Body-mind-spirit approach to health in an existential adventure novel format in Brazil, Bavaria, and Harvard medical labs. Set in 2032, scientific advances and ecopolitics merge with personal tragedy turned growth in the lives of three young people.

The Healer's Heart

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Chapter 1

On a high bank above the Rio Sao Francisco, young Carlos sat in the bright morning Brazilian sun. The wide river spread before him as he looked across to the dense green flank of the valley on the far side. The river was the lifeblood of this dry land.

The crisp air, the symphony of birdsong in the trees, confirmed for him the wisdom of coming home from the city to his village, although his friends may count it a failure. Good things would happen. Somehow he felt it in his blood, though, again, his prospects for getting beyond the extreme hard work for little gain seemed dim. He had faith.

As he gazed, he seemed to be looking at once at his past, his present and his future.

Northeastern Brazil had for generations its own set of problems. It was usually characterized as a wasteland, a wild frontier of desperately poor people. However, the city, Rio, even in this year of 2032 had been more savage than here, he thought, in the campos of Bahia on the edge of the small town of lbotirama; it was good to be back. The people and all of nature here seemed to say this to him. His genes resonated with the spirits of the Kimbiwa and the Kiriri who walked this land before the Dutch and Portuguese came. This was his place. The spirits of the old folk fed his soul.

But all of Brazil was changing and changing fast as the twentieth century was well into its second quarter. Carlos sensed somehow he would be part of something new. But what? The social reforms of the early twentieth century had failed miserably. Even the discovery of new oil off shore had not been able to save the economy bent on mimicking the industrial pattern of North America. Again, the switch to bioethanol fuels likewise had not been a complete success. Besides, that way had exhausted the agricultural resources upon which it depended and farmers needed to return to a pattern of life more attuned to nature. Despite technological advances, Brazil, as Venezuela and Cuba before her, had to return to a balance between the horse cart and solar car, the factory and the blacksmith.

As he reflected, wondering about the future, the sun warmed Carlos' shoulders. More immediately, he wondered if the season had arrived to fish for curimbata or surubim. Had they returned to spawn? The species had rebounded after the removal or renovation of the dam system previously intended to bring irrigation and electric power to the Rio Sao Francisco Valley. Initially touted as a social improvement project, it soon became evident that

the taming of the river was intended to put money into the pockets of wealthy investors with little benefit to the local indigenous peoples. In the meantime, the river trade was lost, since the old gailoas which depended on a river current to drive them could not ply the larger lakes and the river schooners, under sail or steam, could not negotiate the dams. The life of the people had been imprisoned by the walls of concrete. As the dams checked the natural flow of the river, it stopped the flow of life of the people in many ways.

The Sao Francisco was previously known as the river of integration, since it flowed through the inland of the states of Minas Girais and Bahia, before reaching the sea. As such, it was more important than the mighty Amazon due to the number of people it supported.

In the period of controversy, the early twentieth century, the hunger strike against the dams by Catholic Bishop Luiz Flavio Cappio in Barra, a small city in the state of Bahía, began as a fast "to the death". Eventually it caught the attention of the leftist government of President Luiz Inacio Lula da Silva. Lula recognized the symbolic significance and began to negotiate with local popular groups in the Brazilian northeast. This region was his birthplace and early support base. This significant portion of his supporters was eroding. There were calls for more drastic measures under the Socialista banner, including fundamental land reform and a revolution over the taxation system. The priest represented the soul of the people and a political conscience, and if placated, an opportunity to regain popular support. All this drama was now past as Carlos entered a new day.

But now, in the morning sun, Carlos' mind was on the fish and feeding the family. He would go and talk with Grandfather Philippe, the expert on nature's ways. He turned and followed the dirt path to the old man's home.

Carlos entered the clearing, disturbing several chickens intent on catching a caterpillar.

"Good morning, Elena. Is grandfather in this morning?"

Before she could answer, the screen door creaked open, revealing the greybeard Carlos sought.

"Bon dai, Grandfather. Como via? How are you?"

"Ixte nowate, Carlos." Philippe Ximenes answered in his mixed native dialect. He had been born in the mountains, in the Iriri Valley where, despite the encroachment of timber and farming, native culture survived. He was of the

Mekrenoti, also known after assimilation as the Txukahamei – the men without a bow - a tribe of the Kayapo group. He spoke several native dialects, which had been essential. In his youth he was a hunter. And if he needed to trade, or got outside his home hunting range and encounter neighboring tribes, communicating was essential. Without greeting and discussion, one became just another species. And for the hunter/ warrior, the intent was to kill other species to ensure one's security and feed the tribe. Later, as a teenager, he was victim to the consolidation of the tribes on the Xingu reservation. The reservation, the dream of the Villas Boas brothers, was ostensibly to free the tribes from inter-tribal warfare. In actuality, it consolidated them, separating them from their resource rich land which the white desired and would inevitably take. The political intent was to assimilate them into the broader Brazilian society as they were displaced from their homeland.

In the process, since others were not able to pronounce his Kayapo name, Pilipe, he took the name Philippe. In the early twentieth century, many of the chiefs, then the young men, began living off the reservation. Philippe did so, marrying a non-Indian and began to farm.

"Grandfather, don't tease me! You know I do not know enough Kayapo to make sense of it."

Although he was largely assimilated, Philippe still retained his cultural identity and tried to tease Carlos into learning the language. However, he condescended to speak in Portuguese.

"Carlos, my son. How are you this beautiful morning?"

"Fine, fine Grandfather. I came to consult with you. What do you think? Is it yet time to look for the big fish in the river?"

Grandfather stroked his beard, looked at the sky and sat down.

"Although the fish are back, the rhythm is still somehow not natural. I cannot predict as I did in my youth. The world is changing....Tell, me my son, about the city. Did you not find your fortune there as so many young men seek it?

"Well, to tell you the truth, in fact I did not. My eyes were opened, however to the riches we have here," was Carlos' reply.

Grandfather frowned, "Riches, you say, as we have here?"

Grandfather gave a glance to the dry dust and the tin roof of his adobe casa.

"Yes, riches, Grandfather, the riches of our souls. In the city, they do not know this. The city is crowded, like too many chickens scratching for too little corn or bugs. The shops are tightly packed together. The tradesmen try to make their way each day as they raise the corrugated door to the wood and metal shop, the used furniture vendor, the shoe repair man. Yes, there is money there, but it is locked up on the other side of town, in Impanema, in the townhouses of the wealthy. Little of it flows to Lapa, Santa Teresa or the favellas. Here at least we have the sky, the river, our small crops and each other."

"So, now that you have gained such wisdom and gotten the illusion of wealth out of your head, when will you be beginning your real work?"

"Real work, what do you mean, Grandfather."

"Your seeing through the façade of Rio is a big step. But I have seen since you were a child that you would see further. I think you have the gift of the inner eye."

"The inner eye; what is that?"

"To see into Nature, and into the nature of a man..." Philippe paused, "My child, pardon me; I do not mean to deprive you of your manhood, but you have so far to go, so much to learn. At twenty-three, you are just beginning to learn who you are and what your place in life is to be. Now, Elena...."

Elena, who had returned inside, came out to the men on the porch.

"Elena, show Carlos the stove burn on your wrist."

Elena extended her arm and showed the reddened burn from her touching the stove that morning.

It pained Carlos just to see the wound.

"That's right, my son, I see you feeling the pain. You are moved by this and want to help. Well, do something!"

"Do something, dear God, what do you want me to do?"

"Exactly, your inclination is to invoke the Lord, who will be your companion in this work."

"My companion, what do you mean? What work?

"If you do not yet know what I mean, you do not yet know yourself. But I cannot tell you. It must come of your experience."

"Know myself? I am Carlos Ferriera, a simple man of the campos of Bahia. What do you mean, know myself?"

"My son, come here. Put your hand on Elena's wrist, over the redness. That's right, gently."

Elena was at first apprehensive but soon relaxed.

The three sat silently, Elena wanted to giggle but put her hand over her mouth. Carlos looked at her also, and rolled his eyes. Only Grandfather was still and silent as he put his hand over that of Carlos on the young girl's wrist.

"Now," exclaimed the old man and he removed his hand while using his other to remove Carlo's hand. "This is how we do it!"

To the surprise of both the young people, the red rash of the burn was gone and the skin was now clear.

Carlos exclaimed, "Como tu fizeste isso! How did you do that!?"

Grandfather smiled and chuckled, "Me? You did that; you just were not watching how it was done."

Carlos scratched the back of his head. Elena smiled and rubbed her wrist and went back into the house to prepare lunch for the old man.

Grandfather continued, "Carlos, I am glad you came home. Now, you come back Tuesday and I will help you discover more about what this is about and why you came home. Now, for now, you go fishing. I think the surubim are starting to run. Is that what you wanted to know?"

"Yes, "Carlos smiled at the wily old man. He was home.

Chapter 2

Miriam walked briskly up Longwood Avenue on the Harvard Medical School campus; her mission this morning was to present to the 25th annual International Fascia Research Conference, a prestigious opportunity. She mentally repeated her first lines and hoped the rest went well. There were no doubts in her mind about the importance or the accuracy of her team's work. However it did reflect almost a leap of faith from the main body of current scientific work. It seemed to her to continue the adventurous spirit of the first conference in 2007.

She was so preoccupied with the details of her work, buried in the histology lab, she always worried about missing the day and time for an engagement. She glanced at her pocket communicator for confirmation; 10 AM, 10/12/2033, Flier Hall, Fascia talk delivery, it flashed.

Science was still funny business. Despite the claims for rigid, verifiable empiricism, hypotheses for trials developed around the dreams and aspirations of the researcher; this was quite subjective. The plight of one's results and their public acceptance relied on the assent of the hearers, not just the statistical numbers produced. And assent was a totally subjective process also, and one heavily susceptible to peer influence. But she continued to have faith in the work they were doing and its significance in the world of health as she rounded the corner into Avenue Louis Pasteur. Would others accept their findings?

The Jeffrey Flier Conference Center, as the renovated and renamed facility was called in honor of the now retiring president emeritus of the medical college, was modest in size but suited to the occasion. There was additional seating beyond the capacity of the Joseph B. Martin Center previously on the site.

As she walked alongside the building on the sidewalk, she saw herself in the glass of the window. Hair still straight, her dress falling correctly; she always wished she could shake off that last pound. Well, here goes, she thought.

She turned into the Center. "Good morning, Joe. What are you reading today?" She nodded to the security officer on duty, a frequent acquaintance. Joe was wise, despite his limited education and she enjoyed their encounters.

"Learning Hindi, Doctor Cardenas. Now that China seems to be waning as the economic super power, I think India is becoming a more important culture to relate to. So, I am teaching myself Hindi. Plus, I have some family ties there."

"Very good, Joe. Self-improvement is certainly worth the time. And India certainly is a seat of contemporary arts and culture as well as economic power."

"Well, Doctor, have a good day; dazzle them now." He said in a sincere, kindly way.

"Thank you, Joe; we will do our best," replied Miriam as she did not miss a step.

The exchange seemed to ground her and set her firmly within herself to meet the scientific and medical community who would be her audience. She proceeded to enter the area behind the stage in the main hall. From the podium in front she could hear the speaker concluding. She straightened her clothing and got ready to go to the stage.

"...and so, as you see the increasingly important role for gamma 2 collagen polymerase; we look forward to bringing you further exciting results over the next several years."

The auditorium of two thousand resounded with sincere applause as Antonio Parrazi of the Milan Polytechnic Institute completed his presentation. Miriam waited in the wings to be introduced next.

"Our next speaker, Miriam Cardenas, DO, is a member of the research team here at Harvard. She is a graduate of the Maryland Institute of Osteopathic Medical Sciences in Silver Springs; did her fellowship in autoimmune connective tissue disorders at the Rochester Institute along with a fellowship in quantum optics at the Department of Engineering and Medical Physics at the University of Pittsburgh. Dr. Cardenas and her team wish to present to you their work on The Tensegral Optical Fascial Communication Network; quite a mouthful. I give you Dr. Cardenas..."

"Thank you, Dr. Wilhelm. Ladies and Gentleman, Colleagues. It is my pleasure to speak at this 25th anniversary international fascial conference. As you recall, this conference series began with a conference jointly sponsored by the Harvard Medical School, National Institute of Alternative and Complementary Medicine and the American Osteopathic Association in 2007. This later group, the AOA, represented a significant population of practitioners claiming a stake in the science of the connective tissues of the body. As a DO myself, I must recognize that this was a bold move, since osteopathic colleges have often lagged, mostly because of resource base,

behind the MD schools in terms of scientific research output. I have been honored these last three years to be invited to bring this work to Harvard."

"However, as we have seen over the last twenty five years, a significant part of the traditional osteopathic approach has proved congruent with biological science as it has evolved. I hope you can see this connection in the material we will be presenting this morning."

"Now, for several decades we who consider the therapeutic effects of manipulation, for treating what we call somatic dysfunction, have relied on the fibro-collagen-fascial model to explain both the effects of injury and the impact of our treatment. In the early part of this century, with the evolution of the field of proteomics, or protein genomics, we saw initiation of protein synthesis as the complement to traditional neural reflexes in the maintenance of tissue tone, especially in muscle. This tone is changeable due to stress and trauma and is the basis of many patient symptoms both of the musculoskeletal system and in some cases, organ function."

Dr. Cardenas continued, "In studying wound healing we discovered that trauma or strain could activate fibrin consolidation to produce fibrous lesions, what we came to call focal complexes, which began to play a significant role in our conceptualization of somatic dysfunction, the classic way that osteopathic physicians described that constellation of pain, asymmetry or restriction of body motion, or tenderness which are palpable as tissue texture change. The multidimensional cascade of molecular interactions involved in this process is familiar to all or you, I am sure, but are shown here in this busy visual display for review."

"As we see in this second conventional graphic on the screen, in vitro study of the formation of these focal complexes in tissue culture under extrinsic strain gave a cogent model of what was occurring in our patient. I ask you to consider however, are there other dimensions yet to be understood?"

"The pioneering work of Donald Ingber gave us a way to consider these interactions in the larger context of indigenous tissue using the tensegrity model borrowed from architecture. This represented a different way of conceptualizing force distribution behind structural form. The balance of tensions between rigid components held together by flexible cabling seemed to describe many aspects of the structural properties of tissue, especially connective tissue. It was an advance in appreciating the difference in tissue from the strictly Newtonian principles underlying traditional architecture, and indeed anatomy. Furthermore, the work of Helene Langevin and Me Wen Ho allowed us, on a conceptual level, to see the potential for this model to

replace the neural reflex model in describing an organism's total utilization of these principles for integrated function. The fibrin matrix took on a fundamentally functional role in relation to structure. Viewed as a lattice for quantum whole organism semi-conductive coherence, this point of view allowed for a higher order of information storage and exchange than the prior neural reflex models. Coherence represented a process for communication. However, this was a theoretical model, almost a dream."

Dr. Cardenas was describing the historical stages of understanding the relationship of structure and function in the body. How did the body work? It was critical to understand this to determine how to help when a body was not working properly, the fundamental role of osteopathic, indeed all medical treatment. In the nineteenth and most of the twentieth century, the body was viewed as a physical structure following basic Newtonian physics. Firm attachments, levers, inclined planes seemed to explain much of the way the bones and joints controlled voluntary movement. A web work of connective tissue was seen as an elastic and compressible meshwork which helped hold things in place but was relatively passive. It provided the "extra-cellular space" for nerves and soluble chemicals to diffuse and dissociate in doing their job in regulating many of the processed of the body. In medical study, when dissection or surgery was performed, the connective tissue was routinely cleared out of the way so the *real* work could begin.

"Progressively, research has clarified the understanding of mechanical loading of connective tissue, including the fascias, beyond the Newtonian understanding on which much of bioengineering physics had been bases. In the living system, it was observed that beyond loading, creep, and hysteresis, tissue would respond in a process of remodeling similar to that of the inflammatory or wound healing response, each of which depended on the transmutation of cells in the local extra-cellular matrix to more bioactive roles as well as the recruitment of other bioactive molecules through microcirculation to the site of injury."

"To restore structural integrity, we began to recognize the bioactive role of fibrin molecules and their transformation into alpha smooth muscle actin after extrinsic stress due to trauma. Rather than being a solely mechanical response, it was recognized that this process was largely initiated by 'early genes' which initiated the transcription of a cascade of inflammatory mediators, growth factors and other regulatory proteins, including Type B transforming growth factor, or TGFB-1. As you can see by this visual projection of the time course of response to trauma of the various tissue factors, TGFB-1 peaks within two hours of traumatic injury, well after the initiation of the clotting sequence, to begin the repair of the extra-cellular

connective tissue matrix. This is closely linked in time with the production of alpha smooth muscle actin, similar in molecular structure to the contractile protein of voluntary or striated muscle, to add to the strength but cytoskeletal flexibility of tissues. Together they contribute to the formation of fibrin associated focal complexes, molecular consolidations that behave as stitches in fabric, as emergency measures to ensure against further separation of tissue."

"If this process persists beyond the role in routine healing, these focal complexes continue to agglomerate free fibrin molecules and alpha actin in such a way that they impede the flexibility and function of native tissue, become what we call *hyper-mature* focal complexes. On the macroscopic scale, these can be observed surgically as adhesions or in palpation represent the tissue texture changes described as somatic dysfunction. But you know all this."

Dr, Cardenas was describing the transition in scientific thought which followed the completion of the Human Genome Project, the project which researched the structure and molecular sequence of the genetic material present in all our cells. Because of its ubiquitous nature, DNA, the cellular genetic package, was eventually viewed as a library rather than a simple recipe for development of an organism, for the making of all the proteins which contribute to structure and function in the body. Biochemistry had reached such a level of being able to synthesize any molecule it could identify and modify molecules for its precise purposes. This hubris led to the idea that if the DNA molecule could be described it could then be manipulated. The power of life would finally be in human control.

The project was viewed as a Mount Everest of scientific research. Collaboration around the world on an unprecedented scale finally resulted in the publication, in 2001 in the journal *Science*, of the exciting completion and results of the sequencing process. However, once the mountain was scaled, the vast territory beyond came into view. Having attained the library, as it were, scientist realized that they did not recognize the language of all the texts, had not begun to understand the contents of all the books, and could not fathom all the realities encoded in this library of protein culture. The daily lives of proteins were yet to be encountered and understood. So science began the tedious and unending work of sorting out the details. Hence the science of proteomics or protein genomics was born, to label this effort to begin to understand the details of the behavior of the proteins as building blocks of biological structure and function. The intent was to lead us to a further understanding of the role of proteins in homeostasis, in response to

external stress and environmental change so we could further understand the basis of health and disease. The field of epigenetics evolved as scientists realized that DNA did not work autonomously.

Dr. Cardenas continued, "During the last four years, Phyllis McManis and I have been working on the premise that there is something else guiding this process of tissue remodeling than the chemical mediator noted so far. We began with Helene Langevin's premise that the tensegrity network may also serve as a communications network. In any network the key features are the signal source, the manipulation of the signaling phenomenon usually in the form of a code, and the decoding device. From the human perspective, to use data transmission along a network we need a display. As decoders, that is osteopathic diagnosticians, we have functioned with a firm sense of the signal source (tissue tone), but only a partial, speculative sense of the function of the connective tissue network."

"While we have worked these years with the fibroblasts and actin filaments in tissue culture, we have made other observations yet to be understood. These have involved the discipline of quantum optics."

"We observed that fibrin molecules undergo spontaneous oscillatory motion on the scale of displacement as what has been called traditionally 'Brownian movement'. However, these oscillations do not appear to be random but occur in an organized fashion, in synchrony. We have noted a consistent pattern of variability of transmission of certain frequencies of our laser. These seemed to be dependent on the phasic oscillation of these molecules in tissue culture. We have measured the ratio of transmission of this laser light for normal tissue and for that tissue in which the process of fibrin remodeling has occurred. There is a proportionality of change in transmission along the spectrum of change from initial activation of fibrin through the formation of focal complexes to the formation of super mature focal complexes or adhesions. Figure two here demonstrated graphically this relationship."

"Now, as we study these phenomena in tissue culture we also were able to create a rabbit model of such lesions and to study them using OMRI or optical magnetic resonance imaging. In the living model, as we had seen in tissue culture, the transmission ratio of laser light was decreased in the early stages of artificially induced lesions, or fibrous complexes."

"However, we noted other changes as well. When our optical receivers were tuned to a wider spectrum of sensitivity, we found several other frequencies of light operating in the tissues, frequencies which we did not introduce. We initially considered this to represent a diffraction of the transmitted light in

tissue but soon realized that the number of frequencies observed could not be explained in this manner. What we were observing were optical phenomena of an endogenous nature, initiated from the tissue itself. Furthermore, the progression in the formation of focal complexes was accompanied by a phase shift in dominant endogenous frequencies. We interpret that we have discovered is that indeed the tensegrity network of tissue represents a fiber optic network in which endogenous bioluminescence on a micro scale plays a significant functional role."

"And so, although we were not looking for such, we have uncovered another dimension of tissue functionality which is compatible with the archaic model of medicine termed bioenergetic medicine, if I may be so irreverent as to reintroduce that term from past decades."

"Now, so much for work on the diagnostic side. Our next steps are to validate the presence of these phenomena in the human subject, to make further correlations in the context of natural or induced tissue injury, or somatic dysfunction."

"If I may make a transition which is not usually done, I would make the note that if these phenomena are relevant in the human organism, they are not simple pertinent to our patient as a research subject, an object. If the tensegral force network is functionally modulated by bioluminescence, in addition to reflexive depolarization patterns in the nervous system, this may also pertain to us as operators in treatment. Once hand contact is made with the patient, the operator and patient may be considered a coupled system of force transfer, including bioluminescent energy transfer. I find this terribly exciting and as I leave you to return to the lab, I leave you to ponder the consequences for diagnosis and treatment."

"Thank you for your attention this morning and thank also both the Harvard Endowment Fund and the American Osteopathic Association's Board of Research for the funding to make this research possible. Good day."

The lengthy applause was abated by the raised hand of the moderator who continued.

"Thank you, Dr. Cardenas, for that illuminating and stimulating presentation. Now, we will have a short break for refreshments and other business. We will resume in twenty minutes. I would encourage you to visit the exhibitors in the hall adjacent, as their support helps make such conferences possible."

As Miriam descended the stage, a number of attendees from the audience gathered hoping to ask questions.

"Dr. Cardenas, have you been able to test your code theory by introducing information into the system?"

"No, that is a very good idea but at this stage the work is more basic, trying to firmly establish a foundation on which to build."

"Dr. Cardenas, how are you able to distinguish these signal patterns from random phenomena; this aspect was not so clear to me in the talk."

Cardenas, "The phase synchrony is the key. Just as in identifying individual nerve tracks, we have used logarithmic correlogrammatic recorders to show this relationship, and it is certainly well above chance."

"Dr. Cardenas, do you think your work validates the old work by Borourrais, Bichat and Bergson by giving a scientific basis for vitalism a scientific basis?"

"A believer in the vitalistic theories might derive that meaning but I do not want to make that association myself. We are dealing here with empiric science and I do not want to take sides in the old vitalist-materialist dichotomy. Physics has covered so much ground in the last hundred years that I believe the old definitions and the old dichotomies do not apply. Well, excuse me; I need to go to another engagement. Thank you for your interest."

With this she walked down the hall glad to have the presentation behind her. As she caught he breath, her wireless lapel receiver buzzed an incoming call.

"Hello, Cardenas..."

"You OK? How about coffee?" It was Jonathan.

"Great idea, none too soon. I need to hide."

"Max's...20 minutes?" suggested Jonathan.

"That will be fine."

Miriam reflected how considerate Jonathan was. If only he would commit. They were so well matched. Both were intelligent, with intense but diverse research interests, and liked the out of doors. Jonathan was a physiatrist,

also with Harvard, involved in refining autogenically signaled prosthetic devices.

They seemed to resonate genetically. Their Hebrew heritage, both from different parts of Connecticut. Her grandmother chided Miriam to take more initiative in proposing a marriage. But she thought she knew the reason for his hesitancy. It was irrational but had haunted her since her teens. Though not grossly debilitating, her psoriasis made others uneasy, as if she were *unclean*. Though they were not orthodox, Jonathan and his family probably still had the fastidiousness ingrained by kosher laws. Though bright and otherwise attractive, the psoriasis left Miriam flawed, unclean in the Hebrew sense. Miriam in turn realized that her early career choice in research was subliminally driven by her desire to define and cure her personal connective tissue condition.

Miriam would bide her time in the relationship, but in her connective tissue research, the element was continually there, the hope that she or a colleague would be able to make a bridge to the poorly understood relationships which regulated this chronic inflammation of connective tissue.

She arrived and entered Max's Café.

"There you are; I was beginning to worry; maybe you had gotten a call from the lab requesting you to divert to an urgent tissue culture matter, rescue a distressed fibrocyte."

"Very funny. No, no. I may have been walking slow just to let down a little. I have been revved up for this talk all week. But I think it went well, and the questions were not too heavy, the usual. And, as usual, I got asked the 'vitalism' question."

They ordered and sipped their brew. Since it was not yet lunch time, they had the café pretty much to themselves. Miriam broke the silence, with an edge to her tone.

"How are your parents, Jonathan?"

"They are fine, nothing particularly new. Father's a bit apprehensive with his retirement date coming up. Mother is too. But what made you think of them?"

"The future...I guess".

"The future?" Jonathan queried.

"Yes, the future...our future."

Jonathan did not want to take the bait and the silence crept in.

Miriam resumed in a serious but calm tone, reaching across the table and taking her friend's hand.

"You know, we have known each other for three years, and have been seeing more and more of each other. You talk of your father's retirement. Time passes. I see my life sifting through my fingers. I will be thirty two. I still would like to have a family, work permitting. But whenever we get near the topic, you close up like a clam. Is it you or is it me, I need to know."

Jonathan did not want to meet her glance.

"Is there someone else, Jon?"

"No there is no one else. I am not sure about all this as you are. I will have to think about it."

"Think about it! That can't be a new idea! We'll you just think about it... I need to get back to the lab." She exclaimed with genteel but curt anger and arose to go.

"Shall I call you for... Friday?" asked Jonathan after her.

"I'll think about it!" replied Miriam, in a civil but sarcastic tone.

As she walked, the morning air and the exertion cooled her fire as she reflected to herself.

"Miriam, what are you doing!? What was that about? Have you blown your chances forever? The last interested bachelor on the planet, and you blew it!?"

Despite her impatience with herself, she had been feeling that pressure. She had the biologic urge to conceive. Her grandmother had been riding her on the issue also.

"Life will slip away. Age will surprise you, let me tell you. When I was your age my children were all in school." She could hear Grandmother Cardenas chiding.

Grandmother had four children including Miriam's father, Jerome. Despite the difficult times in Barcelona, she and her husband raised and provided a good education to all four. They were a success, Jerome an engineer. However, with the social burden from the influx of the poor from the underdeveloped world, all the European countries were struggling. Times became more difficult. Finally the couple moved to the States after the world economic crash of 2012. Several of their adult children, including Jerome and his two children, came with them. With the devaluation of the US dollar, the family could better live in the US with their meager savings. Jews had relocated for centuries, millennia in fact. She was joining their ancestral journey.

In her native Spain, the Jewish population had been growing since their return as a visible population in 1868 after a long absence. After golden age under Moorish rule in the eighth to the eleventh century, Jews became suspect and undesirable as the Christians progressively dispelled the Arabs, the Moriscos, and turned their attention on this smaller minority. Initially trying to absorb the Jews through conversion, Christians initiated the Inquisition, as a test of loyalty fidelity to their new doctrine. However, try as they may, these new conversos retained too much of their Hebrew heritage and became a hybrid entity, the Marranos. Many behaved publicly as Christians, retaining their true beliefs and loyalties in their hearts. With actual assimilation impossible, the Christians expelled the Jews from Spain after the fall of the Moorish fortress in 1492, creating the Sephardic diaspora, after the Hebrew name for Spain. For centuries, Sephardic communities thrived in other European countries.

For Jerome and Ida the move to the States also afforded some distance from the European tension between the increasing violence between Islamists and the others. From the Hebrew perspective, life was about survival, living with the Gentiles. To the Islamist, the "People of the Book" had been offered but rejected the message; the rest, were Infidels, worthy only of elimination. The scourge of their judgment had swept across Africa and, along with AIDS, had depopulated the continent. Then the tensions were growing in Europe and elsewhere.

Life in the US was not so easy however. Her husband was able to get some work as a small hotel manager. Jerome and their youngest son Paulo were able to assist in their support.

Miriam thought to go talk with Grandmother Ida in Philadelphia. She would do it on the weekend, taking the bullet train.

Chapter 3

After take off, on the return flight to Munich, Marina Reiner settled into thought. As a young osteopath finding her way, she had been on the outer circle of questioners at Dr. Cardenas' talk at the fascial conference. The presentation reinforced many of the questions she had in coming to the conference but she had not gotten her the answers she was searching for. Most importantly, she had been able after the Cardenas talk to raise the vitalism question but felt as if she had irritated the speaker. Perhaps she could have phrased it differently. In fact, Dr. Cardenas had expressed a desire not to go into that avenue of discussion. A shame, thought Marina. She and so many of her osteopathic colleagues had begun to feel a connection to this old argument.

In classical Greek times, as formal philosophy developed, the tangible and less tangible aspects of experience were discussed as physics and metaphysics. Arrow of war versus arrow of love as you will, the body of man versus the soul of man that which made him breathe and move. In time, in many cultures, including those that evolving in and from Europe, as the physical sciences developed, driving but also being driven by the industrial revolution, a separation in thought developed between physics and metaphysics. A materialistic consumer culture evolved in which common folks and scientists became satisfied with the physical aspect and dismissed that which could not be poked, held or measured, that is, the soul. Materialism was enough and it influenced their science.

However, in the minds of Henri Bergson and Emile Durchheim, in the nineteenth century, a scientific approach to the problem of the elusive soul became known as élan vital or enteleche, an intangible life principle responsible for the processed observed in biology. Julian Huxley presents a counterposed vision of psychophysical determinism. This followed well on Darwin's hypothesis which was soon taken as fact and the backdrop for all subsequent scientific work. The following century saw replays of the same arguments, this time in the form of Rupert Sheldrake and his idea of morphic resonance versus Stephen Hawkings, arguing for the intrinsic intelligence of matter. But neither dominated people's thought.

Andrew Still, in the founding of Osteopathy at the end of the nineteenth century, attempted to have the best of both. Man as a machine, adjustable as such, but made by God with a life principle known as Biogen, an invisible life force. The better part of his American and English practitioners, his students, related to the manipulable body and forgot the rest for the time being. But the argument for the less easily observed but essential part of human experience

did not go away. Marina was in that minority group who sensed that the materialist approach to anatomy and the definition of somatic dysfunction were not the complete picture, in her patient, in her life, and in the full scope of osteopathic practice.

Osteopathy, and medicine in general, needed to include the whole person, including the emotional and spiritual, in a practical and not just philosophical sense. However, psychiatry would tell her that mood and emotions, including those resulting from social trauma, were defied by imbalances in excitatory neuroreceptors in the brain and that intervention relied on pharmaceutical rebalancing. To Marina, emotions of the patient seemed to be communicated as she touched her clients, palpated them in her osteopathic physical examination. Often she would get hints, intuitions, about unresolved issues, past traumas or disappointments long forgotten as she worked.

But where was the science to validate this experience? This she had hoped to begin resolving for herself at the fascia conference. Had she been naïve? For the moment she decided to sleep. The flight seemed to go quickly and she soon found herself walking out of the baggage claim area and calling her friend Hans.

"Allo,....Hans...Wei gehts?...Alle ist Gut? Ja, hier auch... Ja, ich jetz anfanst, yes, I just now arrived, I am almost in the car park. Have you eaten dinner?"

"No, No... not yet."

"Well, may I join you? Where shall we go?"

"I am glad you called. I have been cooking but can make it for two. Just come over. I want to see you so badly. And I have roasted a chicken for the week and boiled some potatoes and greens. Surely there will be enough. So, half an hour?"

"Yes, yes, I want to see you too; so much to talk about. ... Tschus," replied Marina cheerfully.

"Chao, my dear, see you soon."

Hans met Marina at the door. The room was warm and smelled of good things. But Marina was overwhelmed at seeing her man. So strong, so bright, so independent and such a beautiful man and a sensitive lover. Tall, broad shouldered and with a smile like a sunburst. They embraced and the smell of him and his warmth, his energy, seemed as a safe harbor from all her

troubles and travels. She knew that before the evening was over they would be consumed together in passion.

"Oh, it is so good to see you, to be home..." cried Marina.

"And to see you; I am so glad you are safe. When you travel I worry; it is as if I will not see you again and I cannot imagine that."

"Well, you needn't worry. I am here, and I still love you more than anything in this world."

"So tell me, how was Boston? Is it much different than Florida were we went last year for conference? But sit; sit while I finish cooking Can I get you some thing to drink. Tea? Coffee?"

"Oh, yes, tea would be fine."

"There, now tell me about your trip."

Hans was curious. The previous year they had both taken training at an institute in Florida. Hans and Marina had met during their course work at an osteopathic school in Vienna, across the border in Austria. Since the training programs were part time, interspersed with continuing their practices under their previous licenses as physical therapists, there was time to personalize their education by interjecting elective workshops and courses. The institute in Florida offered such an opportunity.

"Yes, Boston was different. There's an ocean there also, but no white beaches, and a bit cooler. The temperament of the people seemed different there also, friendly but more reserved."

She continued, "The program was good. World class scientists, but they have not advanced as far as I had hoped. Much of the work is still theoretical with only limited clinical applications. It does not so much validate what we do. There was one talk that I had hoped would get more on the track of explaining some of the aspects of subtle healing we talk about but the presenter did not want to make inferences based on her data. But it did deal with what could be construed as the subtle energies of the body."

"How do you mean that?" responded Hans, as he put out the place settings.

"Well, you know Sutherland's concept of 'liquid light' underlying the potency that drives the cranial mechanism and the concept in Walter Russell of Light

as the highest creative force behind the material world, the material body; well it related to that."

"Wie... how so?" Hans asked with interest.

"Well, Dr. Cardenas has been doing research which shows that healing fibrocytes emit an energy, recorded as light. Her lab has also determined that there is some low amplitude optic or bioluminescent phenomena in tissue, both in culture and in vivo, which also plays a role in wound healing and probably in biologic coordination in general. Just as the proteinomic revolution of twenty years ago, or the molecular cell receptor/internal messenger model of fifty years ago, this may represent the next step in understanding coordinated body function. And it seemed to be an expression of a subtle energy in the body not yet scientifically addressed."

"Hummm, so how does that apply to our work, do you think?" Hans asked even as a rhetorical question since he thought he knew Marina's mind. He wanted to see if she were connecting ideas in a new way.

Marina responded thoughtfully, "Well, osteopaths have been acting or intuiting on this level for some time. Often we sense energy and try to resolve conflict by directing these energies to a more harmonic state. As you know, some of us are voicing these type ideas on the basis of faith without the randomized controlled trials for some time. I do not know if we will ever really be able to prove what we do. For one, all these studies are on subjects - really viewed as objects – but there is no appreciation in the lab that whatever processes are going on in the 'subject' are also going on, when we are in clinic, with the operator, the osteopath. I mean in their mind. Now if these dynamic processes are also going on in the osteopath, are they interactive with the patient's processes? Do they create a network? In other words, is my only effect on the patient through my hand motions, my pressure, my movement of tissue? We know our mood, our suggestions, our intention all influence the interaction. Well, is this coordinative laser light now being measured in tissue part of a larger network of interaction, just as prior generations have noted on the microbiologic, molecular, or electron level of interaction? These are such complex interactions, I do not know if they will ever be measurable."

Hans reflected for a moment. "Yes in that old manuscript, of Hoffman's, that we republished, Esoteric Osteopathy. He suggested that the osteopath work with the 'Mind" of the muscle if it were stiff. Your talk also reminds me of the old work of Doctor Fulford. 'Thoughts are things' and all that.....Well, would you like some chicken? Let's eat."

The two ate in silence sharing looks and smiles. The previous sounds of steaming and pots clanging now gave way to the occasion sounds of knife and fork on china or the clink of a glass.

"So, how is the press; any new developments? Will we be going ahead of that reprinting of that newly discovered fifth book by Dr. Still, the one that expands on Biogen and telecommunication, and his relationship to his medium, Mata?"

"Well, I have been trying to figure out what we can afford and how to package it on the Universal Web. The new copyright regulations for e-publication are complex and I have not had time to figure out a publication strategy which will make it worth our while. You know too well that we do not have much capital and are overextended already with the republication of Esoteric Osteopathy ...which led me to another subject...related."

"Oh, what is that?"

"Well, you know Gurte, Gurte Schroeder. I have decided to retain her for part time but regular work doing some of the administrative work while we continue the editing, marketing and all that."

"Oh, Hans, you know how I feel about that...and how are we...you, I guess... going to pay her?"

"It will work out. She is not asking for much. And well, we need to do something... we have been stuck at this stage for so long...and she has the skills..."

"Now was this your idea or hers... and what skills are you talking about... does she have other skills that you but not I know about...?" retorted Marina in sullen, sarcastic tones.

"Oh, Marina, be reasonable, it is not what you think. It is business."

"Sounds like funny business to me. I don't like it. I know the investment is yours and you invited me in as a 'partner' based on our relationship. Have I outlived my usefulness, or has your desire faded and now you need more 'inspiration' from a fresh flower under the guise of 'business'!"

"Marina, you know I love you..."

"If you loved me, you would not be doing this, or you would stop it right now..."

"Oh, Marina, you put me in a difficult position...," whined Hans.

"You... you, you, you... that's all you ever think about. What kind of position does it put me in?"

"Oh, you are making more of this than it is..."

"No, I don't think so. I think you big, handsome hunk are so used to getting your way, you cannot even see yourself in relationship. No, I mean it. I am really upset and do not see a way to make this work... I think I will pass on desert and be on my way."

Despite gestures of pleading from her friend, Marina rose, taking her coat she stomped to the door. As she was about to exit, she turned and added:

"I will send you what I have on the edited manuscript...or should I send it to Gurte!?"

As the door slammed, Hans slumped down in a chair beside the wreckage of a meal gone wrong.

The next day was a hard one.

"No, no, concentrate!" thought Marina to herself as she tried to work on her third patient of the day. She could not pull her mind off the argument with Hans and the issues involved. Had she been too harsh? Was her assessment accurate? What did matter in the end? She trusted her instincts and felt she had perceived and spoken the truth. But she was heartbroken to think of losing Hans, or the dream she had of continued love, a love so cherished and reassuring, so comfortable, the love of a lifetime.

"Concentrate," she spoke to herself, then addressed the patient,

"Frau Schmidt, I have a feeling there is something you didn't tell me about this back pain...You can't recall when it started?"

"No, not really...two months ago, more or less, it just seemed to come on."

"No falls or stains with farm chores?"

"No." replied the fifty-two year old.

Marina gently prompted, "No other illnesses...and no bleeding from your female parts, no change in bowel or bladder habits...?"

"No, everything else is normal, just this back pain."

Marina worked in silence, asking on a deeper level if she could help. She found often that she would work this way, not 'in charge' or with specific therapeutic intent as she had been trainer, but just with this sincere desire to help. Often she felt directed somehow about where to proceed in treatment. It wasn't just intuition or recognition of patterns as some would suggest. It was like she was receiving communication but outside of words, outside of thoughts, but gentle direction none the less.

She had sat in zazen, Zen meditation, for some months and the teacher had tried to convey the classic Japanese mind state of 'mushin', literally meaning 'no mind'. This involved a mental discipline of training oneself for action, uniting consciousness with the body in such a way that there was no discrimination of thought and action but the two became swiftly responsive as one. She had felt the relevance to her manual practice.

She continued aloud with the patient, "No trauma...what else in your life seemed to change two months ago...I feel moved to ask you about your daughter...are you worried about your daughter?"

"How would you know to ask that? Two months ago, or just before, my daughter shared with me that her man...who I never did have a good feeling for...well, he was beating her. He would drink and abuse her in anger."

The tissues of her back became more tense and knotted as she spoke. Marina respected her patient's right to control this sharing and did not prompt her to go on. She continued to talk to the tissues, to communicate reassurance and hope.

"Yes, Trautel is my youngest, my baby... I worry so much for her. She still loves this guy and thinks maybe she has done something to deserve all this. I try to help her but she is a grown woman; I cannot tell her what to do. But at least I can give her a chance to talk about it. I am so glad she knows she can talk to me. It is making us closer. Ever since her father left in her teens, Trautel had blamed me for breaking up the family. She never understood what had happened between Frank and me. She just knew when she was becoming a woman, her father was gone. And she blamed me. I think this has set her up to feel responsible in her current relationship."

Another long silence and a reverent stillness filled the room as Marina tried to keep company and sooth the patient through the tense tissues of her mid and low back, moving about intuitively.

"So, now, you have a very heavy burden to carry, this back of yours." She risked saying.

"I suppose so," responded Frau Schmitz. "Life is not so simple."

After a silence, Marina asked the patient to roll on her back. She moved to work with the neck and head, then to the abdominal/thoracic diaphragm, a seat of emotional trauma.

Marina felt a need to explain how all this related to treatment.

"I am addressing the areas of tension as we always do, but especially those associated with emotional trauma. Often this can be of help. I was able to feel some changes in the tissues here before. Our bodies, minds, souls, emotions are not separate but we work together, as a person, as a unified whole. I am sorry if our conversation has led into uncomfortable areas; I do not need to pry, I do not need to know at all. Obviously anything you share with me is in strictly confidence." She paused a bit then continued.

"I said that I do not need to know at all, but you do. If you do not discover the root of the problem, you will not get well. I open these doors, so to speak, when I sense they are stuck closed, because I know you cannot heal unless you open them and resolve what is left of these traumas in your own way. There is no right way to do this and I do not have the answers. You have the answers and I would just invite you to ask the question of yourself as to what do you need to do next. Or perhaps you do not need to do anything, as much as just realize the connection between your pain and these other experiences. Prayer is always a good thing, but that is a personal issue....So, I think that is as much as we should do today, that is a lot. Now, if you feel exhausted or even sick for a day or so after we work, it represents a healing crisis, just like a fever; it is not a new problem. And we will work a little more next week if you wish."

Frau Schroeder rose from the table, giving Marina a big hug.

"Thank you my dear, you are a real friend. I feel so much better just sharing that secret. You are wise beyond your years, my dear."

"Oh, that is osteopathy; it is not just wiping pain away with cracks or techniques," replied Marina modestly.

"Say what you want; not all osteopaths feel the way you do, see things the way you do. Keep on your path, you have a gift, child," replied the older woman.

"Well, thank you for your kind comments, Frau Schmidt; they are reassuring. Now, have a nice day. Wieder sehen."

Later in the week, she revisited her family in Heppesheim. Her father, Karl, was a farmer, a solar farmer but a deeply thoughtful and sensitive man. He actually was a co-owner with his father who converted from raising wheat twenty years before when the price of grain on his hectares diminished and there were subsidies to convert to this precious commodity of harvesting solar electricity as fossil fuel supplies became an issue of national self-sufficiency.

Marina knew she inherited her philosophical bent from father. Although the tie with nature was not as intimate with solar collectors as with swine and wheat, but the time working by oneself, and the dependence on the whims of nature gave time for reflection. The Bavarian temperament seemed already to have this natural bent. The deep forests, the lakes, the mountains, the rolling farmland and temperate climate spoke to the soul.

The paving gave way to gravel as she turned in the lane; the crunch of gravel under the tires was always a warm and welcoming sound. As she approached the whitewashed farm buildings, several chickens scattered.

Father was in the shop, fussing with refurbishing several solar collecting units now worn. Marina poked her head in the door.

"Gut morgen, Vati."

She advanced to embrace her father.

"Good morning, Marina. Give me a hug. How is my bright girl doing?"

"OK, I guess. Business as usual. Healing the sick and the lame."

"That seems like such a good thing to be doing. Why the frown? Do you want to talk about it?"

"Oh. I don't know. I have been doing this for five years now and I am having second thoughts about the how's and why's of it, the way we were taught, what it all means. And besides, I had a falling out with Hans... maybe a permanent one."

"Let's go for a walk." Karl suggested, wiping his hands with a rag and taking his jacket.

They left the bauerhoff, the barnyard, and passed through a gate on the lane leading along the windrow of trees. The weather was cool but the morning sun felt warm on their faces.

"So, you had a falling out with Hans; what does that mean?"

"Oh, he shared that he is taking on another business partner, an 'administrative assistant'; but I had déjà vu; that's how I started with him, then the romance; I think he is starting a harem."

"Could be, but are you sure? You know, you young people have created a real nightmare for yourselves, deferring and dismissing marriage as you have...I know marriage is not perfect and the generation that evolved divorce into such a frequent alternative also made the issue more complex. But there is something to be said for sacrifice and commitment and the constancy of marriage. I hear you being as much afraid of your own insecurity as with Hans' sexual practices."

"I suppose you are right. Nothing seems clear, and relationships can shift as a flag in the wind. But I thought we might make a life commitment. He is such a wonderful man, if he were not so insecure himself."

"Be patient, daughter, what is meant to be will work out; but the work," Karl refocused the conversation. "You are starting to feel misgivings about what you are doing?"

"No, not exactly misgivings; it is just that somehow some part of what is going on in treatment is not so clearly explained. I go to conferences and courses and we talk so many concepts, of cranial, of biodynamics, of fluidic models, all seeming to imply that as we get as much experience as our gurus, things will all make sense. But already I get a feeling there is something more, another dimension almost, that we are engaged with but not seeing and thinking about even in these subtle models of working. Does that make sense?"

Father responded with emphasis, "Of course it makes sense. I look at our accounts each month, correlate the net profits with the weather logs, and see that, when all else is working right, I am selling sunlight. I am not producing sunlight. Astronomers and physicists can describe the sun, but man has been trying to appreciate the significance of the sun to human life since the beginning of history, even evolved religions around the issue. Somehow it is all a wondrous mystery to me. Is that sort of the feeling you have about the body of the patient you work on."

Marina resonated, "I suppose so; I think we are speaking about the same thing; it really is beyond words, but very real."

They approached then passed the first row of collectors, a hundred meters long, with their glassy faces tilted to the sun. Karl took a wry but upbeat tone.

"Remember when you were a teenager, and you scolded Granddad and I for raping Nature by imposing all this technology on the farm fields?"

"Yes, I was reading the romantic poets and the Nature philosophers, Schopenhauer and Goethe. Yes, I was upset. I was quite idealistic. There seemed to be something about life that our business culture was ignoring."

"You always were an idealist, a thinker, not to be satisfied with simple explanations."

"Yes, I suppose you are right," smiled Marina.

"I am proud of what you have done with your osteopathy. But you know, I cannot wait until I understand the physics of solar radiation interacting with our atmosphere before I set the timers on my rig just as the wheat farmer cannot wait for an understanding of the chemistry of gluten synthesis before planting, harvesting and milling the wheat. We must go on without complete understanding."

Marina agreed, "I suppose you are right. I should count my blessings and just keep working with a smile."

She put her arm around her father as they walked on.

Chapter 4

"So, how did it go yesterday?" Phyllis, Miriam's graduate assistant, asked eagerly as the doctor entered the laboratory. "The conference? Did they like your presentation?"

"Well, enough, I suppose. You know in this setting it is a mixed audience, very few are actual peer colleagues. The clinicians want procedures to do and we cannot yet offer them that. Scientists of different disciplines just critique our methodology. There are those few whose dreams and aspirations are tied to what we do."

Cardenas began to review the newer data files on the lab computer, looking for anything of real significance. Most of the outcomes confirmed what they had accepted so far but there was little which was new. She began to talk out loud, but almost to herself.

"Yes, the vitalism question came up again....beyond our empiric work, I am tempted to try to write a paper on the evolution of those concepts though. The dichotomy between materialism and vitalism seems to be redefined taking into consideration the progression of science. The different disciplines need to talk. To me the pool of relevant information seems to include molecular biology, genetics, proteomics and epigenetic influences. The dichotomy arises only if we approach the subject of life with a bias toward a limited vantage point, considering only part of the knowledge we have. If we look only at molecular biology and proteomics, we have the self-organization of matter and human life and consciousness as what we call an emergent property of matter. There is no way of validating and acknowledging the subjective, humanistic or spiritual side of human experience. If we approach the issue from the purely epigenetic side, ignoring the deterministic side of biologic interaction, we have an open door to the old theories of the primacy of supersensible or esoteric reality. There needs to be a way of seeing all these points of view as complementary, each a reductionism seeing only part of the truth."

Phyllis, whose undergraduate study had included a good background in physics, listened intently as she tended the tissue culture nursery. After a while she commented, "The question of 'what is life' has been a difficult one. What we are doing here is recognizing that approaching this on the level of the whole animal is too complex, so we look at some component of it and observe."

She continued, "I have heard you recount the old osteopathic philosophy about the most fundamental aspect of life being motion. Perhaps we could model life on a molecular level, studying the ideas of motion, learning, adaptation on the proteomic level of molecular interaction. Or maybe on the simple cellular level, perhaps first with single cell organisms. Actin is the fundamental molecule which evidences responsive motion. You have made note of the presence of actin in tissue culture. Is actin present in the more fundamental organisms which represent the first efforts at cellular aggregation and cooperation beyond the single cell organisms? Perhaps it was first formed when proteins developed the capacity to adapt alternate configurations, alternant tertiary and quaternary structures in order to function. Maybe approaching the problem on that level before finding adaptations in the larger organisms is the key. In a way, it could be like retracing evolution from simple single cell organisms to the complex organisms which represent communities of specialized interdependent cells."

Cardenas replied," Yes, Phyllis, clearly we need a change of focus, or scale, to get to that more fundamental question. Are you interested in working on that? If you come up with a concrete proposal for a model, maybe we could use a portion of the lab to set you up. First we need a hypothesis to work on. Let's give it some thought. Now....." She continued in motion as both then immersed themselves in the chores associated with the current projects. The hours ticked by.

Ever since her time in osteopathic school, Cardenas had asked why. Why does this work this way? Wouldn't it work better this way? Although she committed herself to learning the principles and exercises in manual manipulation, practical exams in procedures were always nightmares. She thought too much, often outside the conventional limits. Research seemed to give her the freedom to do so. So she chose a career in research. She missed the feedback one got in primary care, as she experienced in her undergraduate third and fourth years.

"Well, Phyllis, this work goes on forever. I would suggest both of us trying to get to a stopping point and getting out of here. Thank God it's Friday."

The two cleared their workspace and Phyllis washed up some glassware. Dr. Cardenas on a whim interrupted:

"Are you doing anything after; do you want to get a drink in the neighborhood before heading home?"

Phyllis, surprised by the seeming break in the rigidity and formality of the doctor's routine, was pleased. The invitation seemed like a privilege. "Certainly, that sounds like a good idea."

Barney's was filled with the cheerful after work crowd. Miriam and Phyllis found a table toward the back where they could talk.

"So," began Phyllis, sipping a beer, "I have been at the lab several years and this is the first time we've been out. To what do I owe the honor of this invitation?"

Miriam looked way then down at her drink, "Oh, I don't know. I just needed to talk. I have a lot going on just now...and frankly, I have no one to talk to about it all. The air, and the company, is thin in the ivory tower. I have been splitting my time entirely between work and a relationship. Now...I am not sure about the relationship."

Phyllis seemed to empathize, taking another sip. "Yes, men! I presume you are speaking about a man?" Miriam nodded and Phyllis continued. "Yes, Jerry drives me crazy. Men and women see things so differently."

"Yes," countered Miriam. "I have been expecting my relationship with Jonathan to lead to commitment but it seems to be leading to a dead end. He just doesn't seem to get it."

Phyllis nodded, "Yes, men just cannot see out of the box of their own preoccupations. They just see us as an extension of their own needs. It just sucks." She took a deeper slug of beer. "So, what's your guy's problem?"

"Oh, I thought Jonathan was finally the one. We've been seeing each other for three years. Family compatibility, plenty of common interest including non-competitive but related jobs. He's bright, compassionate, handsome but..."

"Well, but...?" queried Phyllis anxiously.

"Oh, my biological clock is ticking, as they say, and my family is on me to start a family of my own. And Jon, well..."

"So, he still want time to play, no competition, is that it?"

"Yes, that's partly it and...there's this." Miriam reluctantly rolled up a sleeve and exposed an elbow. "Psoriasis."

"Psoriasis? Give me a break. Talk about skin deep. This guy's not worth it if that's the issue. Superficial!"

"Well, superficial or not, Jonathan grew up kosher. Clean is a big deal to him. It's a psychological thing."

So, how much do you really like this guy?"

"That's what I am not really so sure about," responded Miriam reflectively.

Phyllis risked extending her hand to comfort her colleague, now a new friend. "Well, don't do anything too hastily; give it some time. It sounds as if you have a lot invested in this one"

"Yes, maybe I just need to give it a little time. Maybe some time away."

The morning found Miriam on the high speed line, the cityscapes and countryside flying by. Scenes from her earlier life crept into her consciousness. She remembered medical school. A tough time, but Miriam enjoyed challenges, intellectual ones. Would she be happier if she had just gone into a clinical practice?

She had always been torn between research, with its commerce in ideas and novelty, and the human dimension in primary care. She recalled some of her first encounters in the student run charity health clinic. Even before being licensed to prescribe, the students were allowed to see community patients referred by their primary care doctor for musculoskeletal complaints. With their osteopathic knowledge of structural techniques, they were able to do some basic work on real people. It was gratifying, to be able to problem solve, intervene and see results sometimes in the same hour. Research at the time seemed so much more important, saving perhaps thousands of future patients through pursuit of cutting edge science. Now, she wondered about having made the correct choice. The research environment seemed so sterile. Projects ran so long and often yielded nothing usable.

She looked at the rosy irregular surface of her knee peeking from beneath her skirt. Yes, partly she had been driven by the empathic discouragement of her own condition. But now she realized the absolutely slow rate of progress involve beneath the headlines and the journal articles.

The osteopathic medical profession had long touted that it involved healthcare which dealt with the whole person. In some ways the jargon turned her off.

But, again, beyond being a noble platitude, the idea that medicine did deal with the full scope of knowledge brought to bear on the patient, and that all knowledge interrelated still rang true for her. She recalled noting that the young woman who asked her the vitalism question at the conference had a DO suffix on her name badge. Curious she had noted that, reflected Miriam.

The young woman had a bright expression on her face, especially bright eyes. She spoke with a foreign accent, perhaps German with that British accent prevalent in European schools. Petite, but somehow she had gotten to the front of the pack of questioners. Scrappy spirit, probably.

For the moment, Miriam refocused on the present and the collage of neighborhoods, warehouses, farm fields and traffic whizzing past her window. The high speed line, the so called *bullet train*, had become more popular after the economic crash of the first decade of the century. Oil production and the quest for individual freedom of motion had been on collision courses. The conversion to alternative ways of thinking and problem solving personal travel were inevitable. Since the train ran on renewable resources, a combination of controlled hydrogen fusion from water, primed by solar derived electricity, avoided both the economic and environmental problems which previously place all in a state of stalemate. And the ride was quick and comfortable. Hands and heads were free, not tied as in the automobile, to immediate survival, and there was less terminal hassle than on airlines.

Soon Miriam found herself walking up to the front door Grandmother's gray stone row house. She felt as if she were a little girl coming home from school.

"There you are! Oh, come in, come in!" exclaimed Grandmother Ida as she opened the door to the knock. Miriam entered, welcomed by Grandmother's warm smile. The parlor was just as always, same old furniture, same smells. She sat down in her favorite chair, slipping off her coat.

"Oh, let me take that for you," fussed Grandmother. "So, tell me the news. What has it been, since last Hanukah? Any Nobel Prize in the works?"

"Oh, Grandmother, come on. I am a working scientist. We are many."

"Yes, but Harvard. And didn't you give a talk at a major conference last week? How did that go? Oh, and would you like some coffee ...and cake, I baked a cake this morning. Do you want some?"

Miriam rolled her eyes. This is Grandmother, she thought. Grandmother was already in motion, now in the kitchen. Miriam followed her in. "Coffee...black

would be fine. And maybe a little cake." The exchange lightened her mood and flushed a smile out of her shadows.

"Let's move in here, it's cozier, less formal. So we can talk."

Miriam cupped the coffee mug in her hands as they sat across the small kitchen table from one another. Ida's eyes were still bright, despite the frosting of her once red hair and her advancing wrinkles. She looked nobler, not particularly old. Her spirit never changed. With it she kept the family going.

"So," Miriam began, "What do you want to talk about."

"Listen to this, will you. My little girl comes dragging herself in here desperate for advice, heavy of heart, and parries as a distraction. I know you, kid; you don't come here for coffee and chat. What's on you mind?"

"Oh, Grandma, you can see to the bottom of everything. I should have you working in my lab."

"Listen, honey, you know tissue culture. I know the heart. And I know a saddened one when I see it. What's up?"

Miriam began slowly, not sure how to frame her feelings. It all made logical sense on the train. Now, in front of Grandmother, she felt like a hurt little girl. She began to cry. Ida came around to embrace her dear one.

"Now, now. What is it? It can't be that bad. Can it?"

"Oh, I don't know, Grandmother. I am just all mixed up. Since high school I have felt like a pariah with this damned psoriasis. Other girls were worried about a silly zit on their cheek. For me I had these red patches on elbows, knees, even my butt. I could not feel comfortable swimming, or even wearing shorts."

Miriam blotted her eyes, "As a science geek, I was already no one's dream of a woman. I resigned myself to my studies, my medicine and my research. Then Jonathan came along. A good Jewish fellow, handsome and bright, kind, and furthermore, he seemed interested in me. We have been seeing each other for three years, the longest I have ever maintained a relationship...and a hope." She began to sob again. "Oh Grandmother, I think I have made a mess of things."

"Now, now. How have you made a mess of things?" responded Grandmother, drying the tears with her handkerchief and smoothing Miriam's hair.

Miriam continued, "Last week, I was just upset. My research is going very well and I was feeling on top of the world, except....except, I was so angry that Jonathan will not even talk of a future together. I found myself getting so angry, I slipped into almost a challenge in conversation, blowing up over his failure to commit. But I am thirty-two and I expect if I am ever going to have a family, I need to start soon!"

"Sounds reasonable to me, my dear. You know I am in your corner on that score," Ida consoled.

"Yes," Miriam continued, "but I think of Jonathan as the last eligible man in my life. And I am scaring him away. Is that crazy?"

Grandmother patted Miriam's hand, "The feelings are not crazy. They are quite real. Whether you have your facts straight, only time will tell." She returned to her seat and resumed. "You know, you cannot compare to another. I know I have ridden you sometimes about this family business and settling down. But I know the world has changed, in some ways. In some ways it hasn't. What do you think this looks like from Jonathan's side?"

"Well, I wondered for one if he is feeling like I am unclean, non-kosher, defective, because of my skin condition. Like there is something seriously wrong with me."

Grandmother looked her in the eye. "I think they are *your* doubts, about *yourself*. You are a very attractive young woman, very bright and accomplished. Anyone's prize."

Well, then," retorted Miriam, "what else could it be?"

"Lots of things," responded the older woman, "you don't seem to know men very well, especially Jewish men."

"Oh, what do you mean?"

"Well, I mean a couple of things. But you need to look very far back to understand. For one, the Jewish people have been through a very strange history of not belonging, of being persecuted. In America, we have gradually overcome much of that. Partly, it had come at the price of letting go of our heritage, embracing the American dream as it has been called, with the sense

of finally belonging. But this American culture levels out all our traditions, not just Jews, but every culture. Assimilation leads to a social brainwashing process where your values are instilled by the media which is in turn controlled by the economic elite."

So," retorted Miriam, "how does that pertain to us, now?"

"Now wait, my dear," replied Ida. In the assimilation of Jews into American culture we had the rise of the Reformed synagogues. It helped us fit, but gradually, our sense of the transcendent has been replaced by the dollar, our careers, our nice houses. There's nothing wrong with any of these nice new things, but in a sense we have forgotten who we are. So, I am suggesting, Jonathan might just be a man without roots who cannot see outside of his own comfort and advantage. He may be good company but maybe he has all he thinks he needs to be complete without marriage....especially if you continue to see him, on his terms."

"So, you think Jonathan is just a spoiled bastard who already has all the toys he needs!?"

"You say it a little more straightforward than I do, but that about sums it up. Let's go into the living room where we can be more comfortable and I will show you something."

The two withdrew to Grandmother's palace of comfort, with her stuffed chairs and her books. The two settled in.

"You said you wanted to show me something," reiterated Miriam.

"Yes, let me find it," replied Grandmother as she sorted through several piles of books beside her favorite chair. "Aha," she cried, eventually finding the old weathered volume which she sought.

"You know we talk about tradition as though it is some thing abstract. In the old days, it would be the natural course of things to have the young boys attend Hebrew school, at the synagogue, as part of their finding their place in the community. It was part of their identity, not something extra. Girls did not have the privilege, but, being curious, I would look at some of the things they would bring home. And as they went out to play baseball, I would steal into their room and pick up what they had left lay, from disinterest. This book is just one."

"So, what is it, why is it so interesting, and why do you show it to me?"

"Well, in the traditional way, of the orthodox Jew, life was lived according to the law, the Torah, the first five sacred books. But the people always asked, how did the law pertain to them? From this arose the Talmud, the Mishna and the Gemmara or commentary. These are classical. However, throughout history there have been others who felt the more immediate touch of the spiritual world, of God. In their minds, these classical works were not sufficient and through time there has been a Jewish mystical or esoteric tradition. In the medieval times, in Spain under the Moors, there was a resurgence of both the intellectual quest to understand more fully the truth. In this vane we have Moses Maimonides, a sort of medieval Aristotle, a philosopher. However, in the mystical tradition, at the same period was a man, Moses de Leon, who produced a document, the Zohar, or book of radiance, which was intended to express the more existential approach to Jewish spirituality known as the kabbalist tradition. Now whether it was credited as the work of Rabbi Shimon son of Yosai of the second century, or to Leon himself for whatever motives, the book is a collection of serious reflections on the meaning behind the Torah, the meaning of life."

Miriam listened intently. She had heard this work mentioned before but never had occasion to look at it. Grandmother was offering her an opportunity. Grandmother continued, "Now, the Kabbalah tries to make clearer the meaning behind the Torah as if the law is written in code. The Zohar describes the words of the Torah as a garment."

"A garment?" Miriam began to be intrigued.

"Patience my dear, we need to look at more of the story here. The writer or writers of the Zohar suggest that the words of the Torah are a garment and those who become either preoccupied with the garment or dismiss it as irrelevant are both being superficial. The garment should draw our attention to the body. But the body is not all. To understand the body fully one should understand the soul. But the soul of the individual again is but an expression of the soul of the soul, which this book declares to be the Holy Ancient One. What they are expressing is that we ourselves, and the world we live in, are the expression of deeper realities, and to make sense out of our lives, we need to try to connect with this deeper nature of things. The book of Genesis begins to help us with that, if we study it with new eyes."

"Now wait a minute; I start telling you my grief over losing Jonathan, and this damned plague of my psoriasis and you want me to read the book of Genesis!?"

"Precisely, my dear, to help you rediscover perspective for your life."

"Perspective! I don't need perspective; I just want to have children, have a man, have a normal life."

"Normal? What is normal?"

"You know what I mean!"

"My dear, normal is created by the circumstances of our birth. Clearly, that is relative. I am trying to throw you an anchor in your storm," responded Grandmother Ida as she sat back to quietly await her granddaughter's calming.

After a bit, Miriam, feeling foolish at her fit of temper, reopened the conversation," I am sorry, Grandmother. I am so much on edge lately and not at peace. Anything you can share is a help. Go on."

"As I was saying, the kabbalist would have us begin in Genesis and look at creation with new eyes. I will not go into details here but what the author suggests is that the reality we see is not all there is. It represents progressively more profound levels of relationship, going back to the creative light which is the Light of God, his essence. Yet, since we are unable to directly apprehend the significance and full reality of this light, because of our limited level of comprehension, successive levels of being exist between us and the Creator, the Divine essence. The description of events, and laws, in the Torah, are like analogies, or codified descriptions of higher levels of sense or significance in the world, or universe, or..."

"I see," responded Miriam. "In teaching biochemistry we first use simple letter codes as representing the different chemical elements, constructing then according to certain rules the description of molecules, describing bonding angles of the primary structures, then using other diagrammatic notations and models to describe the secondary, tertiary and quaternary structure of the molecules responsible for their behavior in living tissue. Yet, none of the models or equations adequately describes the actuality of tissue form or function."

"If you say so; you understand more about those subjects than I. But the intent of kabalistic study is to use our imaginations, our knowledge of the Scripture, and the understanding of symbolist to 'crack the code' as it were, to get our lives and our attitudes more aligned with the actuality of our existence, so our lives will make more sense and we will be at peace."

"Peace, yes peace," sighed Miriam. "I am certainly not at peace. Never have I been satisfied with my life. Look at me, independent, healthy, good job, well respected, but certainly, not at peace."

Grandmother passed up the opportunity to comment and instead deflected the direction of the conversation. "When we were in the kitchen, and you were describing your consternation over Jonathan, I recalled one section of the Zohar, the paragraphs headed *male and female*."

"I will let you read it later but the general idea is that Yahweh created humans male and female, not as alternative models, but as a coupled expression of his own nature. He created in his image, male and female. He describes this in a representation of the book of Genesis. So, as mysterious as it sounds, our completeness comes in this union. This would express your drive, to be complete. The creation story goes on but there is another interesting part in the book about a traveler, who, when he leaves his wife to be on a journey, still reflects on his completeness as male and female, not because of the continued presence of his wife, but by his maintaining contact with the Divine presence."

Grandmother looked up at the bookcase to a picture of her deceased husband. "You know since your Grandfather died, it has been now nine years, I do not feel any less a woman and I do not feel the need to remarry. My life makes sense, I am complete, just living the best I can as the person I am. I still feel your Grandfather's presence and am as connected to him as much as ever I was even when we shared the same bed. In the Presence of the Almighty, he is still with me and I am with him."

Grandmother paused and gave Miriam a sympathetic but stern look.

"In learning who we are as a woman, and being satisfied with that identity, our challenge is to accept ourselves and our lives as they are created to be. If we are driven to make it conform to some set of expectations, set by peers, by the video media, by whomever, we will be forever sad. And the male and female thing follows the same rules. We are already created in the image of the Almighty, male and female. As your path unfolds, things will make more sense, but it will never be done getting clearer. Have faith."

Grandmother herself raised a tear, now brushing it from her cheek. Miriam knew the words and wisdom had come at a cost. Her grandmother's life had not been simple easy. Ida concluded with: "Come here and give me a hug, child. I need one also."

The two embraced in a bond of female solidarity and the deep sense of understanding and supporting one another. Time stood still as Miriam felt her Grandmothers physical frailty yet her heroic strength on some other plane. Ida, in turn, tried to uplift her granddaughter to a higher level of understanding of her life. She could not save her the pain of discovery but wished she could carry her along, at least beyond her current dilemma.

On releasing, Ida held her Miriam at arms length, looking into the depths of her soul, "Miriam, you are such a fine, beautiful woman. Let go of your doubts and follow your dream."

The two relaxed their embrace and returned to their chairs. They floated in a state of psychic suspension. Miriam felt the strong sense of warmth and strength in her heart that she had not felt for a long time. Ida in turn felt the exchange had been a critical part of her purpose in life, to pass on not only her secrets, but her energy, and her experience as a woman, to this treasured, special person with such great potential. After a while, Ida broke the spell. "Would you like a cup of tea, or more coffee?"

"Tea sounds fine, and let me help you with the lunch dishes," replied Miriam.

"No, no my dear, I have plenty of time on my hands, and these dishes will make up a mere fraction of it. Sit, sit!" Grandmother fussed with the water and laid out some old tea service from the old country. "I haven't used this set in years. Grandfather and I used to use it on Saturday afternoons. Besides the Shabbat, we scarcely sat still together,"

The two chatted about the neighborhood and the few remaining residents Miriam knew. Ida wanted to hear more about life in Boston and the university. Time passed quickly.

"Well, I had better go pretty soon if I am going to catch the last high speed out of Thirtieth Street Station. Oh Grandmother, how can I tell you how much this has helped me!"

"That's what love is about, my dear. Don't be too hasty to presume to know what love is. Love knows. Love heals. Here, take the book. I think it is calling to you. For all your education and all your knowledge, you have a lot to study and learn."

"Oh, Grandmother, it is your treasure!"

"Yes, but treasure is to be spend, to produce more life, not kept. Take it; it is part of your life now."

The two embraced then Grandmother went on the back to get Miriam's coat.

"Here you are, my dear." The two embraced then stood again at arms' length, taking each other in and reaffirming, taking in each other's beauty.

"Oh Grandmother, who can put it in words."

Grandmother smiled, "My dear, the best things, the real things, cannot be expressed in words. They only exist here," pressing her clenched fist to the heart. "Well, travel safely, and let me know how you are doing. And remember, don't focus so much on Jonathan. Look up and look out. Look to the future with no fear. You will be fine."

Chapter 6

For Marina the drive back to Munich seemed anti-climactic but it gave her more time to think. She drove the familiar winding roads toward the autobahn by rote. Yes, it had been so nice to get back to nature, to walk the fields and roads. It helped her focus again, to put this in a larger context.

Father had raised the subject of her youthful reading of the poets and philosophers. Yes, these authors defined her intellectual lineage, her mental landscape as she had grown into adulthood. There was the crazy character of Goethe, who to some was just an entertaining literary figure. Yet Goethe had freed the German soul from the dominance by the philosophies derived from Greece and Rome, from Aristotle's compartmentalization of life by rational analysis. The latter would have us make sense of our lives under the heading of matter and spirit, light and dark, good and bad, a dichotomous approach leading to opposition of ideas. Furthermore, nature was to be picked apart under the separate studies of physics, metaphysics, ethics, logic, esthetics. For Goethe, life was to be embraced directly. Nature, including spirit, was to be encountered, not analyzed. Marina felt this applicable even in her osteopathy.

But more. Emerson brought a new kind of poetry to the English, the idea of the power and impact of nature, even the natural soul of man, not as an etheric spirit or rational life principle but as the passionate, transcendental power which gave passion to life. Schopenhauer and others in Germany echoed this, proceeding from Goethe. Furthermore, men such as Rudolf Steiner extended this blending of the transcendental and the practical into so many specific aspects of life. Steiner, with his biodynamic farming and his talk of 'nature spirits' blended the need to communicate, cooperate, and understand the subtle spiritual dimension of life even in the cultivation of crops. Special methods enhanced the wisdom and fertility of the soil, by expressing not just its chemical nature but also its spiritual nature.

On the side of human cultivation, the Viennese physician Sigmund Freud expressed similar principles in dealing with health, including emotional health of his patients. Also in this case, their fertility, or sexual energy, libido, was the underlying force for managing life. His student then colleague, Wilhelm Reich, extended this train of thought through his concept of 'orgone' to describe sexual potency as the creative life force behind human existence, beyond the physical.

So many of these ideas blended. Yet they were derived, to a large extent, from the social and intellectual soil of her country, her region. Marina seemed

bonded to them and they looked for further expression in her life and in her osteopathic work.

Marina was approaching the city. The traffic became suddenly denser. In her reverie, she had not taken so much notice of her surroundings. Here was the onramp to the autobahn. It had gotten dark. She made the decisive, necessary quick turn but had not completely slowed. Up the ramp and into the lane. Over her shoulder she saw the lights. A large truck. Too close to stop. Nowhere for her to go..... The crash of metal, the impact. The big lights in the back of her car. The car is spinning. Pain then

.....

The darkness intensified then ahead a soft white light. At first no sound, then soft music....in the distance.....

As Marina floated forward, the light became larger and became a ring...the ring grew bigger and she approached then floated through the ring. Everything was cheery and bright. The music remained distant, but very pleasant. It seemed to pulse through her being.

The ring, as she proceeded forward became a tunnel, a tunnel of soft white light, warm, yellow-white.

"Yes, you are alright. A bit scary, and it is not over yet. But you are and will be alright, if you can keep your focus."

"My focus...who are you; where am I?"

Neither Marina's nor the other voice seemed the normal sound exchange but just messages floating in her mind space.

"I am your friend, your guide. You speak of me often though not as such. It will become clearer for you later. Where are you? You are in a ditch beside auto route A 35. Let us look and you will remember more of it."

From the warm white, brightly lit space Marina could see the roadway. Indeed, at the side was a jumble of cars, others moaning, and she lay still and face up in the mud at the side of the road. Her clothing was torn and she was bleeding from her left thigh, nose and ear as sirens arrived from the distance.

"That's me, I know, but how can that be!? And look, we must be 300 yards down from the onramp. Yes, I remember the truck."

"Yes," replied her friend. "How? It just is. Why, you will see. Yes, quite a wreck. The truck was traveling at high speed and once it hit you, it dragged you quite far down the autobahn before it stopped. A number of cars collided from behind. You were thrown out of the car and suffered numerous serious injuries. Someone intends for you to learn many key lessons."

"Many key lessons...what is this about?" Marina's queries were interrupted by the blaze of the light ahead of her.

"No, it is very pleasant there; you will like it a lot. But it is not for you now. Soon the pain will come and you will go back and begin your intensive preparation. Now, here they come!"

As her friend spoke, the white light seemed to fade and Marina's consciousness seemed to reside in its usual place in connection with her body. She became aware of a blaze of numb pain all through her body, but mostly her head and thigh. She could not move.

"Sie machst nichts. Liebst-sie, glaubens Sie? She is not moving; she is not breathing; do you think she is alive?" she heard one person say as several looked over her.

"No, I think she is quite dead. Sie ist tot. But leave her still; let the medics decide."

Marina wanted to scream for help, scream for relief of the pain but she could not. She could hear the sound of sirens coming closer. Quickly, four uniformed figures surrounded her with the clatter of their gear.

"No breath....no pulse.... Put that cuff on, start a line...Johannes, you and I do the resuscitation attempt."

Marina felt the crushing force on her ribs. She felt a long thin finger slide deep onto her throat. She felt the full pain of being alive. The pain was too much...all went black.

The warm bright light seemed to have returned, and there were several. There was no pain. Was she back in the tunnel, she wondered. The friend had said not yet?

"Marina....Marina, dearest...."

It was Hans! Marina realized this as she opened her eyes. But still she could not move.

"Oh, Marina...Marina..." Hans held her hand and sobbed.

"Hans...Oh, Hans...where am I?" she finally managed.

"You have had a terrible accident and..."

"I know, I know, but where am I."

You are in the hospital in Munich, at the Neurologisches Krankenhaus München. They are preparing you for operation. Since you are a strong woman I will tell you the truth, more than the doctors will tell. You were dead when they found you but were revived. You were close to the city so they brought you quickly to the emergency suite, now to surgery. They are not sure if they can save you...there is a serous loss of blood; you have had skull fractures, multiple, and brain injury and other fractures. The head injuries are the most serious...." Hans began to cry. "Oh, Marina, I love you so. I am sorry I made you upset. Please do not die. I want you to *live*; I want *us* to live..."

"Hans. I love you, too. And I am not now going to die. My friend has told me this."

"Your friend? Who is this?" asked Hans in surprise.

"I don't yet know. From some other dimension, some dimension we have touched in our thought or study, I believe. But he felt very familiar. He said I had yet many important things to learn."

Marina felt the anesthetic begin to take hold and she was beginning to slip away.

"Hold me, Hans, hold my hand..." Marina asked sleepily. "Tell them to do a good job. Tell them I am going to live. I love you, Hans."

"You must leave now, Herr Hoffman. The doctor' will do their best," assured the nurse.

"She is going to live," replied Hans. "She told me to tell the doctors that. She knows."

"I will tell the doctors," The nurse smiled. "They will be relieved. They will be doing a lot of work here, a tough job."

"Thank you, nurse." Hans rose and went to the waiting room.

Chapter 12

Months passed since the death of Grandfather Philippe. It was now the end of the rainy season. The crops had done well. The harvest was in, crops stored or sold.

One evening at dinner, Carlos brought forth something that had been on his mind for some time. "Grandmother Anna, I have been thinking for some time to go on the land for a while. Juanita and Elena can provide for you. In case of need, you can call on Heitor or Pedro. There is something I need to do."

"I understand, my son. I understand. Be safe, but go in peace to learn what you must learn."

They embraced and looked at each other with understanding.

"I will go in the morning."

At first light, without rousing anyone, Carlos was off, taking a bed roll with a blanket, a handful of coffee, a canteen, his knife, and fishing hand line, and several manioc roots.

"Grandfather, I must do this."

"Certainly, you must do this", came the reply from deep in his being.

Resolving to make his way in the open country, to free his spirit, Carlos went north, avoiding the highway bridge down in Ibotirama. Instead, Carlos took the closest path to the river. He entered the riverine forest and followed the east bank of the river northward. In the first light, the forest was dark but full of bird life, among them swallow-tailed cotingas as well as several of the Spix macaws which were making a return after reintroduction twenty years before. The forest was rich and lush, in contrast to the dry surrounding terrain.

Eventually, he flagged a passing fisherman who gave him a ferry to the west bank. Finding a path he made his way up to the plain on the far side, intending to follow the river. To his right, the sun was burning through the trees. His walk first led him across several farms near the river, but soon the land opened up to the caatinga, the dry plain and scrub, punctuated by the occasional grove of acacia trees with which he was so familiar. The feathery fronds of the smaller trees brushed his face and shoulders while the mother trees towered seventy feet in the air.

Though the morning air was cool, he anticipated that, with the end of the rainy season, the humidity of the rains would be giving way to the searing heat of late summer. In northern central Brazil there are but two seasons, one hot and rainy, the other hotter and dry. So this day would be hot and tax his water supply. Now on the dry land ahead of him there was the chirping of sparrows as they flushed.

He walked.

As the sun rose and the morning progressed he became aware of what he was about. The events of the last months had been significant yet a pressure. Grandfather's death seemed precipitous. The general sense was that he would be with them forever. Now, there was no one with whom to consult on matters of farming or season, economics or illness. There was his mysterious last word, still a riddle to decode. In the mean time there had been the pressure of chores, to work the crops of the rainy season to get the family through another year in the rhythm of the campos. Duty done, he could now let things settle. He felt a deep movement within himself, something he did not understand but could not avoid. Life with the family never allowed him the space to sort things out.

"You", his grandfather had said. "You", with a sense of import not yet understood by the boy-man. Grandmother has concurred. What had they meant, Carlos podered. Since his mother's death and his father's abandonment his grandparents had been his family, his support, his guides. He trusted them. Yet, in this matter there was something in movement that they could not put into words. He knew it had something to do with Grandfather's recounting of the tales of Jose Arigo and Jaoa de Deus, the healers. Who was doing their work now? Was he to seek them out? Bring Gus to them? He did not know.

Morning progressed. The singing of fattened insects filled the air with buzz and chirp. To the flycatchers and shrikes, they provided a feast. As he was still near the river, occasionally an armadillo would scurry off, or a deer, but there was little other company. Carlos soon got lost in the cadence of his steps and the cascade of thoughts. It created for him a sort of trance.

He considered the peoples of the past on this land and the movements of tribes to forage, to avoid the incursion of the white settlers. The Sao Francisco valley was originally populated by a host of tribes, including the Tupi. When the Portuguese landed on the river delta in the beginning of the sixteenth century, they met fierce resistance from the indigenous peoples. As a result,

the Europeans were deterred from venturing far inland. The high escarpments of the lower river valley were a formidable obstacle in themselves. The Portuguese and the Dutch, seafaring explores primarily, confined themselves to the harbors on the coast, looking jealously at the riches displayed by the indigenous people.

However their presence on the coast created a pressure which caused a population shift inland. The Kiriri, Caxago and the Boime moved west, displacing the Timbura, the Paramirim, the Tabaijaras and Amoipirá. Those in turn drove the Panaras and other Kayapo into the Amazon highlands. Displacement was not new. Tribal conflict and famine from drought had plagued the caatinga and cerrado since before men could remember. These were harsh lands, demanding cleverness, strength of will and courage simply to learn its ways and survive.

Progressively, the Europeans grew bolder, driven with greed for the gold worn so conspicuously by the native warriors. The quest for gold was guised as an altruistic quest for souls. Christianity followed the gold seekers as did viruses, each taking its toll on native peoples and cultures. Eventually the Jesuits brought schools and, in some places, protective sanctuaries from the slave takers. Not a fair trade for displacement, disease and in some cases slavery.

However, this invasive culture did not penetrate far beyond the riverbanks due to the inhospitality of the terrain as well as the inhabitants. Eventually, in the upper river valley, in the eighteenth century, a major discovery occurred and the town nearby became known as Oura Preta, black gold, for the precious metal. Still the interior of the valley, including Carlos home in Bahia, was not ravaged, since the river itself provided many obstacle to commerce, including the high Falls of Paul Alfonso, well downriver. A land road was blazed to the coast, the Via Real, or Royal Road, to fill the coffers of the king.

As the day lengthened Carlos became aware of the change in himself. The open campos gave him a sense of explosive inclusivity, a different type of connectivity with the reality around him. What was more, he discovered a profound wholeness in himself. All this without any particular knowledge or insight, just a change in being and different feeling about the world, about life.

This is what he had come for; such a contrast it was from the mental clutter and confinement of worry and everyday chores. He walked on.

Practical plans and where to spend the night soon pressed him. These were mixed with immediate plans, and where to place his feet. Follow that deer trail, avoid this cactus, keep an eye out for snakes, wipe the sweat. The land was rolling, with stretches of grassy savannah, or cerrado, between the scrubby trees, bromeliads, and cactus of the caatinga. The cuts in the ravines were still moist with an occasional pool but now no running water. Soon, all would be baked dry and hard.

He began to feel more solidly a communion with the old ones, the ancient peoples. Life had been simple then. Food, water, protection from weather. No concerns over crop prices, farm cooperatives, irrigation permits and salinity tests. Just the basics, and the free soul of a man.

Today he hoped to follow the river, the Sao Francisco, to his right, leaving it just before the confluence with the Grande coming from the west, at Barra. Together the two rivers flow into the lake, the remains of the reservoir above the remains of the dam. His destination was the great forest to the north, perhaps in Piaui, but by way of the quiet open country. He would hope by the end of this first long day to cross the flatland, cross highway 161, and camp at the foot of the great topo rugado, the volcanic ridge which ran for eighty miles due north as a spine through the otherwise lonesome plain.

He saw the beginning of the ridge ahead of him in the distance. To the west he could see the sister ridge of basalt which was yet visible even from Ibotirama, his home. As he walked, it became more distant as it ran obliquely to the west. Beyond that lay the more fertile Rio Prato region and its more prosperous and numerous farms. That direction meant the politics of commerce and ownership, no need to go there now. He wanted the solitude.

The sun rose in the sky. Carlos knew to draw whatever water he could from the bromeliads he passed. He knew to crack and suck on the flesh of several of the cactus species. He kept a look out for the right fat snake to make his meal, of perhaps a possum.

"Well, Grandfather, here we are. I broke away. You know the value of the peace and the presence of the spirits of the land. Here we are."

He walked.

The sun was getting lower. He could see the tail of the serpent, if the topo rugado were a snake, coming up ahead. He knew that this meant a night's shelter from any wind or rain, thought the sky remained clear. He knew the river would soon be veering to the east as he walked straight on to meet the ridge.

"Go to the river," came an inner voice, not familiar, not audible, but distinct and commanding. He stood wondering at its meaning or the need and significance.

"Go to the river."

He had choices but had no choice. He conceded and slid down the steep bank to the river's edge. The air near the water was so much cooler. He liked the sound of the water; it was home to him. A long spur of a gravel bar reached out toward the island in midstream. He felt the wisdom of catching dinner this last night he would be near the river. He remounted the bank and located the correct cactus, with a borehole betraying the presence of a grub growing fat. An incision with his knife yielded the intended treasure and he retreated down the bank, retrieving the hand line from his pack and skewering the fat worm on the hook. In the meantime, he cut a slender sapling to help him convert his hand line into a pole, extending his throw. He decided to get out into the stream on the bar seeking the right pool on the eddy side of the bar.

"There, I expect there." He thought reflectively.

Then the same voice he heard before prompted, "No, in the stream, out there, on the other side of the bar."

Following the suggestion he flung his line as far as he was able with this simple rig, slightly upstream which meant a good drift on the outside edge of the current. Ten feet, twenty feet, then near the end of the drift the line went taut. Pulling it in he found a strong, wriggling curimata. Not a large fish, maybe a pound and a half. No trophy but certainly a good meal and tasty with more for the morning.

"Thank you," he mentally credited the mysterious suggestion. "Thank you."

The sun was getting lower, to his left in the west. He knew he needed now to make time to reach his expected destination. He walked briskly for an hour or so by the look of the sun. As he approached the tributary, the Grande was wider than he expected but finding a stretch with an island he waded the

shallower half then found a log to kick float his way across the brisker stream. As Carlos approached the highway on the other side and crossed in the dusk only one pair of distant headlights reminded him of this last contact with civilization.

In the twilight he turned west to confront his protector and guide from the following two days, the great black basalt spine of topo rugado.

In the flank of the great rock he found a recess in which to huddle for the night. Quickly he collected wood scraps for an evening fire. He fashioned a bow from his fishing line entwined around a fire stick fitted to rotate in the hollow recess of a knotted burl. With dry grass for tinder he soon had a glow, then smoke, then flame. The cheery fire lit the night as he fixed his meal. Slitting, cleaning, and spreading his fish on a flat rock facing the flame, he broiled the tender flesh then enjoyed the meal. The warm ache of his legs spoke of the fifty miles covered this first day. A good start he thought. He had jettisoned from the relative civilization of Ibotirama and soared into the expanse of back country and the expanse of his own mind.

Leaning his back against the rock wall, he peered across the fire to the night sky. On the east horizon he could see Regulus, the bright star in the constellation Sirius. Further up were Vela and Carina and their family of stars, Gamma Velorum and so many others. As the deep blue of late twilight deepened, the sky became a meadow of twinkling stars. No clouds in this summer sky. To the north were the stars of Orion and above Acrucis ands gamma Crucis of the Southern Cross. Carlos was entranced at the clarity and multitude of the stars. An indescribable peace entered him soul deep.

Existence, such a mystery. He looked at the number of the stars. Each was a sun with planets perhaps. Other worlds; what potential for experience, for life, for difference. He had similar thoughts of the grandeur and mystery during his sojourn in Rio. So many people, so many lives, each with its texture, its detail, its relationships and thoughts, dreams, pains, hopes. Each was rich. But his life was enough of a mystery for him. He could hardly fathom the reality, the scale, the immense complexity of what was the city, let alone the country, or a world of lives. Totally beyond the mind of any person to comprehend. Yet, life went on, and there was business and politics and the richness of life.

What was space, what was time, what was the world truly made of? What was the reality; certainly not the concerns of any one particular individual. Yet, the pain, the riddles, the loves of his own life were all-engrossing, yet so small in the face of this larger incomprehensible reality.

As the fire died to coals he arranged his remaining fish to bake dry slowly for use the following day. Then he settled into a hollow in the sand, rested his head on his pack, pulling his blanket over his shoulders and drifted into a deep and mindless sleep

Since he laid the east face of the rock east, the light roused him early. He awoke, but instead of hurrying into activity, he sat, facing the brightening sky, appreciating the succession of events.

The first hint of light was a faint white glow which rose slightly higher then changed to just a hint of blush of pink. Before the sun rose, the chorus of birds rose, beginning with a far away suggestion from a long-billed wren which became a dialogue, then a chorus of song, of cackles and chirps and twitters. The birds seemed to be greeting the day, or protesting that they lived and thrived despite the harsh environment. Their song coaxed the golden sun closer to the horizon. Carlos felt he was personally invited to a celebration of the new day. But before the sunlight met his eye, he saw the painted golden light high above him on the rocky ridge top.

Finally the warming light of early morning touched him, then washed over him, warming his core. The light falling on his forehead seemed to enlighten his mind, to reassure him of his strength, his purpose, his place, but without word, without explanation. He could feel it but not describe it. It felt right.

Beside him, though invisible, he could feel the presence of Grandfather Philippe, and of another. No faces, no word, just presence. He bathed in their strength.

"Thank you", he murmured in his mind, humbly. "You are most welcome, little brother," came the response, but not from either of these. He did not understand. But his was not a concern. Being was more important than understanding, being and responding and going on.

The sun was now fully up, well up. With his renewed strength and well-being he rose, assembled his few things, took a few bites of fish and manioc and began to walk. The talus from the great rock tailed off down a gentle slope. He followed the grade back down to the flat and resumed his northward walk, weaving his way through the scrub.

He wondered about being concerned about making time before the sun got hot. But, then, there was no destination; arrival or completion were concerns of a routine day. This was not a routine day. A routine day would find him

doing home chores, heading to the fields and barns to look at crops, to plan, to sell, to fix machinery. The contrast drew him into reflecting on the last several weeks.

The rains had been enough and well spaced this season. There was need for minimal irrigation water. Yield of sugar cane, the cash crop, was modest but off slightly from his highest expectation. Prices were consistently dropping. Bio-ethanol for fuel was being successively phased out as battery technology improvements allowed for a transition to solar and tidal-electric generated power. There was always the sale for cachaca, the base of caipirinias, the national drink with its endless permutations. Luiz had been promoting the pineapple caipirinia; heavenly!

Carlos snatched his consciousness from his routine worries and concerns and looked around, tuning into the journey. The birdsong had changes to a less excited, business as usual, cadence with the climbing of the sun. The air was beginning to warm but not oppressive, just a languid, airy bath flowing over his moving body as he strode through the knee high tussocks of scattered grass, the rasteira and jamakara, the agaves and thorn bushes. The bright blue stars of tapeicha punctuated the terrain. Scattered about were cubaru trees and, because of the proximity to the river, the treasured tiger wood prized world wide by wood workers.

The sun became hot now, and sweat formed on the man's brow. The heat began to induce a trance. The steady cadence of steps and the repetition of the species surrounding him contributed to this state.

Carlos remembered the women. He had been with several for a short time near home. However, most women wanted marriage or would move to the city because of its allure. Carlos was not ready for marriage. He felt he had some undone business, though he could not name it.

In Rio, the women who had newly arrived were interested in money and the glamour of the place. The parks and darker roadways were haunted each evening by those willing to exchange their virtue for gain. Indeed, the relocation was costly. Rent and food were not to be taken for granted in the city. Life was by cash or arrangement, not so natural as in the campos.

Others, who had been there longer and assimilated, got jobs according to skill and education. They were assimilated. In neither case, in the city, was Carlos, a newly arrived camposino himself, a worthy companion or to be sought after. He was largely ignored. He made friends at the bars, among young men his own age, looking for work, looking for women, looking for a new life, a dream

that seemed to recede a bit further each day. Seeing the desperation which grew with each month, each year, in others without clear prospects or personal contacts, Carlos decided to return to the interior. He was able only to get maintenance work at a marina, on the Praiha Flamengo, Flamingo Beach, but nothing lucrative or steady.

Distracted in thought as he walked, he kicked into an inconspicuous melon cactus and felt the hot pain of an embedded spine in his toe. As he bent forward to tend the wound, he had a revelation, a pair of cactus parakeets. brilliant red parrots, careened above his right shoulder and flew into the grove of small trees just ahead. Amazing! Partially ignoring his pain, Carlos hobbled after them to appreciate such a rare treat. As he parted the shrubbery at the edge of the grove, he saw that the two had lighted on the low limb of an acacia tree and seemed to be in conversation, alternately opening their impressively large hook bills and shuffling their feet along the branch, almost in dance. No doubt part of courtship behavior. He marveled and watched. Minutes went by as he digested the detail of the bright plumage. Incredibly beautiful. As he watched he realized he was the rarity here, the stranger. He was observing the routines of another world. He was the outsider. However, they did not startle. He felt as if he was beginning to be accepted by this strange and different land. He was used to observing it around the edges, the tamed and cultivated part of it. Here, the sense of the place, the rules of survival, the spiritual sense were altogether different.

He watched for what seemed like a long time. Who could count the time? Time seemed meaningless. Eventually, business done, but without urgency, the two birds made an exit through the limbs of the far side of the grove. Wing flaps said ate logo, see you later. Blessed, included, Carlos felt a warm feeling in his chest. However, the feeling was soon eclipsed by the warmer feeling in his foot as the cactus spines were reporting their intent, to drive him away from the parent plant, to leave it in peace. Indeed, they had served their purpose.

Carlos sat on a log, in the dust, to attend to the foot. The spines had perforated the boot tip quite deeply. The boot could not be removed easily, and it was a challenge to pull the spine through flesh and boot leather. But he began. Pinching the spine shaft between the back of his knife blade and his intently pressed thumb seemed to make enough of a grip to budge the first stubborn spine. There were three. Tediously he completed the task but task done, he still had a sore toe. Grandfather used to apply aloe to wounds. Was there some about? Several yards away there was a succulent which seemed to be a cousin of the plant to which Carlos was accustomed. He decided to try it.

Removing his boot and sock, he respectfully broke the tip of one of the juicy leaves and a clear sap exuded. He caught some on his finger tip and applied it to the throbbing toe. Curiously, he felt a slight discomfort in his chest, but thought no more of it.

As he sat, he looked at the crystal sky, was impressed now by the absolute silence of mid day. There was no breeze today, no noise of traffic, no farm machinery; only the low distance crackle of a locust's wings. The scale of this slight sound accentuated the vast expanse in which he found himself.

He allowed the salve to begin working and indeed it did. He thanked the plant. He thought, as he had spent the morning among them, and the mystery of their individuality yet sameness, that the plants seemed to be embodied souls, yet with a shared ego, a shared personality across each species. Genetically, certainly, they were all related with limited individual differences except for the time which each had had to grow, on year, two years, following a preprogrammed pattern. Yet, here they were, caring for him. He was grateful. He wondered if the uncomfortable feeling in his chest as his empathy with his damaged host.

"Thank you, Senhora Aloe, and I am sorry for hurting you", he found himself saying. The plant seemed to smile, internally, energetically, appreciative of his recognition but his reticence to cause too much damage.

The toe was sensitive, but seemed to be improving. He put on his boot and sock to continue the day's journey.

Carlos soon found a trace of shade and stopped and ate the rest of the previous night's fish. The river seemed a continent away. As he sat, perched on a rock on a small hillock, he thought of the Sao Francisco, and the lake to the east. As he looked in that direction, it seemed as if he could see the water. Yet he knew it was a mirage. In the heat of midday, the horizon blended the terrain and the air in a shimmering fusion, suggesting water, yet this was not water but the expansive caatinga.

He thought about the fish, now gone, and thought about dinner. In the scrub he cut the shaft of a young sapling to fashion a walking stick, yet one which could act as a spear if needed. Using his knife, he shaped the hardwood into a sharp taper at one end. Readiness could mean survival. Then, he was on his way.

More and more of the same, but not in a boring way. The simplicity was pleasant, embracing even, making him feel part of some grand enterprise, the

most important business around, the business of life. And endless succession of plants, rocks, basins, hillocks with his companion the serpent ridge up there to his left, as a guardian and guide. But his legs grew weary.

It must be very late afternoon, he thought, and indeed the sun would hide behind the ridge quite soon, the high rock wall creating a premature sunset as it were. As it did so, the shade was a relief. Still with several hours of actual light, Carlos strode on, sweeping away brush with his walking stick/spear and watching for more cactus.

"Up there". It was the voice again, the one from yesterday. Carlos looked up at the line of rock thirty yards away and above. "Up there; go!" was the insistent command. He redirected his steps up the talus to the base of the wall. As he approached he saw a flash of orelha branca, the white eared possum he knew, scurrying away at the base of the rock with its wobbling gait.

"Yes!" commanded the voice and he recognized dinner. Rushing forward and with a lunge stroke of his sharpened staff he subdued the humble prey.

Ahead was a crevasse which revealed a climbable gradient up the otherwise steep wall to the ridge top. He decided, since he had the time, to make his way up and choose a perch for the night. Climbing gave him a new perspective of the land from the one he had become accustomed to. Looking back he was impressed by the vastness of the terrain he had been traversing. As he reached the top he found a plateau perhaps fifty yards across, with patches of low scrub, mostly rooted in crevices in the black basalt. The rocky surface was finely figured in small basins as the playa below but interrupted by sharp ridges in this rock which resisted erosion. With only six inches of rain a year, water erosion was not a key molder of this environment and despite its age, the rock maintained its character.

To the west, the sun was yet to set, despite the deep shadows from which he had risen. The arid air did not color much but blushed a faint pink as the sun came to setting. To the east the sky was a deep fathomless blue, equally impressive. Again, his soul seemed to be unbound, to merge with the expanse of sky in a three hundred and sixty degree panorama.

He thought again about the old days. No doubt sentinels for the ancient ones had sat on this perch, on watch for threats to their people below from approaching adversaries. He wished the rocks could talk and tell what they had witnessed.

But there were more practical matters. The possum needed skinned and roasted. This required a fire and he quickly collected some scrub braches and repeated the ritual of the night before. As the fire was dying to its cooking coals stage he sat and meditated toward the east. Was he seeing the river to the east? Perhaps, and beyond the ridge of mountains, the Mata Atlantica, the Atlantic highlands? The sister formations to those on which he now sat were more majestic. Their southern portion made the astounding features of Rio de Janeiro, where mountain, forest and ocean meet in the series of bays which make this coastal city. The Pau de Acucar, the Sugar Loaf, and the hunch back, the Corcovado, overlooking the city. His mind was again drawn to the contrast. Could this be the same life, the same planet? The present peace contrasted sharply with evening in the crowded, noisy city. The concerns were so different. Yet, in each case, there was the quest to survive, to be independent, to be at peace and be happy. He preferred this way.

The fire had stopped crackling and the coals glowed a bright orange. He coaxed them into a pile and put the possum on a small spit between two rocks. The voice had provided for him again. The voice. It was not a familiar voice at all. But a reassuring one, an intimidating voice yet benevolent one. He did not know it yet.

The meat on the bones of the possum was scarce, a lean creature of the caatinga, living itself on the edge of the possible. A scavenger, like Carlos at this moment, and enough to sustain him for yet another day. Taste was not an issue. Survival was all that mattered.

As he sat, and the sky to the west became fully dark, he thought he could discern the glow of lights from the small village of Burtirama. He would go there occasionally to buy livestock. Yet the town seemed like a small item out in a large dark region. And with it, the concerns of daily life seemed dwarfed by the vast living expanse surrounding it. So different being on the outside looking in.

Dinner done, he found a slight depression to accommodate his form and block the breeze. But this was habit and now perhaps unnecessary. A breeze might be welcome. With the beginning of summer it was warm day and night. The black rock retained the energy of the day and returned it to the sky as the sun disappeared.

Carlos slept soundly.

In the morning began the same ritual of rising, thankful wonder, a bite to eat then the walk. This morning he began following the table ridge of topo rugado.

Drier, and with more small lizards, the ridge was otherwise similar to the terrain below. Occasionally Carlos needed to hop a crevice. The exercise and watchfulness necessary broke some of the tedium of the previous day. The view was magnificent. Before the full heat of day appeared, he was convinced he could make out the lake to the east. He had the heady feeling of being on the top of the world. He seemed to soar higher.

Eventually he felt pressed by the increasing heat retained and reflected from the black mass on which he strode, to retreat to the slightly cooler land below. His descent through another crevasse disturbed a legion of other lizards.

Onward he strode, ever northward, pursuing the necessary but unknown goal.

The heat distorted his senses, his sense of scale, his sense of duration and he found himself in an eternal now, a vast stillness, despite his steady cadence.

Time was timeless.

He walked on.

"Grandfather, what is it about....life?"

"You begin to see, my son," came an inner reply, with familiar voice of Grandfather Philippe.

Carlos responded, "What does that mean?"

"It means that life is about asking the questions, not about having the answers."

Carlos let that sit a bit as he wandered through the ever thinning brush. The terrain seemed to become one vast playa, a dry basin, and the vegetation became more stark, the vegetation blanching. He recalled that the Tupi word for the land, the caatinga, meant floresta branca in Portuguese, or white forest. The land had become a trackless baked waste land and bore a resemblance to the name.

"If life is just about asking question, how will we ever get anything done, if we don't know how or why about things?"

'Wisely and logically spoken, my son. But the most efficient actions do not come from knowing; they come from listening."

"Listening!" Carlos cried, now aloud, "listening to what!"

"Haven't you met the voice, your guide?"

The voice, Carlos recalled, the guiding voice. "Yes, I suppose I have."

"This is no accident, you know. This is why you have come, to discover your relationship with your guide, and the rest of the spirit world, and the true way of seeing life in general. This is where your path in life lies, not in this desert, but in the desert of daily life. But is easier to learn to listen on the land, in the open country."

"I see", responded a befuddled Carlos. "I see."

The young man walked on several minutes. "Well then, if I have met this voice, my guide, are we not done? Should I turn home?"

"Oh, no, my son. This is only the beginning. You must learn more especially about who you are."

Carlos recalled his protest as Grandfather had used this same language a year or so ago as he, or they, had healed Elena's burn. He directed his comments on to Grandfather.

"So, then what?"

"You will be told, when you are ready. You have much work to do, but you are not ready. You have not made connection with those who are to help you. Your guide is just an angel sent to get your attention, to prepare a way, as it were. This is only a beginning."

Engrossed in this thought-discussion Carlos had become distracted from the details of his path and the terrain. He tripped over a downed log and sprawled face forward in the dust.

He found himself face to face, at eye level, with a somewhat large iguana type lizard. Both felt perplexed, neither intimidated. The lizard seemed to be asking what he was doing there. Carlos found himself mentally apologizing for the disturbance and beginning to explain. He felt foolish, knelt and began brushing off his face and chest. The iguana wriggled decisively away through the scant tussocks and low scrub.

Carlos knew by now it must be mid day. His companion, the long back ridge had diminished in size and would soon disappear. The sun would be his guide. If he were to survive he must find water. There was no suggestion of any nearby. Logically he knew he should walk toward the headwaters of the Piaui and Gurgueia, feeder streams of the great Parnalba. But where?

"Onward" said the voice. "Onward and watch."

Carlos put his trust in the voice and walked decisively without intent except to go northward and to water.

The land became near featureless.

The afternoon was hot.

No life stirred.

The horizon was lost in heat shimmer.

Carlos felt very much at peace.

He walked.

Sweat was now dried without need to wipe.

Carlos nursed the little water in the canteen.

No noise but the crackle of dry shale beneath his feet.

Suddenly, he felt the familiar pang in his chest which seemed to be accompanied by a scream and a welling up of terror. There was no sound, only feeling. From over there....

He turned to see a laughing falcon perched over its prey, a large lava lizard, not yet dead, struggling to be free.

Carlos felt the fear, the despair, the effort. All in an instant, the falcon lifted off with its trophy, and flew low toward the north.

"Yes, that way.." suggested the voice. Carlos refined his direction and obeyed.

Carlos recognized that now for the second time he had taken on the feelings of a fellow creature, this time the lizard.

Again, the day was drawing to a close and dinner was the presiding thought.

This time he waited for the voice, the voice of his guide, which seemed to anticipate his need for food. He heard no voice but had a feeling of "soon", a feeling of anticipation. He walked on. North was easier to determine as the sun was falling in the west. "Quite soon!" he felt.

Suddenly, in an open space in the brush, he found himself face to face with a pair of eyes. The sunken, wide spaced eyes were those of a jararaca, a large poisonous viper, who apparently had felt the vibration of Carlos' approaching steps, and now homed in on the warmth of his body. The jararaca also was intent on a meal. Carlos would do.

The coiled snake and the young wanderer faced each other with terminal intent. Carlos' hand rested on the handle of his knife on his belt. Heat and quiet had detached Carlos from his sense of the scale of things. His altered mind in a near delusional state, the snake appeared to the man as an enormous and fearsome opponent.

Both froze in a dual first of wits. Carlos felt nothing from this cold predator, not a feeling at all. On his own part he felt torn between compassion and the need to survive. Sensing Carlos' reticence, his guide said, "Yes!"

With a reptilian automaticity of his own, in one smooth motion Carlos sprang forward, knife raised, and got within striking distance of the viper. The snake writhed in its coil form, raising up its fore body, ready, very ready. Tensely the two weaved in feint and readiness. Carlos had a flash thought of the knife fight in old Lapa when two no goods wanted his money and his life. Through skill, Carlos as able to walk away.

The snake lunged then recoiled, making contact with Carlos' knife arm, grazing him with the deadly fangs. Feeling the sting, Carlos moved back very slightly, still thinking of maximizing his own lunge range. He circled and the snake followed. "Wait", prompted his guide, sensing Carlos' tendency to recklessness in his altered and desperate state.

Seconds, or minutes or...an eternity passed and they circled. Carlos felt the need to oscillated his forearm, rhythmically swaying and inducing the snake to track with a sway of its body. It kept him one edge, ready to act, but a moving

target, and able to initiate a response in fluid fashion. The two danced a deadly dance.

"Together, do it together," prompted the voice which made sense and as the snake lunged forward again, Carlos initiated a spring slightly diagonal to the direction of the snake's strike, turning his body, following by a wide arm swing. Before he landed he completed the midair spin, his knife arm leading, and with a wrist flick sliced off the viper's head as the snake turned to follow him.

It was done.

The snake body writhed on the ground in nervous reflex.

Carlos sat on the sand, exhausted by the adrenalin rush of the surreal dual. Slowly he caught his breath. The scratch on his arm felt like a bee sting. Would it cause him trouble?

"Fine; here will do," resumed the voice.

Carlos performed the fire ritual. The sun was again now setting. Dry wood was available. All the wood was dry. All the *world* was dry. Sand and sand. Not problem of fire spreading but he scraped a pit to allow for a reflective surface to cook the meat.

The meat was the tastiest of the journey and would provide for several days if dried. But what was the cost.? His arm had begun to swell.

He was truly tired, too tired to worry about a minor wound. After the meal he simply rolled on his back and stared at the sky. The stars, familiar friends by now. And the deepest, deepest blue.

He knew now his guide was always there and attentive.

"So...here we are.....Well, I have let you get cozy with me and I in turn to depend on you. I am having some second thoughts about who you may be. We are in the desert. In the gospel I recall the desert being Satan's testing place. Also, Father Martos has taught us to test the spirits. It says in the Acts of the Apostles to do so, to distinguish between a true spirit in good faith and one of the principalities or powers, higher angels who have gone over to the other side. What do you have to say for yourself?"

"You are a wise young man to have such considerations. But what is your alternative?"

"To pray, to pray for protection directly to God."

"Very well, do you talk to God?"

"I guess not as often as I ought."

"And does God speak to you?"

"I am not sure; probably not in a perceivable way...I guess...I am just not sure."

"Very well," went on his guide, "let us ease your mind. Think about it. If you know the ways of the devil and realize the desert has been his testing place, would Satan help you kill a snake, a serpent, for food? Is not the serpent one of the symbols of Satan himself, if you recall the book you call Genesis and the Apocalypse. Furthermore, if you know your scripture as you say, you will know the test of a true spirit. Then, test me."

"Very well," responded Carlos, "Who then is Jesus Christ....is Jesus Christ the Lord!?"

"Rightly so," responded the spirit guide, "Jesus Christ is Lord, the first born of all creation, son of God, the one true God, the Absolute, known by some as Jehova, God, Allah, Atman, samsuri. There is but One. Blessed be His Holy Name."

Carlos felt the spirit guide to grin and he himself grinned.

"Very good," responded the guide, you are on your toes. What's more you are making progress. Just now you have sensed my mood as a feeling of your own and responded appropriately. I am Manuel, your guardian angel. I have been with you since your baptism only you did not have ears to hear. On your quest you have learned in the quiet to hear my prompts. This is the first step. You said you had not experienced God talking to you. When you hear or feel His creatures talking to you, all of nature has that potential, as also the true souls of your fellows, you are hearing the voice of God. I also in a humble way am that voice for you. As Grandfather Philippe has coaxed you on, he has sent you to me for these lessons. The skill you will learn is to recognize the feeling prompts without the need to 'hear' as now. You will learn to read the

true way as it unfolds but read it with your heart. Your heart will be my presence, your guide."

"Manuel...Manuel, huh," Carlos responded, feeling himself being overtaken with sleep.

He felt at peace, but beyond thought, into deep sleep.

Time passed. Carlos saw himself in a strange place, unknown to him, an adobe room, large, with timber framed ceiling. Rows and rows of chairs and a procession of men and women in white coming and kneeling in front of him. To his left and right were others, attentive to whatever was happening. He was dreaming but did not understand. There was no familiarity to anything he had experienced.

Stranger still there were others, within him, also attentive to whatever was happening. He could now sense them but not recognize them but they were many.

Then there was singing and rejoicing. It felt celestially fine, vividly real, but in a way he had never experienced. It seemed to be teaching him the meaning of elation. Then, the scene became slightly distant and the distance progressively increased to disappearing. As the scene became more and more distant, he became hotter and hotter.

The dream ended as he awoke to find the sun well up. He was beginning to go from warm to warmer. In the light of morning, the evening events, the guide's revelations, and the dreams seemed to be a detached fantasy, as if from cannabis. Now there was the reality of the situation.

All the warmth was not the environment. Carlos began to feel feverish and his arm began to throb as he lay there. Looking down, he saw the swelling and discoloration of his arm; it looked menacing.

He was in a zone of dry sticks. No cactus. If he had water in his canteen it was not more than a couple of mouthfuls. He knew of no civilized assistance within two days' walk. The ground was trackless with no sign but an occasional lizard, quite at home in this environment. And now this.

Vulnerability, true vulnerability.

Yet, he did not fear. There was a deep sense of trust that he was safe and cared for. Everything seemed purposeful, though not logical. He wondered if his new awarenesses, and the 'voice', were delusions of the heat. Yet in his heart he knew it not to be so.

The fever intensified, and he became stuporous. Sweat rolled from his forehead and he began to tremble. Then, the distinction between inner and outer reality disappeared. He seemed to float in a zone of cloud above the earth. He looked back down and saw the limp form of his lank body on its bed of sand. The upper layer of cloud, toward which he was floating, was pure light.

"What now? What do you want me to do?" was on his mind.

"Pray!" came a sonorous firm voice.

Carlos prayed, "Father in heaven, spare me. I have no help but You and I will survive as I have been promised, but not without Your help and mercy."

"Invoke the Name!" continued the voice.

Carlos knew instantly what to do." Jesus of Nazareth, only Son of the one God, be my help. But may Your will, not mine be done."

"There is no other way but My way!' protested the voice. "You have work to do! Arise!"

Carlos immediately was back in his body, the fever gone. He looked at his arm and it appeared as if nothing had ever happened.

"Thank you!"

There was no further word. He recognized a warm feeling of well-being in his chest and a sense of affirmation.

He stood, dusted off, repacked his few things including a fair amount of the snake meat and surveyed the surroundings.

Without verbal prompt he knew where to go. He began to walk. Judging from the elevation of the sun, he decided this was just west of north. The horizon seemed uniform. There was no objective evidence of the sense of it. He walked.

One hour, two hours, three hours. The sun was near overhead.

He realized that along with this radical change from his everyday chores, and the shift in priorities, there was an equally different shift in his operative awareness. He realized how useless were his responses to frustration with crops or machinery, his impatience with outcomes. Generally he assumed himself to be competent and clever, and in charge of operations within his scope of responsibility. He was the family *man*.

He started to sense the universal helplessness and dependence inherent in the human condition, man's existential state. Faith seemed to be the only operational disposition, despite the illusion of competence, intelligence, skill or training.

As he reflected, he noted a subtle change. The path he was traveling, though mostly over crumbly shale, had the trace of scuff suggestive of an animal trail. The track seemed not to waiver but to go straight in the direction he had chosen.

He walked on, aware of this company. It was reassuring. Survival was biologically possible, for a mammal such as himself. Strange to be classifying himself so generically but it was true.

As the hours passed, progressively the shale changed to sand and he could see the tracks more clearly, most probably the pointed toes of deer, and going in the opposite direction of travel.

He walked on. He walked for several hours with no thoughts and no change in terrain. Then a strange find. In the midst of the dry caatinga was a small pile of round deer dung. Revelatory? It indicated that this herbivore had within a finite distance been able to find something worth eating. This gave Carlos hope.

Eventually an occasional tussock of grass appeared, but at considerable interdistance. The earth in between was baked to the geometry of a dry lakebed. The tracks, now true impressions, seemed to say that this area was moist in the wet season just several months before. But a man could not drink the memory of water, or eat such dry brittle grass. He walked.

The sun again came toward the horizon. This day hunger would be kept away with the reward of last evening's snake dance. There was no need for fire. The weather was ever warm and cooking or large predators were not concerns of the moment. And so the evening was calmer, simply a matter of

stopping and as a ritual, spreading the blanket as an amenity to defining personal space in the vastness.

In anticipation of night, Carlos sat facing the sunset, bidding good bye to his day's companion. Again he marveled about his own fragility but the miracle of his survival, as a gift. In a sense, with his new vision, he saw every day to be so, even when there was not so much drama.

In the dry air there as no cloud and he had the illusion of being able to see forever. Far on the horizon, he saw a quick movement, but mere specks. Was he seeing a pair of fast flying waterfowl? Too far, too indistinct, too fleeting to be sure. It could be an illusion. He settled back into his meditative disposition.

"Thank you, Lord, for the treasure of life, for the vastness of our adventure and your exquisite care. Thank you."

Carlos paused and thought of his Grandfather's "you". "Help me know my place and your expectations of me in the use of the gifts you give. I am at your service."

Carlos looked at the spacious sky as he reclined. He reflected on the mystery of the vastness yet the personal arrangement of life, too much, again, for him to comprehend. He knew events were working in him and although he was impatient to be more aware of the meanings and purpose, he was now content to follow, then read the path as it unfolded as a journey before him. He felt confident that he would be able to act when needs to do so arose. He was confident now that he was not alone and did not act solely for his own purposes. His heart was at peace as he drifted off.

In the dream, the warm morning sun through the window was falling on a dirt floor; a roof of red tiles on a rough wood framework. Whitewashed walls. From outside came the sound of cheerful bird song. The warm shoulder faced him, a new companion sleeping at his side. The skin was strangely pale, white, near crystalline but no delicate flower; she was more a warrior princess, strong, resilient and wise. Together they had soared; now she rolled to face him and they exchanges smiles. Her face was indistinct and unrecognizable however. His mind suspended and floated until it was time to awaken.

A still morning; again the morning ritual. This time he walked with purpose, with a direction and a hope. Shrubs began to appear though well spaced.

Alas, the yellow flowers of a trumpet tree. Beautiful and proclaiming life! Carlos felt reaffirmed on his path in a tangible way.

Ahead, he heard the beating of steel on steel, as if in a scrap metal yard. Certainly there was not a homestead or business in this wasteland. He recalled being fooled this way once before by, as he learned later, the black winged bell-bird. But the birdsong also spoke of the promise of relief from the desert he had traversed. Carlos was grateful for the promise of change.

He walked on.

Ahead, the horizon was visually interrupted, a horizontal break. As he got closer, he realized he was again to cross a highway. This would be Highway 470, somewhere near Caracol. He had passed into the state of Piaui. There would be forest and farmland ahead. He would veer west, seeking the latter. As he approached the roadway, the roaring sound of a tandem tractor trailer, a relic from the old days of cross country transport, came and went as the vehicle passed in the shimmer of heat. But then, no more. He crossed the highway with no other sign of life and proceeded back into the bush.

The land was changing. The grass became more frequent, becoming a savannah. The shrubs, too, became more frequent and in clusters. Small songbirds flitted among them. Nature seemed to be alive again. Still, the deer trail proceeded and he followed. In the distance, yes, specks again, yes, egrets ...circling. Water for sure, he thought.

The expectation of refreshment from his parched condition quickened his step.

He had a strange feeling as he passed through the changing terrain. Shrubs here, trees there, with dense grasses in between; he realized he had come to accept plants as companions, as embodied souls, almost a group soul, as if their propagation followed almost a cloned existence. Yet, they were very much alive, sharing a common life with him. They were company, companions, with the possibility, in a sense, of subtle communication. They seemed to welcome him after his ordeal on the barren land. They cheered, as a welcoming throng.

He realized that he had started experiencing a veritable subtle landscape, perceptible with inner feelings, which accompanied the biological world of visible, tangible elements. It had different qualities, was not simply a mirror, but an associated domain of life reality he had never appreciated before in this way. How was it he had never seen this. He realized immediately that

daily activity would never allow for this deep silence and attention allowed him over these last days. In the silence, he had met the voice, which guided him to these other perceptions. He was being introduced into the spirit world.

The vegetation became denser and denser, yet still had the look of struggle, of hard times of the dry season. Paths of animal tracks came to join the one he was on, coming from other directions as the path widened just a bit. The moist soil....then mud.... Then ahead, the water's edge.

As he approached, a small mixed flock of egrets and ibis rose from the shallows and flew gently out over the far shore, disappearing in the brush. He had come on a seasonal pond, a temporary oasis in this dry land. He joined the plants and wildfowl and satisfied his thirst. As he knelt and drank, the cool water felt like satin on his parched face, refreshing him to the core. The sense of relief and reassurance touched his soul. He filled his canteen, and sat in the cool shade. The rigors and privation of the last week seemed to melt away in the calm waters.

As he sat, several of the egrets returned, to wade and feed, on the far end of the pool. The delicate silence was broken by their wading shuffle, then something else. As he turned, Carlos recognized the hind end of a small otter as it dove. Patiently he watched and waited. Where will he rise? Eventually, the small brown head poked out perhaps 20 yards from the last splash. A juvenile, on an exploration, checking out new territory he thought. This was the ariranha, a diminutive cousin of the giant otters of the estuaries and larger rivers. But his presence revealed two things. For one, there was a river nearby, where he was born, and secondly that there were fish. Fish? Yes, thought Carlos, probably the barbados, a variety of catfish. He had heard of the presence of these in seasonal ponds, either first dropped by a flying bird, or migrating on the occasional seasonal flood. They could survive whole dry seasons baked in the mud floor of the disappeared pond only to revive and propagate with the return of the waters. Carlos resolved to join the otter in his quest for fish. He was hungry.

Using his shirt as a seine or net, spreading it between his outstretched arms, he practiced sweeping the water in case he discovered his prey, then set out into the shallows, some twenty feet from shore. Eventually, ahead he saw the rippling of a cruising school of small fish as they changed direction. This school sensed his presence and swam swiftly away. Minutes passed. The sun beat on his back but the water and mud felt so cool and soothing to hi legs and feet. As another school came in view he froze, then very slowly and methodically stepped out into the deeper water, placing the school between him and a small cove of the shoreline. He then slowly moved toward the

waters edge, moving left or right in response to the drift of the school. To his surprise, he was able to direct his finny prey into the targeted cove. Now, making sure he could contact the bottom, he fine tuned his approach. The fish became frantic; they thinned to a line formation and ran the right bank until they got dangerously close to their foe. Then they reversed, repeating this perplexed back and forth maneuver several times.

At the beginning of one reversal, with the school still in mode of reorientation, Carlos took a swinging swoop from the side, aimed at the middle of the line. Acting swiftly and with surprise, he knew he had some fish; he closed the shirt, making it into a sack. The splash again disrupted the peace of the pond and the egrets spooked.

Moving to the bank and onto the land, he knelt and risked opening the shirt. Far enough from the water, he could retrieve any wrigglers. Eight, oito, little fishes perhaps six inches long. Not trophies, but these would make a tasty meal cook on a skewer. He could feel their confusion, but the purposefulness of their gasping as they would contribute to his survival and lead their spirits, together with his, to higher levels of spiritual reunion.

Before the heat of the day soured his catch, although it was still afternoon, he decided to rest for the next few hours, preparing a leisurely meal and exploring the territory. He knew he would reenter a drying land on leaving the oasis. Why leave too soon?

Greenery, he had forgotten its richness. There were trees on the opposing bank, full of finches and a trogon. Such a contrast to the silent, reptilian community of the open dry land. Yet, he new how little of this wild land remained in much of his Brazil. Where water existed, or could be diverted, so much of the land had been converted to farmland, to feed the people, it was said, but more so for export. And the better part of export profit went to Sao Paolo, Rio, or abroad; to banks, not to the mouths of the poor or the laborer.

Indeed, much land was being reclaimed to its natural state, especially after the economic depression of the early twenty-twenties. Although he was too young to appreciate it at the time, he had heard the old folks since refer to those times. The vastly industrialized Chinese Republic had relied on the recruitment of its large workforce to drive its technologic revolution to generate wealth for a few. Capitalism was being merged with Communism. Yet, the bane of all rapidly expanding economies soon caught up. As the healthcare system did not keep in step with the expansive industrial sector, the vast work force soon became decimated by the diseases of urban crowning. AIDS-alpha had been conquered, but AIDS-beta and gamma

proved overwhelming in the context of the deteriorated traditional family society. The restriction on new births, which for so long had been the mainstay of population control, and the killing of young female infants proved in the long run to be the limiting step in fighting the attrition due to the new diseases. The country had lost.

Likewise, the growing economy of the Arabian states which was driven by consumer oil soon deteriorated in the face of the development of alternative energy sources. Hydrogen fuel cells, improved solar voltaic system. America, in particular, has been able to make a mass conversion to a sustenance and intermediate level economy, very conscientious of conservation, when it became apparent after the 2018 economic decline that the alternative to conservation was poverty.

Countries such as India and Brazil, which had been moderately industrialized, yet maintained their agrarian base, and which were used to the issues of poverty, were less affected by either of these movements. The diversity of popular expectations and alternative life styles, many dependent on more moderate approaches to the use of natural resources, persisted while others experienced decline. And, in global feast or famine, daily life did not change so much.

And so, in the Northeast of Brazil, deforestation for new cropland, was replaced by optimization of use of existing lands. A blend of new ways and old ways. Irrigation was tempered by concerns about soil salination. And the drive toward mechanization was tempered by the use of intermediate level, replicable resources, including the traditional use of livestock, when possible, for farming and transportation, to conserve oil resources. Carlos, himself, had reintroduced mules, especially in the select stand of cane intended for the cachaca market.

The hour had grown late and the voice of the guide interrupted his musings.

"Now, return to this moment. Things are about to change. When you resume fellow human contact, we will not continue this way. The communication you have discovered will continue but not in this manner. If you are perceived as having such dialogue, you will be discredited, a laughing stock. Without the ears to hear, no one around you will her or understand."

"Instead, the communication will be perceived more exclusively as your feelings and intuitions. You have begun doing this well already. You will feel safe relying on it to act. You have learned now that deep communication, not

reasoning out what is correct or smartest, is the way to find true direction on this path of life. "

Carlos was confused. He expected somewhat of a transition when he returned to Ibotirama, or perhaps on the bus trip back. But here, in this oasis in the cerrado? Why speak of it so soon?

"One thing has been on my mind. May I ask?" Carlos interjected.

"Certainly," replied Manuel.

"Why me? Why is this happening to me? Why was I spared after the snake bite? My friends do not report such experiences."

Manual replied, "There are several ways to answer you. Causation is never simple." There was a pause. "One could say it is because of your baptism. Sacramental grace is a reality, you know, as is the effect of the original sin of Adam. These are not just the makings of ancient stories. We live with all this." Another pause... "But others have been baptized, you say; yes, and the growth in the sacramental life is a continuous process, which most people do not pursue."

Manuel continued, "You have observed that Grandfather Philippe, though a common man, was somewhat special. He had certain gifts. You were not led to him by accident....You....You..." seeming to mimic intentionally Grandfathers last word, "you have these special gifts to better prepare you for the work you are to do."

"Work? What work is this?" responded Carlos.

"You will see soon enough. You will know as it begins."

Carlos was bewildered by riddles within riddles. "Well, why do you speak of a change in these communications? On the other side of this oasis is more dry land, then the river and the forest beyond. This trek will take several weeks. Why speak of human contact now?"

"Soon, soon," replied the voice of his guide, and Carlos felt deep within himself the cold, steely feeling when he encountered the viper.

The hour had gotten late. The sun had set. The fire from the afternoon meal was now out and there was no need to rekindle it. Carlos decided to retreat further from the water's edge and find shelter back in the bushes. Much like a

deer bedding down, he cleared a place of thorns and sticks and lay on the ground in his rolled blanket. He slept but fitfully. Through the night, the feeling of the viper became stronger, disturbing his rest. Finally he slept.

At first light he awoke, debating which way to proceed as he left his haven here. Curiously, his instinctive sense which he possessed as he followed what became the deer path was no longer with him. In its place was a pit of disturbance in his stomach. He felt totally on edge.

The morning's choir of birdsong was suddenly silenced and the egrets again flushed. Voices... yes voices coming nearer. Distrusting the circumstances, Carlos quickly rolled his blanket, gathered his belongings and retreated deeper into the brush but close enough that he could still survey the terrain. The voices came closer...English and Portuguese intermixed.

There were several individuals...Carlos felt there were six men. One man, Brasilero with straw hat entered the pond opening on the far side then circled around toward him. Three others appeared, one a gringo in jeans, cowboy boots and a sidearm, then another Brazilians with an Indian, but a black man, not red. The latter was walking awkwardly, a tall lad hands tied in front, pulled by a rope tied at his waist. All but the gringo carried heavy backpacks.

The party circled, intent on continuing past the pond. The lead man, evidently a guide and tracker, knelt at Carlos' fire site, picked up pieces of the ash, smelled them and crumbled them.

The second pair approached and the gringo was the first to speak. "Well, what is it?"

"Senhor Cameron, someone has been here, ...recently."

"Well, How recently!?" responded the man angrily.

"The fire is fresh but not warm. It was not from last night...perhaps a day or two."

"Do you see any boot sign? One, more than one? Was it a hunter...or the Federales?"

"I see only one, old, worn boots; certainly not government issue, even in the poor state of Piaui. We have nothing to worry about. He has passed on, probably a poor solo hunter, perhaps lost to have come through such God forsaken land."

"Well," barked Cameron, "look around, Ruiz. We can take no chances with this shipment. In the meantime, what are we going to do with that Indian? If we take him all the way to Forteleza he will keep eating our supplies. He is of no more use. He has guided us through the Amazon territory of his people. Across this dry land, he is nothing but a burden."

"As you wish, Senhor Cameron, but you promised if I organized the overland passage for you and your cargo, there would be no blood. Your change of heart makes me nervous. What will you do with me and my amigos when we get you to the coast?"

"I know, Ruiz. This business has gotten so difficult. Things were so much easier in my father's day. Americans have not outgrown their craving for coca. We need to get this to the port. The increase in technology of airport security has only left the old sea routes as ways of delivery. Used to be, before this era of Peruvian-American cooperation, direct shipment out of Lima was so much simpler. Now, through the Amazon forest is the only safe route. But you and your men have nothing to worry about from me. Just based on the business, you are indispensable to me. You should know you are my business security. Now, about the Indian. He is nothing but trouble to us. I want something done."

Ruiz again protested, "Senhor, even if you just use business sense, you should be impresses by the spirit of this land. The spirit of the land will not tolerate murder without revenge. If we kill him, someone will not make it to Forteleza. You, or I or one of the porters. Simple. May I make another suggestion?"

"Well, what is it!" barked Cameron.

"We can wound him. We can leave his hands tied, tie his leg to a stake in the ground and stick him in the leg. He will probably bleed to death but if it is a small wound, we will not be killing him directly but your purpose will be served. If he gets untied, with the blood loss he will not have the strength to cross so much of this country anyway."

"Why you sound like a politician and a lawyer at that. But if that sooths your conscience in light of the 'spirits of the land'...then I will go along with the fuss."

Carlos watched as the young Indian lad was tied to the stake as described. He felt helpless, recalling his rash response to the viper. He did not want to risk acting too soon and paying the consequences. So he lay low in the

bushes, camouflaged by the dusty state of his kaki pants, brown skin, and grey tee shirt.

Ruiz, with a grimace, stuck his hunting knife into the young man's thigh. A trickle of red blood stained the brown flesh. The rest watched in solemn silence, grimly digesting the situation. But greed and desperation did not let them swerve from their mission.

Carlos felt the viper strike again, this time an empathic pain in his thigh. Then the men departed, heading east on what appeared to be another game trail.

Carlos allowed some minutes to pass, in case the party had second thoughts. Finally, convinced of the isolation of this struggling youth, he left his cover and approached.

"Be still......Intende Portugeuse? Do you understand Portuguese?"

"Yes, I understand Portuguese...and English, French and German, along with several native tongues, but that is beside the point. Who are you?" replied the Indian.

Aghast, Carlos replied: "My name is Carlos. I mean you no harm but will help you." Carlos chose English since it was easier as a second language to both.

"See my leg...I am dead man. How can you help? We are miles from a dispensary or hospital. Does Carlos have a spirit connection? Or does he have an impimi plant?"

"No impimi," Carlos replied. "But Carlos does have spirit."

Untying the captive, he inspected the wound. The puncture was only as wide as the thin blade but deep. It still steadily oozed dark blood. Removing the man's headband, and tearing his jeans, he used it as a pressure bandage over the wound.

Carlos was frantic. His desire to help was eclipsed by a feeling of overwhelming confusion. Mindful of his newfound web of communication and interventions he began to pray, but silently.

"Father in heaven, have mercy in this young man as you have most recently had mercy on me. Save him..."

The prayer was interrupted by the guide voice. "No, use the resource within yourself to heal him. You can do this."

"But, how!?" protested Carlos, in his inner dialogue.

"You have the resource; if you have the heart, you have the power to heal this."

Carlos looked into the man's eyes. He saw the fear. Carlos calmly closed his own eyes and embraced his new friend with his heart. He saw the wound in his mind's eye. He asked again for help to do the right thing. Placing his hands around the thigh, he wished for wholeness, for wellness, in a loving attitude. He wished it with all his heart.

"Now, rest here," he told the young man.

"No," responded the Indian. "I know these men; they are no good. They are full of tricks. They will send a man back to make sure I am dead. We must go soon. Come, this way."

Taking Carlos by the arm, he first led him in the direction in which the man had gone. However, on reaching the east end of the pond, he took a branch from one of the bushes, pointed and told Carlos:

"Go straight away, here, off the path. I will follow. Walk between the grass; do not break any grass."

As Carlos proceeded off at ninety degrees to the main path through the brush, careful not to disturb the vegetation, his new companion walking backwards and brushed the ground with the branch to conceal their tracks. After fifteen minutes of walking the two men stopped.

"OK, now we are free," commented the Indian.

"Well, you know more about me than I do about you. You wear the hair and headband of an indigenous tribe but you speak many languages. How is that?"

"It is a complicated history. I will tell it later. I am Indian by birth and live the old ways by choice. However, I have had a university education."

Carlos was still concerned about the young man's condition. While they rested he unwrapped the bandage. To the amazement of both men there was no blood, no wound in fact.

The Indian spoke first. "Carlos is right; Carlos has spirit, great spirit," he grinned and took Carlos' hand. Carlos in turn was amazed.

"Thank you, God," were his first thoughts. He then felt, more than heard, Manual's voice in his chest saying, "You are learning; together, work together."

The Indian spoke, "I am Chitsen" of the Panará, the Kreen-Akrore. I am a chief's son, grandson of great chief Ake. My people live in the great forest by the great river to the west. You must come; I cannot repay you here."

Carlos as about to say that there was no need for a reward but his heart told him of the rightness of this happening, this chain of circumstances. Nothing happens by chance. He could see the wisdom in this new relationship and needed to comply with this wish.

"Yes, I will come."

"Good. We need to walk now. But, not the way we came. Cameron knows that way. We must take another, to be safe."

As they walked, Chitsen' took the lead, walking now again by direction, not following a path. Carlos felt strange, now following another's lead. However, what had he been doing in the caatinga but following with his heart another's lead.

They walked for several hours, the land retuning to mixed caatinga and cerrado but with progressively more of the character of the latter. Less cactus, more grassland, taking on the characteristics of a savannah. The shrubbery patches became denser and more frequent and trees began to appear regularly. Ahead, far ahead across the flat land there was the green density of forest. Chitsen read Carlos' mind.

"Yes, tomorrow we reach the first river and forest will begin. Not big river but good river. We can eat some fish."

The young man walked patiently and with a deliberate steady stride, obviously used to treks across vast territory. He looked attentively both on the ground,

the immediate environs and the horizon, making slight adjustments in course. He walked confidently.

"Chitsen, how many days to your people?" inquired Carlos as a matter of knowledge, not impatience.

"Many days. Perhaps half a moon as my people would say."

The two spoke without breaking stride.

Carlos later continued, "How is it you came to know Portuguese and these other languages?

"When the Villas-Boas brothers first collected the Indian peoples and invited them to the Xingu Park, my people were the last to come. They resisted, clinging to the forest until the great road crossed our territory. This was in the early 1970's. For twenty years, all my people, those not killed by disease and war, lived in the Park. The Villas-Boas brothers spoke Portuguese and tried to introduce it to the tribes as a common language. The goal of the Park was to gradually socialize the tribes to the inevitable arrival of the civilizados and the rest of outside culture."

He continued, "There is more to tell, but my grandfather and others eventually sued the government to return them to their original lands. I was born back in the valley of Rio Peixoto de Azevado. But since days in the park, most Indian children attend regional school for basic education. I was also offered university education. I received a master's degree in ethnobotany. You see, provision of the declaration which formed the basis for founding Xingu Park was first to protect the plants of the Amazon basin, secondly to protect indigenous peoples. So, plants are considered more important on the world scene than a subspecies of man. So, I decided to learn more about plants and their science in order to protect my people in the region during development.

Although the Park was originally autonomous, government police would sometime come in to track drug smugglers, such as Cameron. Indian people sometimes did business with government, sometimes with drug smuggler. Whoever has money. Government police had help from America. US government sent men supposed to train police. But they carried guns and went into the forest after the smugglers. They do not say, but we think also they are there to spy on Venezuelan people."

Carlos interjected, "So your people began to speak English with these American soldiers."

"Yes, for work, and they traded us beer and cigarettes, sometimes whiskey, for Indian women."

"Did your people learn more from these Americans?" inquired Carlos.

"From some interest groups, yes. But the soldiers, I am told they were fat and dull. They did not know when we told the true and when we played a joke; when we tricked them and let the smugglers know. But we must let them catch a smuggler once in a while so they would know we can give them what they want." Chitsen walked quite a while before continuing.

Carlos listened then replied, "So, I see this smuggling business still goes on."

"Yes some things never change, it seems," replied Chitsen'. "Other things do not change. These outsiders seem to have no contact with the spirit world. They cannot read spirit. They are like lost men. Trees, monkeys, they are things to them without soul. A quarter moon in the forest alone and they die. They do not know how to read signs." He walked a while and continued. "Many are good and friendly but when you look at them with spirit eyes you see two people in each body, one the man of war, and one the man of the heart. They do not know one another. Even when the priest comes to us to do white spirit talk, his mouth and heart are not together. Come to us and you will see another way."

The green trees were getting closer but still quite far. The sun was getting low in the sky.

Chitsen spoke with gentle authority. "We will stop here today. Tomorrow is another day."

They had entered a small clearing surrounded now by trees. A soft understory of vegetation gave it a peaceful feeling.

"You collect wood and start a fire; I will find supper."

Carlos questioned, "Are we safe to have a fire here?"

"Yes, Cameron does not know this country and will not come this far off of the main path. He is in hurry to exchange his white gold, his white powder, his cocaine, on the coast."

Chitsen went off through the bush while Carlos performed his accustomed ritual. The fire was soon burning and over the hour went to coals. Time to cook but where was his friend?. He worried about the delay in Chitsen's return. Was he in trouble? Finally he heard him coming through the brush. The hunter returned with a small tapir.

"I was worried; I thought you had trouble."

"No, not a bit of trouble. Just patience. The land here is still dry and game is scarce."

"But you have no weapon. How did you kill?"

"I asked."

"You asked!?"

"Yes, I asked. I saw mother with young. She had three. I looked the mother in eye and I explained our need. I did not remove eyes and came closer and was able to grab young tapir."

"You asked!" Carlos repeated in wonder, rubbing the back of his neck in consternation. "Well, the fire is ready and here is a knife. Tell me what you want me to do."

"You know how to clean out parts inside. Well do that, then cut off front and hind quarters then sections of rib. That will be enough for us. We will leave the other parts for small animals to eat. We can roast those pieces, eat what we need and have more for next three days. We can make better time walking, no hunting tomorrow and go farther."

Carlos use the knife in the fashion described and placed all the pieces on a rock near the coals to roast. The aroma teased him as the meat sizzled.

As Carlos tended the fire, Chitsen spoke. "Why is Carlos alone in the dry land? This is not your home?"

"No, dry land not my home. I come from beyond dry land, where it is greener. My town is called Ibotirama. I am a farmer. I came to the dry land, then the forest to find myself, to discover what my life is, and have come better to know the spirit world."

"Ah," exclaimed Chitsen, "Yes, a manhood walk. My people do something like it. I see you have found spirit." As he looked at his leg, still there was no impairment or function of mark of the previous would and no complaint after the day's walk.

"Yes," exclaimed Carlos, "or spirit has found me. We shall see where this all leads."

Carlos turned the meat and occasionally poked a piece of the flesh with his knife to test how deeply it had cooked. Finally he passed a piece to Chitsen. "Here, this is ready. Let us eat."

Chitsen gratefully took the offering and quietly thanked the spirit of the land and the mother beast. Then he ate hungrily.

As the men sat, enjoying their meal, Carlos was moved to ask, "Why did Cameron want to kill you?"

"I told you of how my people sometimes trick the government. Also, we trick the smugglers sometimes. Smugglers know this and do not like it. They want to instill fear so my people are always straight with his cartel. But Panará do not know fear. Also, this time we showed them a new way, not known to the government. He thinks by killing me, no one will tell what way he went this trip and he will have less problems again and not need a Panará guide."

"Silly white men think this way. They do not know the land and the spirit of the land. One must know the spirit way besides the path on the earth. Otherwise, one finds trouble, often too much trouble. Cameron thinks he solves everything with gun, just like the American soldiers. They do not know the way of the heart and the spirit world."

"The way you talk," responded Carlos, "is just the way my spirit guide has been teaching me these last days on the dry land. In some ways it is new to me, in some ways not new at all."

"One always learns deeper of the ways of the heart and the spirit of a man," responded Chitsen. "My grandfather, he is a spirit guide. He is now too old to act as a chief but is a shaman, a medicine person. You will meet him and learn more guickly."

"Good," Carlos replied, "good; this is why I am here."

After some silence, "How will I understand? Does Grandfather Ake speak Portuguese?"

"No, most old Panará speak Ge, of Iriri region."

"Iriri region," responded Carlos in a thoughtful questioning voice, "say something to me in your language."

"Kõ note mateno kna! You are a curious man!" responded Chitsen with a smile.

Carlos exclaimed "That sounds so much like my grandfather's Kayapo!"

"You have Kayapo grandfather?" queried Chitsen. "In the old days we were part of Kayapo nation; other tribes were our neighbors. There was much war with the Mekrenoti, Juruna and Kararao. Let me tell more."

"Before the outside found us when looking for rubber, gold, for timber, for drugs, the tribe lived in forest. Many tribes. We lived close but had small wars occasionally. Mostly revenge for other killing. Outsiders came, saw the land and wanted it and its resources. They did not want Indian peoples. In 1960's, as I had said, two brothers, Villa-Boas, found a compromise with government and a National Park was founded; they convinced the Indian peoples to come to Xingu River within the protection of the park, a place to live together. They say in peace. The old Indian Protective Service, a mean organization, was replaced by FUNAI, the Indian Foundation."

"Peoples came, one people after another. The land was not good to farm; there was not enough game for the tribes to hunt. In 1970's the big road, the Trans-Amazonica, came through reservation, bring civilizados, with their diseases, their alcohol, their ways. Indian people ate from square boxed of dead food. In the 1990's, tired of the new ways, Panará elders, Ake, Teseya, Kokriti, Kreko talked to other tribes and to government. After much talk, including the winning of a court suit, the Panará people were allowed to go back to the father land, to valley of the Rio Piexoto de Azevedo as called in Portuguese. Other Kayapo tribes stayed on at Xingu and the surrounding towns. They were being assimilated! Many chiefs started to make deals, selling land to loggers and living outside the Park in condominiums, eating fancy food, taking many women. The Kreen-Akrore were glad to be back in the forest. Life was hard there but they were revived by the spirit contact with the land."

Carlos added to the story. "Yes, my Grandfather Philippe could not live in the Park either. But he, as a young man, went off to live in Portuguese Brazil. He had raised me after my mother died and father left us. He tried to teach me the Kayapo way but I was too hard headed. He tried to teach me more Kayapo language."

"Well", resumed Chitsen', "Ake can teach you more if you know some. If you have trouble, I can translate to Portuguese for you."

The sun was now gone and dusk was deepening. The two men ate the rest of the meal in silence. After the meal, Carlos put a few more pieces of wood on the fire, mostly for light and they arranged to sleep. Chitsen had collected several handfuls of grasses and laid them on the earth as a sleeping mat.

Carlos selected a flat place near the fire ring and arranged his blanket roll to suit him. However, before retiring, he sat for a long time to collect himself after another adventurous day. He reconnected with his center of feeling, his heart center for want of a better word, in the front of his chest. He let his attention settle in there and become at peace. There was no real message to read other than things were proceeding as they needed to and he had responded this day in accordance with the greater plan. Finally, as he stretched out to sleep, the earth embraced him.

As Carlos drifted off that night he began to see how his life was beginning to make sense, from his being orphaned, to being raised by Grandfather Philippe, to the connection with the land, the desire to return to the forest. And now he encountered his forest cousin in an oasis in the caatinga. Nothing happens by chance. He slept peacefully.

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