. Because everything the Very Serious People are currently saying, leads to mechanical-istic reductionism, a dead world of ideas in which humans are the most important, and only intelligent organism. That is the paradigm they are immersed within and do not question; they cannot teach anything else.

Extreme Sensitivity to the Feel of Things

My birth family was extremely dysfunctional; my mother was, in essence, a borderline personality. When she told me she loved me, she actually meant "I hate you." However, when my father's mother, with whom I was quite close, told me she loved me, she actually meant, "I love you." Emerging into this kind of family structure made me crucially aware of the difference between form and essence, between what people said and what they really meant. Hence, in my life I learned to look beyond surfaces, to not take surface statements at face value.

How difficult it is to honour these most important of our teachers.

I learned over time that a foundational clue to the meanings I was encountering was how they felt in that initial moment of contact. In consequence, I learned to develop and trust my feeling sense. So, when I walked into a room, I paid close attention to how it felt, for the feeling state the meanings in the room engendered in me was a clue to the meanings I was encountering. When someone spoke to me, I remained extremely attentive to the feeling that emerged inside me in response. For that feeling contained crucial information about the nature of what I was hearing, about its truthfulness, about the congruency of the person speaking with what they were saying, about how they felt about me. When I was given a text to accompany a lecture or course in school, I paid close attention to how the communications within the text felt. I learned over time that truth has its own feeling, a feeling of congruency or rightness to it, that untruth does not possess. So when I was told that the world was not alive, that cultures distant in the past to our own were unsophisticated and superstitious (and we were not), that treating people differently based on their skin colour was appropriate behaviour, the feeling of those communications led me to discount them. And my extreme stubbornness kept me from being swayed by the insistence of authorities that I was wrong in discounting them.

I consider my recognition of the importance of the feeling sense to be the most important insight of my life and work. For the active feeling sense is, if attended to, what leads into the heart of the livingness of nature. It allows contact with the other intelligences with which we share this world. It allows depth perception of the workings of the world without recourse to reductionism. This is why, perhaps, there was no other quality of character that was not more intensely assaulted by those in the reductionist paradigm than this.

A standard technique of reductionists (which worked when I was young) was to analytically overwhelm me with mental commentary and data that I was too unsophisticated to respond to in any meaningful sense. I learned over time that the confused feeling that occurred in those moments was an important clue that I was being hustled. My stubbornness kept me from ignoring it.

How we feel in any given moment holds important clues to the meanings we are encountering. It is an evolutionarily innovated

capacity that allows us to access deeper meanings in the world around us. The Western world's denigration of this inherent capacity is I think an incredibly dangerous epistemological mistake; it fatally undermines large portions of reductionistic science and significantly distorts the ecological behaviour of our western cultures.

Asking Simple Questions

Simple questions really are simple (as in simpleton). They are so simple that they are rarely perceived as a question that needs asking. As an example: nearly everyone has experienced that magical moment when a puppy and a human being first meet and begin to interact but how many people have stopped and asked themselves, seriously, "What just happened?" "What is the nature of that experience?" How many people have then seriously compared the quality of that experience with their normal everyday life, analyzed the difference, come to an understanding, and then began to use that understanding in approaching the world? What would it be like if the majority of our interactions with the world around us felt that way . . . every day?

We are surrounded by exceptional events that we rarely take time to stop and contemplate, that we rarely stop to ask questions about. "What are 'invasive' plants doing when they move into an ecosystem?" "Why do my friend and I synchronize our walking and why do we feel uncomfortable when we are not synchronized?" "How did I know that the telephone was just about to ring?"

We encounter remarkable moments but we so take them for granted that we do not stop to wonder at them, to take the time to stop and immerse ourselves in the kind of wonder we knew as children, to seriously ask, "Do the cows in France speak differently than the ones in England?" That is a question that nearly all children ask but have always been told, "No, they speak the same; they all moo." Most of us just go on with our lives, accepting that bit of inaccurate software as foundational. But of course it turns out that cows do speak differently in different regions and that simple question, once correctly answered, opens up a whole world to the eye. It reveals, among many things, that language behaves similarly among other species as it does with us, that sequestering groups over long time lines leads to the emergence of unique linguistics among those species.

Allowing myself to retain the capacity to ask simple questions and to remain present in their presence has been the hardest quality of self for me to develop. I found that during much of my schooling the asking simple questions irritated my instructors; it often led, for instance, to attacks on my character. (What's wrong with you? Why do you have a chip on your shoulder? Why can't you just learn the way everyone else does? Why do you have to keep questioning things? You are making it hard for everyone else in class to learn.) Nevertheless my stubbornness again came into play; I continued to ask, and seek, the simple questions. They remain all around us, in clear view, but our training interferes with our seeing them. Even after all these years, I am still amazed at my failure to recognize the simple questions that surround me. (It took me ten years to ask the question: "If there are estrogenic plants, are there androgenic ones?" The answer led to a tremendous innovation in plant medicines for male reproductive problems.)

The thing about simple questions is that you never know where they will lead. Lynn Margulis, by asking about the function of the second nucleus in the cell (contained in the mitochondria) and by her refusal to stop asking, significantly undermined the foundations of reductionist Darwinism. Her work is, in my opinion, as seminal as that of Einstein and Lovelock, foundationally important to understanding ourselves and our world.

James Lovelock's perception that oxygen is a highly reactive gas that should not remain at high levels in the atmosphere is also a simple observation that stimulates an immediate simple question. People had long known that oxygen was highly reactive, that it should combine with other molecules, moving into a less reactive state, but he stubbornly continued to ask, "What is keeping the oxygen content so high on this planet?" As Isaac

Asimov once put it, the greatest developments in science come not from "Eureka!" but "Huh, that's funny, I wonder. . ."
The simple questions that have concerned me in my life and work, I feel, are not so foundational as theirs, nevertheless, there was something about them that would not let me go. In consequence all my life and work has been shaped by them.
Some of the questions that have captured my attention over the past 40 years are: Is Descartes dictum *Cogito Ergo Sum* actually accurate? What is the function of feeling? What is the function of emotion? What are emotions? What are human beings? What is the ecological function of the human species? What is the impact of hops in beer on male functioning? Since neurognostics (hallucinogenic plants) predate the emergence of the human species for by over 100 million years, what have they been doing all that time? What happens to pharmaceuticals that are excreted into wastewater streams by people? Do they still have impacts? What is occurring during moments of awe in natural landscapes? What does it mean when a person holds their body that way? How about that way? What gives rise to that expression on a person's face? How about that expression? If reductionist scientists are rational, why do they become so emotional when encountering a belief that is in opposition to their own?
A question that is currently taking up more of my time is this one: The genetic bits that come down to us from our ancestors and that are encoded in our genomes shape our physiology; they are parts of our ancestors that emerge within us acting as determinants of eye colour and hair colour (for instance). They hold, contain, a certain kind of memory. What if that memory is not limited to physiology? What if they actually contain memories? What if experiential gestalts of portions of the life experiences of our ancestors are also held in the genome within us? What if they emerge into our conscious experience from time to time? Is that the source of past life experiences? Is that the source of unexplained phobias? Can we consciously tap into those memories? What are the limits of doing so? Since genetic fragments are in fact self-organized biological organisms as are our livers and lungs, they are inherently intelligent. Can we consciously interact with them, accessing the memories of our ancestors who passed them into us? (Comment: It turns out that the offspring of mice who have been trained to fear certain experiences are born with an innate fear of those same experiences. Acquired characteristics can be passed on, distressingly Lamarckian. But further, there are memories held within the genome.)
Every one of these questions has led to depth insights about the world. For instance, hops have long been unquestioningly understood to be fundamental to beer and ale. In fact in two countries, England and Germany, it is illegal to make beer without hops. But, for example, no one was asking what the hops were doing to the people drinking it. It turns out that hops are the most potent estrogenic plant on the planet. Men who drink a lot of beer are actually taking hormone replacement therapy for women. It is a major cause of sexual dysfunction in men.
Pharmaceuticals excreted into wastewater streams were considered to be irrelevant because they remained in drinking water at only parts per trillion and parts per billion. However it turns out that they are most effective at altering life form physiology at parts per trillion, per billion, and per million.
The questions that no one else thinks to ask, the really simple ones, are the most important for they always affect something foundational. Because they remain unexamined the reality that underlies them affects everything we do, but we remain ignorant of it. Such questions reveal unexamined software that governs behaviour. Asking such questions, I have found, is essential to holistic science.

Peculiarities of Mind

I don't learn well when I have to do an hour on English, then an hour on mathematics, then an hour on history. It never has matched my learning processes. So, as my life progressed I began to structure it so that I could learn in the way that is natural to me. (This included finding educational structures that would allow this and ultimately creating a life where it occurred as a matter of course.) Specifically: when I find

something interesting and turn my attention to it, that is all I spend my time on. I completely immerse myself in it, often for years at a time. I don't tend to break up my study by spending segmented time on it, then moving on to something else, as people normally do in traditional school settings. During such long term focusing, aspects of the phenomenon being contemplated begin to emerge that cannot be found otherwise. The material begins to weave itself into who I am at the deepest levels of my being. I begin to know the thing itself from inside itself. In every instance where I have done this, the material itself comes alive in my experience. I know it as a living being, and it has not mattered whether it was working with wood as a craftsman or working with mathematics or working with plants in the wildness of the world.

Secondly, I have found that traditional academic boundaries are, well, to not put too fine a point on it, so inaccurate to the nature of the world as to be foolish to the point of insanity. As I continued to approach learning in this way, I found that the abandonment of academic boundaries freed up my capacity to learn and understand what had captured my interest. Further, this abandonment of academic classifications actually fit how my mind naturally worked when I immersed myself in a phenomenon that had captured my interest. It allowed me to naturally follow my studies wherever they led.

Slowly, into my awareness, emerges a gestalt of understanding of the complexity of the ecosystem as a living entity, an entity that is operating on multiple levels of complexity, an entity that cannot be understood when remaining within disciplined boundaries. My immersion takes me into epidemiology, soil remediation, plant communication, zoopharmacology, ethnobotany, allelopathy (in its true definition), pharmaceutical and industrial pollution dynamics, pharmacognosy, ecosystem topology, plant movements in ecosystems, the impact of discipline boundaries on ecological understanding, consciousness studies (via plant neural network functioning in ecosystems), the psychological orientation of various groups of people, and so on. I find that all these

disciplines are connected, that the complex phenomenon I am exploring cannot be limited to one point of view, that supposedly separate things are in fact closely connected to each other. For me, there are no discipline boundaries, holistic understanding precludes it. This inability to stop at discipline boundary lines has always seemed inherent in my mental orientation.

Thirdly, there is the way that I approach what I study, for example, how I approached mathematics. For several years I wanted to be a theoretical mathematician (applied mathematics I considered to be a rather appalling misuse of the craft).

For me numbers are not static concepts but real living entities that have identity, personality, and behaviour. The number 2, for me, is only a map, an indicator pointing to an identity that has real existence but no form. Numbers, through formulae, interact with each other. They behave. For me, reading a mathematics text was similar to reading a novel. And in fact, I did read math texts similarly, usually within a few days of the class beginning, I had read them through. I loved it. For me, the acute sensitivity to the difference between surface and essence was in play here as well. I was working with a particular kind of meaning that existed in a unique world; I was

not working with numbers or mathematics. That is just what people called them.
This movement, to see a thing from inside itself, to understand it as a living entity seems to be a natural peculiarity of mind for me. I don't see a plant but rather a complex, condensed node of being that takes on specific shape and behaviour in response to communications that flow through the environment. It literally is a transformation of messages but it is not static. It is rather a living expression of a certain meaning gestalt that alters itself from moment to moment in response to communications that flow into it from its environment. I see it as a living being, with interiority, with the ability to reason, choose, and the capacity for interaction with other life forms. I see the entire world this way; I don't know why. It is just a peculiarity of mind. But it naturally takes me out of a reductionist framework and into something holistic. I always had this peculiarity of mind but it had been suppressed by years of schooling. As I allowed myself to follow explorations of the natural world outside of academic boundaries, the capacity naturally emerged more fully. I believe that this is a natural expression within all children, to see the world as alive and interactive. The most peculiar thing might be my decision to allow it to re-emerge in adulthood as a primary perceptual frame.

And finally, an eccentric decision. Contemporaneously with my studies in mathematics I happened to read *The Limits to Growth* by *the Club of Rome*. This caused me to seriously examine my choices about mathematics (and reductionist science in general).

Briefly, I realized that the only two career choices open to me should I pursue becoming a theoretical mathematician would be to work for the government (probably within the military) or in university (which would be pretty much the same thing). And so, consciously, I turned my self toward the incredibly messy entanglement we call the world. I decided to find out for myself what was there. I decided that whatever work I did, it had to be something that could not be subsumed into the existing paradigm, something that could not be co-opted by corporations or government or the military. I walked away from that reductionist world and began to follow my feeling sense wherever it led me. My life, of course, immediately became very difficult, for there was no established cultural niche, no profession open to my habitation. And the vast majority of people I encountered had no real understanding of what I was doing or why. Economically, professionally, personally, culturally, it was very difficult. But the work that was within me did eventually emerge, slowly one step at a time. And the result of making that choice is that my life has become tremendously fulfilling; I did what was within me to do, from the root of my being. In consequence, the past 45 years has been one miracle after another.

Stephen Harrod Buhner *is an Earth poet and the award-winning author of twenty books on nature, indigenous cultures, the environment, and herbal medicine. He comes from a long line of healers. The greatest influence on his work, however, has been his great-grandfather C.G. Harrod who primarily used botanical medicines, also in rural Indiana, when he began his work as a physician in 1911. Stephen is a tireless advocate for the reincorporation of the exploratory artist, independent scholar, amateur naturalist, and citizen scientist in American society - especially as a counterweight to the influence of corporate science and technology.*

http://www.gaianstudies.org/Stephen.html
