Pandemic, complementary medicine, in the setting of an action romance novel - the year, 2084. Minority rights, economics, ecology, political trends are blended with themes from Orwell's 1984 and Camus' La Peste, however all is portrayed with a credible, personal touch.

The Reawakening: The Rediscovery of Osteopathic Medicine

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The Reawakening:

# The Rediscovery of Osteopathic Medicine

**Zachary Comeaux DO** 

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ISBN 978-1-60145-969-5

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## The Reawakening

### Chapter 1

"What's this?" Harding awoke with a start.

"Grandpa Jess, tell us some more stories of the old days, pleeeease."

He felt little Trina nudging him as her brother, Jacob, sat beside them in the shadows. Jess roused himself and sat up from where he lay on his mat in the corner near the sky door. The old man turned and the bright light surprised him. Not yet focusing on the young children, he felt an itch as a cricket crawled over his hand then across the dusty tile floor.

"Please, Grandpa, please!" they persisted.

As he raised himself on one elbow Jess peered through the door opening out into the glaring sunlight. From the floor level, set several feet below the earth, only the sky was visible, giving indirect light to the room. The tall reaching saguaro cacti did not come into view.

"What time is it?" Jess asked, sitting up with a start.

"It's 10:02 AM, June 15, 2084," chirped Trina smugly. "We just learned all about times and dates in community school."

Jess resumed his thought, noting to himself, "I must have slept longer than I intended. The sun's well up high. Too late to go out today. I guess I can go to see Todd tomorrow, or maybe this evening."

"Ah, a *story*! Let's have a story," chanted young Jacob. Jess looked at the children, six and eight, waiting anxiously for a reply. He could

not deny them the pleasure of their heritage. He reached out to them.

"Come here, you two, and give me a hug."

As the children approached Jess took one in each arm and embraced them. They liked his strength, his big arms; they liked his smell. They liked the fluffy scratch of his white beard. He was different than the young ones.

"Let's move over here; it's getting warm," suggested Jess. The three moved to a bench near the ventilation shaft. The flow of air which was drawn across the room from the doorway to the street passage, the tunnel which connected to the other dwellings, felt pleasantly cool.

"So, what do you want to hear? I think you have heard them all."

"The tall trees, the tall trees," cheered Jacob.

"No, the cloud of snow geese, please," insisted his sister.

He looked through the door of the earthen house, thinking it through again. Although he felt duty bound to go and rescue his son, he knew the sun was too bright at this time of day. He reflected that he needed to wait at least until evening, then he his attention returned to the children.

"Well, let's see now, do we tell a story about the geese flying over the tall trees or what? Maybe we talk about how to negotiate and come to consensus," replied Jess wryly.

"Consensus, what's that?" responded little Jacob with a wrinkled brow.

His sister, two years older, again wanted to exhibit her knowledge. "That's when we talk long enough so you think you have a new idea but it's something I already said."

Jess grinned, stroking his beard. "That's sort of right. It's when we take the time to understand what is good about what each other thinks and then we can decide by agreeing instead of arguing. It's an important thing to learn. Consensus is how we govern here in Missouri, at least among the Primos."

After a pause Jacob asked, "Grandpa, what are Primos?"

His sister gave him a gentle push, "That's us, silly. You and I are Primos!"

Jacob looked worried, "Grandpa, is that right? Are we Primos like Trina says?"

"Sure," responded Jess, "and your mother and dad and Betsy and José, Maria – all your friends and relatives are Primos."

"Huh!" shrugged Jacob, a bit confused. "Is that good?" he mused.

Grandfather continued. "You see, in the old days, the time from where all these stories come from, the people on the land were all one people. Before that there were tribes and races of various kinds, but in America, as the country was known then, people of different color, race and place of origin had come to form one people. That was before the time of change. At the time of the Great Change, that was in 2045, those who had enough money began to live in enclaves protected from the burning sun. The enclaves were smaller than could accommodate all the people, so those chosen were called Inclusives. It is a word that means special, or counted in. Over time, the name was shortened to Clusives. Since there was not enough room in these enclaves for all the people, the others were left to survive in their own way. They returned to some of the old ways, like us, living underground. They were called Primitives. Now we call ourselves Primos for short. You do not know the difference since you have not ever seen any Clusives or heard us speak of them. We have so little contact with them so you only know one way."

Jess was unable to express the unspoken fact that Primos, in a way, were self selected from those who had already chosen to live closer

to the land and in a more natural way. And so, they were generally more attuned to the nature of their own bodies, they were better conditioned and more resilient. Socially, they had been more perceptive of the value of social cooperation and reciprocal aid. As a result, their community had a certain cohesion and individuals recognized the personal survival value of shared resource and knowledge.

Even as he spoke it was more than young Jacob could comprehend.

"So, where do the Clusives live?" the boy asked.

"In this part of Missouri the nearest Clusive enclave to us here in Mound City is the small one at Maitland, just east. There is a larger one down in what used to be Kansas City and one in St. Joseph. I will be going to the one in Maitland in the morning to see your Uncle Todd in the hospital...if you want you can come, if you mind me every inch of the way."

"Oh boy, can I?!!"

Jess was surprised he had said that. And he wondered what Jacob would make of the differences. Besides the physical differences, would he be able to perceive the futility of Clusive dependence on advanced technologies since they had lost the touch with the natural world and natural relationships? Things like independence, risk taking, trust, and cooperation?

"If you *mind*, now, only if you mind," insisted Grandfather Jess emphatically. "In the summertime, as you know, the sun is a killer sun by 8 AM. Look out this remote monitor on the wall – says the UV index is 35. Ten minutes exposure and you are maimed for life, scorched. So, you must mind."

"Can I come too?" pleaded Trina.

"No, I cannot tend two of you at once; it's too difficult. One mistake unchecked is too risky."

Jacob jumped while his sister pouted and went into the back room. Jacob curled up at his granddad's side as the old man leaned back into the wall.

"So much for storytelling," reflected Jess with notable disappointment.

After a while Jacob persisted, "*I'm* here; you can tell *me* a story," he interjected with pleading tones.

"Well, OK, you got your ears on and open? You know I like to talk. I can hardly believe the changes I have seen in my life. Talking does me good."

Jacob knew he had the old man hooked. He snuggled closer, under the great arm and up against Grandpa's heaving chest which acted as a resonating board for the man's already sonorous voice.

"Well, I already told you that this valley was once green and supported farmers after the land was taken from the native peoples, the Indians. Our settlement, Mound City, is named for the Indians' earthen constructions. Now the mounds have all but been blown away by the sand storms but there once was a vast network of mound builders all along the Missouri valley and along the Mississippi valley to the south and east. Both the Indians and the white successors valued the flat and fertile land of the flood plains of the vast rivers. The rivers also gave a means of travel in boats; the river also supplied fish."

It was more than Jacob could stand, all these new words and concepts. "Grandpa, what are rivers...and boats?"

"Of course, my boy; so much has changed. You know the water mines we speak of?"

"Yes, where Uncle Todd works, where we get our water."

"Well, in the ground the water does not stand still, it runs along like sand in a dust storm, driven by the pull of the earth, gravity, instead of by a wind."

Jacob sat transfixed as Jess continued. "Now the water flows in what we call an aquifer. Once there was so much water it flowed on the *surface* of the earth. This was called a river. Rivers would run for miles and miles. There was green life near a river with birds, and other animals. A boat is like a bowl made of wood or metal that could float on the river; if big enough they could carry people. On the sea a boat could be like a small city with lots of people."

"So, why don't we have rivers and boats anymore? Where did they go?" asked the boy.

"Earlier I mentioned the Great Change. The social changes and everything about life was changed by altered climate." Jess struggled with how to introduce these complex subjects and fundamental changes in daily life. He continued. "You know the sun screen clothing we use when we go out?"

"Yes. It protects our skin from the sun," Jacob responded proudly.

"Well once we did not need this since the whole earth itself had a sun screen around it, the atmosphere and particularly that we call the ozone layer of the atmosphere. Over my lifetime and that of my parents the ozone layer got thinner. There was an argument about whether or not the gasses from cars and industry were a cause of this catastrophe. Some tried to avert the change by altering lifestyle but in the end the earth's sun protection got weaker, the sun got stronger and stronger. Everything heated up and the water on the surface, at least nearer the equator, just dried up. Any water present remained in the subsurface aqueducts, conducting rain from farther north. On the seacoast, the waters rose from melting ice at the top and bottom of the earth, the poles."

Jacob knew rain since once or twice a year there would be a violent storm with driven sheet rain and thunder and lightning.

"Are we near the equator, Grandpa?"

Jess chuckled, "Yes and no, I guess. Although the equator is very far in distance, here in Missouri we are at the southern edge of what is now the inhabitable region. A little further south is just open

desert, scorching sand and endless wind." He paused. "But you asked about the big trees."

"Yes, the big trees, tell me about the big trees!"

Jess became thoughtful. "When I was fifteen my father moved us here. It was a long time ago. We came from Colorado, in the mountains, where things were very different from here. I think I have an old paper photograph here somewhere." Jess shuffled through a pile of things on a shelf in the corner. "Ah, here!"

He settled back down with Jacob who then crawled up into his lap as the two each held a hand on the creased paper.

"Wow, who is that? It looks a little like you but it's not you," queried the boy.

That's my father, and me beside him. That's at our home, near Salida in the Sangre de Cristo range."

"And..." began Jacob, near speechless.

"That's a horse. A bit larger than a mouse or a jackrabbit you're used to seeing."

"Wow...," little Jacob's jaw hung open. "A horse. It's big."

"Horses were sure a part of our life. We would ride them; they could pull a wagon. They could pull out logs or pull a plow. And they sure ate a lot of grass. But these mean nothing to you, my boy," Jess added nostalgically.

"Grandpa, what's grass?" the boy asked.

"You see all that hair on your head?"

Jacob rubbed his head as Jess continued his tale.

"Well, grass is a small plant that grows on the earth as thick as hair on your head. We moved here for the grass. The sands of the great

dunes of the San Luis Valley began to encroach further and further up into the mountains then over onto our side. We got choked out. So Colorado got to have too much sand. But Missouri had grass. Here on what used to be prairie, grass grew as far as the eye could see. It used to support the horses and also the deer, cattle and bison. There was a bit of grassland left here when we arrived. It's partly what lured Dad over to this valley. But that, too, now is gone. Now we have the prickly pear and the ocotillo."

Jacob pointed back at the picture. "And there are the big trees! Were they real big?"

"Yes, those are the big trees. They would grow to one hundred, one hundred and fifty feet tall. In this picture they are balsam fir. But on the mountainside were spruce and fir, lush glades along the rippling creeks on the north sides of the range, interspersed with striped maple and cottonwoods at the lower elevations. Alder shrubs and willow crowded the river banks of the Arkansas River. On the south side of the hills, across the valley, were pinion pine and juniper. Junipers lived for hundreds of years, hugging tenaciously to the craggy rocks in the drier terrain. They were so much bigger than our palo verde and mesquite we have now." Jess sat, near breathless in nostalgic reverie. Finally he spoke in a hushed tone. "That was such a wild, free, and rich life."

Now engaged, little Jacob asked a question that was on his mind for a long time, "Grandpa, what are those marks on your arms, those two twisty lines?"

"Those curly ones? They're a tattoo," Jess remarked. He looked down at his forearm, at the small pattern of opposed spiral curves with their ends converging toward the wrist. "They say I was born in Colorado; they are rams' horns, of the mountain sheep."

Jacob remarked cleverly, "They're the same as on the door post outside."

Jess was trapped but evaded further explanation. "Yep, I'm from Colorado; that's my mark."

There was a pause as Jacob stroked the marks on Grandpa's arm.

Then came another voice, "Tell us again about Grandma Eva. What was she like?" Jess had not noticed but Trina, unable to resist, had crept out again to listen. She sat wide eyed also, her face shining like the moon.

"Come here, you!" Jess hugged her close.

"Grandma Eva...neither of you would remember her. She died just about when you were born, Trina." He paused again to focus his thoughts. "In the days when the change was progressing but before the reform, life in the cities was getting unbearable. Natural food was in short supply; people survived on manufactured nutrients. Crowding was terrible. Water quality was bad. The whole infrastructure was coming apart. Many cities had to relocate as the sea water's rose. New York, Sydney, Tokyo, Shanghai, Helsinki, St. Petersburg for example, the economic hubs of their regions, had to be relocated. Some of them became totally uninhabitable as temperatures rose. The arctic regions became open ocean and civilization moved further north."

"But what about Grandma Eva?" Trina insisted.

"I'll get to that. Grandma grew up in Philadelphia. Her father worked in an electronics factory. But life in the city drove him to dream of something better, so he moved west. After trying several communities, they settled in this valley."

Jess continued, "Mr. Phelps tried his hand at crops and several cattle. But he scarcely knew where to start. Power was rationed and rarely reached rural settings. My father's horses, though difficult to feed, became a community resource, especially as plow horses. Dad was good with horses. Percherons, Belgians, he knew all their personalities and how to get them to do what he wanted. Eventually, all the new comers asked for help. That is how we got to know the Phelps family. Dad helped them like he helped everyone else from the East."

"But *Grandma*!" insisted Trina.

"Ok, ok. One day there was a storm forecast, a big one, and I was sent over to tell Dad, to give him a warning. He was over at the Phelps' place. I arrived a little too late and everyone was already going into the shelter beneath the barn. The sky was darkening but had that strange yellow tint and the wind was stirring up dust in small circles. I knew we were in for a tornado. The clouds on the horizon were black. I ran in just before they shut the metal door and latched it."

"'Are you ok, son?' my father asked. 'What are you doing out?' He pulled me down to sit by his side. We were all very afraid; the feeling was in the air. The wind outside howled like I had never heard it."

The two children listened intently as Grandpa continued.

"I felt someone clench my other hand and put their head into my shoulder. In the dim light I saw the prettiest face I had ever seen. It was girl, a year or so younger than me with hair almost as yellow as a prickly pear blossom." Jess paused, "That was your Grandmother."

"So she was pretty, huh?" Trina asked with interest.

"Yes, she was pretty, and educated, a hard worker and such a good woman. She charmed and tamed me like Dad did the horses. She put me to work and I never regretted it. We had a good life."

Jess was sad, though, at the thought of the empty place beside him at night.

The sounds of boots coming up the street passage interrupted them.

"Mama! Daddy!" shrieked the children, jumping up to greet their parents.

Britt hugged the children but immediately laid eyes on his Dad, "Jess, what you are doing here? I thought you would be staying over in Maitland."

The children ran to Sophie as she followed her husband into the chamber. "Well, hi, kids. Have you had anything to eat? Are you as hungry as we are?"

Britt continued, "Did you get over and back already? How is Todd? Everyone at the mine was asking after him today."

Jess looked down, "I can't tell you anything. I missed the interval. I napped this morning until the sun was up. I lay restless all last evening anticipating the trip. I guess I just tired myself out too soon. I will go first thing after sundown."

Sophie returned to the doorway, dusted off her pants, hung up her work jacket and untied her hair. "Let's see what we can fix." The children eagerly followed her into the kitchen.

Britt replied, "Yes, a day will not matter but I am so worried about him. At least he got the message through to tell us where he is."

Jacob boasted, trailing after his mother, "Grandpa said I could go with him tomorrow...to see some *Clusives*!"

"He *did*?!" replied a surprised Sophie as she cast an eye toward Jess. "I guess he knows what he is doing." She hugged her boy to her side as she started to sort out vegetables. As she went through the lower cupboards, a mouse scurried out from among the sacks and through an invisible crack.

"Mice! Can't live with them; can't live without them. Blessed mice!" The sighting made her consider when the children might need a booster bite.

In the later afternoon Jess lay on his bed, thinking about tomorrow. Some folks thought his healing skill was waning. Was he getting old and confused? Others thought it might just be the methods that were weak. Osteopathy was an old art but known by few. Recently there seemed to be several cases that just did not respond very quickly. As the old man drifted off to sleep he found himself mumbling, "Eva, help me. Tomorrow will be hard."

# Chapter 2

Jacob waited by the street passage door. With boots and broad brimmed hat, he was ready to go.

"Come on, Grandpa; we're on a *mission*!" he exclaimed.

The old man replied, "Yes, we're on a mission all right but you don't have the plan."

"The plan? What's the plan?"

"To begin, put on this sun shawl, just to be safe," replied Jess, "we are not using the passageway; we are going overland."

"Overland! That's dangerous. At least that's what Dad always says."

"Yes, it can be dangerous, but we are getting an early start. And if we get into trouble and the sun catches us, I know some safety holes and caves to duck into." Jess readied their gear. Although the protective clothing was a good beginning, he would pack water and sand masks in the event they were needed.

"If we went through the passage system down to the commercial cavern near the water mines we would be taking too much time going in a wrong direction. We need to go north and east. To make it to the Maitland enclave by sun up, we need to go overland."

"OK, if you say so," agreed the boy, with a self-assuming air. This mission was going to be a big deal for him. Clusives! An enclave! Overland. Imagine that.

As they left the safety of the earth house, Jess's mind was on other levels of danger. For one, there was the question of what was ailing Todd. His note only said where he was, that he was hurt, and that he needed Jess's help. It didn't say how bad. Jess assumed it had to do with his osteopathic healing abilities but that might not be the

intent. The circumstances were just too strange. Were there other pieces of which he was just not aware? He was apprehensive.

Despite the dangers, Jess had invited the boy. His clan survived by knowing the old ways, each one learning separate skills. Todd was the only member of his generation in this community to have an interest in the healing ways. Jess was constantly on the lookout for who else might be gifted. He had not yet had an opportunity to assess young Jacob, although he was encouraged by his inquisitiveness and memory.

Another concern was the circumstance of Todd being in an enclave hospital. In itself that was common practice. Primos, if it were expedient considering the circumstances of their injury, would on occasion be cared for in such a way. Todd probably had left the passage system for some reason and had an incident of some sort. However, to practice in the old way of healing was forbidden to everyone. It was not scientific in current terms and was considered as a public health threat. Additionally, the medical lobby had made sure that it was considered to represent practicing medicine without a state license. So it was a felony. The enclave hospital would be a very public place. He would need to be sly.

"Look at those!" hooted Jacob as they entered the world of dark and shadow above ground. He was referring to the grove of great saguaro cacti and their fearsome silhouettes. "It looks like they are rising up to get us."

"Yes, they do, my boy. There is plenty to look at out here," commented his grandfather as he took Jacob by the hand. They passed several sky doors and exhaust air vents and their accompanying solar collectors around the playa before the path narrowed through the ocotillo, mesquite and palo verde.

"Watch where your feet land. Stay on the path. Stub your toe on one of those small barrel cactus or a prickly pear and we'll sit here half an hour pulling out spines."

They walked several minutes in silence. The air of the open country was fresh and different. Jacob was impressed by the coolness and

the smells. A jackrabbit scurried off in a blast of speed through the thin undergrowth.

Gradually he had the sense they were climbing. Having reached the edge of the valley, ahead was a small bluff of pale clay.

"Loess it's called," Grandpa anticipated his question. "The light colored clay. Once this area was covered by a great sea. Then it receded and we had a great wide river. This soil is the precipitate of all the soil washed into the sea and river. It packed fine and is a good clay to work with. Most of it in the valley below is covered by new sand from other places blown in by the great storms."

They stopped for a rest and the two looked back over the valley.

"Down there in the lowest place you can see the line of vent towers from the water mine, following the aquifer. On the other side, in the distance you can see the land rise once again. Long ago, from here to the great western mountains was grassland, and big game. They say the herds of buffalo would blacken the plain and fill the air with clouds of dust and thunderous noise. The early explorers described herds of tens of thousands of them."

The two sat in the delicate stillness under a crescent moon. The air was still.

"Can you tell if the moon is each day getting fuller or leaner?" queried Jess, eager to orient the young lad to the ways of nature.

"How do we tell? Do we wait and see if we can see it grow?" responded the boy.

"No, silly, you just look and figure it out." Jess began to explain. "If the moon is in the west, as this one is, as it passes over you see which way its ends point. If the ends are pointed up, if it were a bowl, it would hold water. So you know the moon is getting fuller or more completely round each night. If the ends are pointing down, as if it were a bowl upside down, you know it is emptying or getting smaller each day. But it has to be in the west."

Jacob sat in thought then replied. "Now, why would a person want to know that, besides just to know?"

Grandpa replied, "In the old ways, we plant our crops according to the phase or size of the moon. The moon has a pull on everything on earth. If we want our crops to grow right, we plant our root crops, like carrots, potatoes, when the moon is getting smaller or waning, when the moon is actually going under us on the other side of the earth, so that it will pull the roots of our plants deep into the earth to gather water there. If we have crops like corn that we want to grow tall toward the sun, we plant when the moon is getting fuller. So, it you are to see the moon getting smaller or larger, you get ready to plant the right crop. But, come on, we best be walking."

The two resumed their trek. Jess resumed his thought. He was concerned also with patterns he had been seeing and hearing. This spring there were more cases of pneumonia than he had seen for some time. Most ones he saw were responsive to his treatment but with difficulty. He wondered if they were encountering a new sort of disease or a resistant strain of an older one.

"Look at that, Grandpa."

In the distance, Jacob's sharp eyes spotted a moving form, silhouetted on a hillock against the sky.

"Glory be, an antelope, a prong horned! I haven't seen one of those in a long time. Good spotting, young man. You have a good eye."

Like a ghost, sensing them, the antelope slipped silently over the far side of the hill and away.

As they continued the walk, the path wound through patches of scrubby cholla cactus and tussocks of grasses. Jacob noticed the track pattern of various bugs in the sand then spied an unusual one, pausing to look at a centipede.

"That's a giant desert centipede, much bigger than the small ones in the caves. Scientists call it scolopendra heros."

"That's a big one all right," commented Jacob as he followed it until it entered a hole beneath a thorny shrub.

"No, don't go poking into holes, my boy. The rattlesnakes are probably out hunting in the cool of the night but you never know and you might rouse out a scorpion or a tarantula."

"What's a tarantula, Grandpa?"

"See my fist? A tarantula is a spider, but big as my fist. Its bite may not kill you like a bark scorpion's but it hurts bad. You don't want to mess with them."

They walked on a bit further, entering a range of hills. The vegetation changed, with some scrubby trees. The earth was more solid than sand but still consisted of a crumbly looking type of red clay.

"These low trees that look like they are hugging the ground are junipers. They are small since they have only been introduced here about fifty years ago. When you are gone, maybe even two hundred years from now, many of these same trees will still be here and they'll only be a little bit bigger."

"Wow, really," remarked Jacob.

They walked a bit further along the ridge as the land continued to change. Jess turned from the path, going down a small draw.

"Where are we going?" yelled Jacob, a bit fearful of leaving the security of the path.

"I want to show you something; come on," Jess called over his shoulder. Finally they entered a thinly spaced grove of small evergreens. Jacob noticed a pleasant aroma.

"Pinion pines!" exclaimed Jess as he searched through the branches until he found what he was looking for. He offered something he had found to Jacob.

"Here, crack one between your teeth and extract the seed inside; it's like a little nut."

At first the taste was like sawdust and resin but then came the sweet buttery taste of the seed.

"Pinion pine – pine nuts; cherished by squirrels, Indians and pioneers alike. A real staple when living off the land in the right season."

Jess worked his way through the thick branches into the trunk of the tree.

"Now what are you doing, Grandpa?" asked a curious Jacob.

"Here; smell." Jess came out and extended a hand to the boy.

"Hummm, that's nice; what is it?"

"Pine resin. It could dress a fiddle bow or caulk a boat but I wanted to collect just a bit to take home to burn as incense to remind us of our trip overland."

The two walked out of the draw and recovered the path. After what seemed like hours, Grandfather stopped short, looking at the sky. There was a blush of early light ahead of them.

"Looks like we are going to have to leave this path. We need to go off to the north and there does not seem to be a junction. Now, can you help me find north?"

The boy looked clueless.

"Can you read the stars?" asked his Grandpa.

"No, can you?" replied the boy. Jess resumed his instruction.

"So, let's start getting familiar with the sky. Men of the open land have been doing this for thousands of years. This is a good night; the moon has gone down now and it's not yet too bright...That band

of stars across the middle – that's the Milky Way. They look so thick because we are looking at a dish of stars edgewise. The stars which form constellations across what we call the ecliptic change the fastest. Above and below the dish the stars change slower, some staying there all the time. In the south there we have Sirius in the constellation Canis Major, the big dog. If we look the other way, where we want to go, we look for Polaris, the North Star."

Jacob squinted, trying to make sense out of *anything* up there. Millions of stars, large and small looking like grains of sand.

Grandpa Jess continued, "Now can you see that group of five stars; that's Auriga, the Charioteer? Now you see those making a 'W'? That group is called Casiopia. They tell us we are looking in the right direction....Now see that bunch that look like a water cup with a long handle, a dipper? Look at the two stars at the far end of the cup. Now, follow the line they make up across the sky about five times the distance between them and you find the North Star."

"I think I see!" exclaimed Jacob. "So what do we do next?"

"We face the way we are looking now, north, and start walking, making sure we keep that star in front of us. Over two more sets of hills and we should see the enclave."

The two resumed their trek, Jess in the lead, walking gingerly through the scrub. He enjoyed engaging the interest of the young boy. He also loved the freedom of going overland. Jacob followed behind, a bit more apprehensive.

The boy was beginning to weary. They were walking more between explanations and rests. His legs were complaining, his energy waning.

"Look over there," Jess pointed. Ahead, in the notch between two hills, Jacob could see a jewel box of lights spread across the valley. "That would be Maitland enclave," confirmed his grandpa.

The enclave was fenced and relatively self contained. Each building, whether house or public building, was constructed with sun

shielding in mind. Large overhangs and covered walkways protected residents from the direct rays of the sun. Tinted glass completed the shield. Travel outside the compound was limited to the enclave transports with their heavily tinted windows. Climate control in the transport enhanced comfort while crossing the Overland. A security station protected the transport entrance. Anything required that was not available in the enclave could be gotten by going abroad, to another compound by transport. All Clusive life occurred in a sunshielded UV free world. The strengthening of the sun's rays over the decades, due to the thinning of the ozone layer, had resulted in a high risk of melanoma and other skin cancers as well as retinal damage. Scientists were noting that even in the brief forty year time span since the institution of enclave life that skin appeared pale and hair thinner as compared to photos of grandparents.

Despite the shielding precautions, most outdoor activities were scheduled during hours of low light, although Clusive habits varied from the near nocturnal habits of the Primos. Ultraviolet ratings were part of routine weather forecasting.

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"So, did you have trouble getting in?" Todd asked from his hospital bed.

"Not really; we entered through the side, the workers' entrance." Many of the Primos living close to the enclave worked inside as laborers and servants. "There was a small fuss since I did not have identification but when I mentioned your name, things seemed too easy," remarked Jess.

"Yes, I have gotten the feeling the authorities are worried about friction with the Primos Council."

Jess drew the partition screen between Todd's and the next bed, although the other party seems unconscious and beyond. Then he came closer to the bed to speak.

Before he could continue they were interrupted. "Oh, excuse me," exclaimed the nurse in a professionally cool but friendly tone as he

entered. "This is routine and I can come back in awhile. Are you doing all right, Mr. Harding? Can I get you anything?"

"No, thanks," replied Todd. "This is my father and we would just like to visit for a while."

The nurse left and Todd turned to his father, "You see what I mean? They are treating me as if I were in a luxury hotel. Someone's worried about something."

"Well, what happened; what are your injuries?" Jess wanted to get down to business.

Todd began, "Two nights ago I was on my way in the street passage, going to work, when I heard some noise outside one of the emergency exits. It sounded as if someone was in trouble. When I went to look, two men jumped me. There were three all together. They worked me over pretty good but fortunately, there was a Clusive frontier cruiser going by and the officers intervened."

"What did they want with you, these men?" Jess was curious.

"As it turned out, they were pirates, water pirates. Overlanders probably. From their talk I could tell they wanted my flow-valve security access key. Lucky I don't pin it to my shirt like some guys do. Or maybe it would have been better if I had; they would have grabbed it and ran instead of working me over."

Todd continued as Jacob came over and sympathetically held his uncle's hand. "Anyway, the police were impressed that I put up a fight. Thanks to you I knew some self defense, the choke hold break, the throws. The assailants ran. When the police called their dispatcher they were told to bring me to the enclave hospital for evaluation. But I am not sure if they are concerned about me, or the publicity, or if they are covering up something else. I got pretty banged up but nothing serious. It's like they are hiding me out. But I did hurt my ankle and my shoulder."

Jess was about to do a structural exam, to evaluate Todd's condition when they were interrupted again.

"Excuse us..." a doctor and nurse came in and went to the other patient by the wall. Through the thin partition there was little privacy.

"I saw an antelope on the walk over; it's been sometime since I've seen any large critter about," Jess said in a loud voice, to present himself as the stereotype of an ignorant Primo.

"You don't say," responded Todd equally loud. As it seemed the medical team was not attending, Jess started to look his son over.

His mind began the spontaneous detailed analytic process of his profession. Anterior cruciate, deltoid, and fibulocalcaneal ligaments seemed intact. No edema or eccymosis to indicate tears or fractures. Tenderness seemed to indicate a posterior fibular head and position suggested tibial torsion. Jess began attending to these by gentle intentional reduction, an advanced indirect myofascial release technique that depended on the myofascial matrix acting as a semiconductor to carry information from his own mental image of the normal anatomy to reconfigure itself.

Then Jess moved to the shoulder and probed for subtle alternations in fascial tension and confirmed with subtle tenderness. Again, acromioclavicular and sternoclavicular ligaments seemed mildly stretched but intact. There was limited tenderness at the insertion of the short head of the biceps on the glenoid labrum but most change was associated with strain the supraspinatus muscle, its insertion on the greater tuberosity of the humerus. The first rib was also markedly elevated on the same side.

They could easily discern the doctor's conversation. "This is the third case this week. It seems to be more than the common pneumonia. Accelerated sputum culture isolates show no bacterial growth. It is clearly viral. But the viral agent is not totally apparent. On the microbial spectrogram, the refraction pattern is similar to the bunya viruses but the only endemic virus of this family is hanta virus and we vaccinate against hanta."

"So, this is serious, Doctor Rathburn?" the nurse added with guarded curiosity, not wanting to overstep the bounds of his role.

Rathburn began as if reading a textbook, detached but informative, "Yes, it is always serious when we lose people and we can't account for why. It's almost unheard of in this day and age...." The doctor began examining and continued to talk, but as though he were talking to himself. He realized the nurse, despite his fine training, would not be able to follow his train of thought, nor did he much care. Talking would help him sort out this complex problem.

"I've looked under the scope myself and the replicating virus I can see seem to be established in the Golgi organs and to be releasing vesicles of mature virus. The virus themselves have a tripartite genetic structure of the single stranded RNA type. These feature are characteristic, at least by the database, of bunya virus, but how...and even if the virus were to infect someone, why the multiple cases? Hanta is not transmitted from person to person."

Jess listened intently. Hanta would be big news. And something was not right. He had seen the disease in his youth as the dry land encroached and dust storms drove inhabitants into subterranean dwellings. Mice were common. Many people died. The virus, it was learned, is carried by the deer mouse and passed in their feces as an aerosol when dry dust was stirred up. Usually it leads to sudden onset respiratory distress.

In 2032 there was a major pandemic. Many Clusives and Primos died. However, it seemed to afflict the Clusives at a higher rate. The Primos, a mix breed of blacks, Hispanics Indians as well as poor whites, seemed less prone. Nonetheless, many did die.

In communities where osteopathic care was practiced, conservative care led to eighty percent fewer fatalities. Jess had participated in this effort; it had been part of his apprenticeship.

Since then, both Clusives and Primos began a practice of immunization, Clusives with isolate of capsid antigen, Primos with mouse bites initiated when an individual was six months old. Failures and side effects were very few. It had become pretty much a ritual.

"Do you need me?" inquired the nurse of the Doctor. "If not, I will resume my post at the monitoring station."

Rathburn responded mechanically and with detachment, "No, there is really nothing we can do. I will check in the evening but I do not see him living through the day. Nothing seems to be working. Just keep him hydrated so it doesn't look like neglect. Continue the bifractal megalide antibiotic in his micro trocar. I will order RT-PCR tests and rediscuss this with the pathologist in the evening."

As they passed, Jess stood as if he were patting Todd on the shoulder. When they were out of sight he resumed, using the two hundred year old maneuver to realign the upper ribs using the circumducting arm as a lever.

"You are crazy! You know the risk you are taking. Practicing the old way is a felony and here you are in a public hospital!"

"We have to do what we have to do. And besides, we have to get you out of here quickly. I have an uncomfortable feeling about the situation and don't want to leave you when I go. I will go out and beg for them to let us stay in your room until nightfall, since we cannot go out in the bright sun. They will understand. Then we will continue our work and get you out of here."

Jess went out to negotiate a sheet, a chair and a pillow for the boy on the floor. Such an expensive facility should have something to spare and old man and a boy.

"So, how did you like the overland walk?" Todd inquired of young Jacob.

"So much to see," were the boy's first words. "And Grandpa knows everything about everything!"

"Yes he is a wise and knowledgeable old man."

Todd recalled his own first walks with his father on the land. There were small patches of oak scrub then, and some taller pines. But over the years the desert has encroached yet further. He wondered

at the community's ability to stay here for his whole life time. Perhaps they would need to retreat yet further north.

"Uncle Todd, we saw a jackrabbit, and a... a centrapede."

"You mean a centipede?"

"Yes, that's right a centipede....and a whole lot of other stuff. And the Milky Way and ...Po...Polamus."

"You mean Polaris!" Todd chuckled at the boy's enthusiasm to learn but remembered being overwhelmed himself as a young lad by the richness of the world outside the passage system.

The two sat, Todd in his hospital boredom, Jacob in wonder of this different world.

"Uncle Todd, you work at the water mine, right?"

"Yes, Jacob, that's my job."

"Well, I was wondering; what is it like in the mine?"

Todd thought about where to begin. "Well, let's see...When you go in, you enter a man-made tunnel which takes you gradually down to the old rock level where the water flows. From there it is part natural and part man made. The natural part is neat; it is an underground cavern. The water flows all year and is very pure from flowing through sand and rock. If you follow the caverns back, and they get very tight and narrow at times, there are pools occasionally and if you are lucky you can see some of the creatures that live there."

"Creatures? Deep underground? Are they scary monsters?"

"No silly. They are not scary monsters. They are small salamanders, crawdads and fish that have adapted to the world underground. They never have seen the light so they have no eyes. The sun never strikes them so they have no pigment in their skin so they are pink or white, some even transparent."

Jacob responded, "That actually does sound a little scary, like they are mini-monsters."

Todd smiled and continued his description. "The man made part consists of expanded tunnel rooms, with deep collecting pools for the water, a testing station then a pump house and calibrating station that keeps track of flow volumes."

Jacob followed with interest fingering the edges of Todd's bed linens. "Do you think...sometime I could go there with you?"

"I suppose so; we will have to see about it."

"Well, it's set; we'll stay," Jess uttered, returning to the room. "Here you are my boy," he offered the boy several cookies and some apple juice. He fashioned a nest for Jacob on the floor and threw a sheet on the chair. "Now, lie down and get some rest. The walk home will be at least as long as the way we've come. We never retrace our steps on the exact same route. Too much chance of ambush."

Todd's circumstances had heightened his vigilance. It was true. There were Overlanders, nomads who were neither part of a Primos community nor a Clusive enclave. Greed, impatience and circumstances drove them to find a third way, regardless of where they came from. They had no mercy, no conscience. Probably Todd's assailants were from that brood, although they had come surprisingly close to civilization to be Overlanders. In any case, Jess was reminded to be on alert.

Jacob curled up in his pillows and Jess resumed treatment of his son. Todd was his youngest, and his pride. He had more of a sensitivity to the old ways and had started to show an interest in learning osteopathic treatment. Jess had begun instructions and he was coming along. Jess hoped to make the generational leap and interest Jacob as well. Since writing was forbidden to avoid persecution, oral training was the line of passage.

The shoulder was a bit looser. He knew that more time was required for resolving all the inflammation. Stretching the fascia

associated with the surrounding muscle would help to some extent. But also the body needed some time to do its dance, to unwind from the trauma of assault, to recreate the balanced internal biomolecular milieu of health. His job for now was to aid circulation, loosen and mobilize impacted joints, decrease muscle tension, free up impinged nerves. Nature would take care of the rest.

Jess was more concerned about the ankle and leg. Although they were not serious, the injuries would limit Todd's ability to tolerate the walk home in the short term. Ligamentous laxity taught a man patience. Overuse too soon would make a temporary problem permanent. It was the perennial problem. Jess did what he could. Time and Nature would do the rest.

Osteopathy had a long history, a philosophical foundation, in respecting the natural integrity of the human body. It had developed in the mind of a renegade medical practitioner, Andrew Still. Mocked even by preachers as an insolent apostate, Still none the less had a creationist world view. Medical work was best performed when it joined solid science with trust in God and interpretation of His intent as the human architect.

As he worked, Jess' thoughts went to the soul in the next bed. He could sense, even at this distance the dire situation. The energy from the man seemed feeble though still showing some sign of vitality. Hanta, was it possible? Jess had lived long enough to know that Nature has many surprises and to live by tradition, books or by science alone was a foolish path. One had to be vigilant for the unexpected. If this were hanta in some form, and if, as the doctor had intimated, this were no isolated case, the community had a terrible situation on its hands. He did not want to bring the full implications of this to consciousness.

Todd, relieved by the gentle, authoritative, informed touch of his father dozed off in a relaxed sleep. Jess himself finally reclined in the chair and tried to get some sleep. Little Jacob had needed no other encouragement, exhausted from the trek. But Jess could not rest. Something urged him to go help, as was his way. He rose and as the others slept, he gently opened the partition door.

The man was probably in his forties and appeared trim and in fair condition. He had the hands of a worker, but the light skin of a Clusive, probably one of the lower class families, a Delta, on the edge of the enclave. The family probably had had an essential trade, rather than wealth or education, to qualify for inclusion.

Jess listened. The breathing was shallow, quick and labored. The ventilator device was at a low setting as if no one cared if the patient survived. The physician, a resident, had lost hope and was more concerned about reputation than about patient survival. He was too proud to admit defeat but too embarrassed to ask for help.

"You can do this. You are the right man to be here," Jess heard in his heart. It was the voice of Eva.

"I guess I can; I must!" he replied softly.

He approached the bed. He felt the pulse for character. The man was struggling to survive.

Jess began the ritual he had used in his youth, learned from the old paper from the time of the ancient Spanish Flu epidemic.

First he loosened the fascia associated with the upper ribs, the cervico-thoracic fascia of the thoracic inlet. Then he released the respiratory diaphragm beneath the lower ribs. He methodically worked from either side to distract then articulate the ribs and to stimulate the sympathetic chain ganglia which lay deeper beneath them. He stimulated the Chapman's points on the anterior costosternal interspaces. Lastly the compressions, from the shoulders, then the feet, to increase circulation and expand the lungs. That was enough.

He went back to his chair and slept. But he arose every two hours through the day to repeat this ritual. Each time he was cautious, checking the nurses' station to see if there was any activity. Since this patient was left to fend for himself, nurse visits were unnecessary. Basically the patients were managed with decisions made from parametric data, not by patient inspection. Jess could work in peace.

However, toward evening, Todd awoke to catch Jess returning through the partition.

"What are you doing over there?! You *are* crazy?! Were you...?" Todd exclaimed, incredulous.

"We have to do what we have to do. Now, no more of that; let me look at your shoulder and leg."

Jess went over him one more time. There was nothing to do but rest now. Todd could move very freely and with comfort.

"Get up here and walk a little."

Todd got up and took some steps, then he remarked, "As usual, I feel like a new man. You're a wonder worker."

"Osteopathy works; it's Nature way," replied the old man. "Before I leave we'll talk to the doctor, get him to release you, but you can't go with us. It will be a week before you put full weight on that ankle. In the meantime, you will need home delivery. If they are worried enough about an episode, they will at least drive you to the passage since there is no road to our end of the community. We can figure something from there, a cart probably. We will leave again shortly after sundown. We cut it a bit close coming over."

Jess went back in one last time to work on his other charge. He felt the warm glow of Eva's approval. He performed the protocol one more time. Respirations were deeper and much more relaxed. There seemed to be less struggle and an improvement in vital energy. The man would survive. Just like the old days, Jess thought.

As he finished up, the man opened his eyes. Jess placed a finger to the man's lips.

"Shhhhh...you are a lucky man. God has sent you a gift. Use your life well, but, please, never tell what you know or I will hang. Do you understand?"

The man nodded gently but with wide eyes. Jess resumed, stroking the man's arm.

"Now rest, do not try to speak. Re-collect your energy, pray, and remember our secret. Do not tell the doctors."

# Chapter 3

Cleve Rathburn MD, resident in charge, returned to the ward, passing the nurses' station. His rest period sleep had been restless; he was uncomfortable with the situation, with patient Petrie. Sitting at the console, he reviewed the patient charts.

Two years and seven months down, only five to go, he thought. The medicine residency had been worthwhile and he had no regrets about his choice of career. He and Sheila intended to move after they married. They had already negotiated a prenuptial agreement. Both liked their jobs at Maitland Regional. They liked the enclave. But both felt the need for independence from Sheila's father, Dr. Philip Drake, who was the chief of staff. A larger enclave further north, maybe in St. Paul or Calgary, would offer more opportunity. Since the National Health Service was a seamless system relocation was simple. There was always the need for a motivated young physician.

"Thompson, come here." The nurse dutifully approached the monitor station. Rathburn continued in surprise and agitation. "What can you tell me about this?"

Rathburn referred to the monitor screen, pointing to the first two entries:

01 0002347 Harding, T, 22 A, discharged 22:12 in stable condition 01 0002351 Petrie, A. 22 B, condition improved; labs available; pt. requests diet change

01 0002208 Jessup, G. 23 A, new dypsnea; vitals no change 01 ------Unoccupied 23 B

Nurse Thomson explained, "Well, you remember you discharged 347 – he sure improved rapidly yesterday – then, this morning..."

Rathburn was anxious and irritated. "Yes, yes, and 351, Petrie...Has Dr. Patterson been in and initiated aggressive therapy of some sort?"

Thompson continued with flat somewhat defensive affect, wondering at the Doctor's mood and intention, "No, no one has been in. We followed your orders, maintenance only, and this evening the patient asked for something to eat and said the ventilator mouth piece was a bother." Then he added, expecting no time was the best time to approach an edgy doctor, "Oh by the way, you had a prompt from Pathology International to say that you have a video consult request. Here is the transaction pass code ...and by the way, housekeeping found this in his bed covers."

Rathburn was anxious for information and rushed from the station, glancing briefly at the paper Thompson had handed him. On it appeared two converging spiral lines. Curious, but not important. He stuffed it in his pocket and went quickly to the video conference suite, wasting no time turning on the monitor, entering his identification, then the session password. The connection was made.

"Ah, Dr. Rathburn. Brookes here, InterPath, London. The data on your specimen was sent to me for interpretation. I say, good call, Dr. Rathburn, astute observation. The nested RT- PCR array *does* suggest, as you implied in your instructions on the order, a DNA sequence consistent with a bunya virus. Exact identification was not possible with our current data base. When I checked the archived virotype library the best fit was the Rio Segundo virus strain, a subset of hanta virus. The vector was identified as the Mexican harvest mouse R. mexicanus. What do you make of that? Have you had other cases?" Brookes was glad he was not closer to the problem.

Rathburn scratched his head, speechless, then, "No other cases."

Brookes continued, "No other cases? Only this one death?"

"Well, actually, the patient has not died." Rathburn countered.

Brookes was surprised, "Interesting. Well, regardless. As you know this is one of those reportable diseases for which I must notify both your local public health officer and InterMed, the epidemiology branch of the World Health Organization. Actually, I did so before I contacted you."

"Yes, I know, you needed to do that," responded Rathburn. "Thank you for your information." He wished he had more lead time to investigate on his own. Damn bureaucrats.

"Well, good luck, then." Brookes' image disappeared. "Poor bastards," he thought. "I would not want to have to deal with their situation."

Rathburn in the meantime had scarcely assimilated the information when Thompson reappeared, "A call for you, the health department."

 $^{\circ}\text{OK},$  route them to my handheld," replied the resident with chagrin and further irritation.

Rathburn walked to a quiet corner of the monitoring space.

"Rathburn here."

"Rathburn; Justin. I got a call from InterPath, London. You know about that?"

"Yes, I was just talking to them." He was not sure whether to expect blame, cooperation or ridicule.

Justin continued, "You been sitting on something down there? What is this hanta virus thing? We studied it in school but I haven't ever seen it. You got a case?"

"Well, I think so," Cleve muttered, not sure how much to share, how much to trust.

"Think so? Well, what did the autopsy show?" Justin asked impatiently.

"Well, Doctor, let me add to the intrigue," replied Rathburn in sarcastic tones, "Despite your pronouncement, the patient has not died; he's improved through the day and is now complaining of the vent piece and asking for food!"

"Impossible!" stammered Justin. "The book data says hanta type viruses are rapidly fatal." He wondered where the error might lie in reading the situation and was anxious to get things straight.

"Statistically, you are correct; Acute Respiratory Syndrome. It presents just as in this case; takes them away within a day, but in this case..." Rathburn parried.

Now Justin did the head scratching, "So, what did you do, Doctor. You need to take serious credit here." Sarcasm or reality, Justin did not know where he stood.

Rathburn, tired of posturing, admitted the truth. Looking at Thompson who had entered the room, then down, "We...I...kept the appearance of care with the trocar and vent...and left him to die."

Both men sat in sober silence for a moment.

Justin reflected, "So, we have an outlier, a tough bird, good genes," since there was no other explanation.

After a pause, Rathburn replied, resigned but relieved to finish the required exchange, "Perhaps...perhaps. I have nothing else to report."

Justin added, "Well, there have been several unexplained deaths at St. Joseph Enclave. I may request samples from the coroner, to see if these were similar deaths. We may want to see if they represent the same infection. I will keep you informed but also ask you to report anything further that is unusual."

"I will," assured Rathburn as the monitor went blank.

Rathburn left to proceed on rounds. The heat seemed off for the moment but there was a lot to be explained, and quickly. In the encounter he focused on the Petrie case. But Harding. He had made a remarkable turnaround also in just a few hours. Coincidence? He wondered. His hands touched the paper he had stuffed in his pocket. Drawing it out, he wondered if there was a connection.

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"So, did he *see* you, can he *identify* you? That's the important point." Starner blurted. He was angry, very angry, not used to being thwarted.

"I am not sure, but probably. We expected to overpower him. How were we to know we'd be stopped by the police? I thought you had taken care of that," Jurgens insisted with a defensive tone.

"No, we control the police in the enclave but not the regional patrols. Well, we have a real mess on our hands," Starner continued. "I will have security interview the patient again before he is discharged, to see if he recalls or reports any further details. I don't want this to raise suspicions about Project Siphon. I sure don't want to put the Primos Counsel on alert, especially during the contract renewal period."

Starner was enclave manager. He was sensitive to demands to decrease personal residence assessment fees. Pressures were strong to further reduce them or at least prevent further increases. He had already done a maximal solar electric conversion for electricity independence. Every public building had a total roof covering of solar micro fiber felt; residential contributors participated on a voluntary basis. This enclave solar energy collective was doing well, covering costs of the installation and already generating a margin of income for the enclave. They exported at least 35 Megawatts a month to the intra-enclave grid for additional revenue.

But water was the other major expense. Besides cheap labor, it was the primary source of enclave dependence on the Primitive community. The water mine remained by Federal Treaty in the territory of the Primitive Reserve.

Water had always been a problem. In American history, large cities in the West were dependent on the bringing of water by ditch or pipeline from mountain reservoirs far away. With the environmental change associated with the Great Change, demand outstripped domestic supply. Numerous alternatives were explored, deep drilling, seawater desalination, extreme rationing. None were sufficient.

Human nature being what it is, national sovereignty of neighbors was sacrificed and war with Canada over its abundance of surface water resource became a consideration. Despite its waning power due to successive wars, oil dependence, and loss of control of primary manufacturing productivity due to popular devaluation of education, the United States still posed a threat to global commercial balance. Canada sought the intervention of the United Nations who sent negotiators to avert catastrophe.

In the end, a federation of interdependence was negotiated as a mutually satisfactory solution. So the Federation of Americana evolved. With the development of the enclave system and the social schism which separated the classes, the lobby for those who desired to remain on the land was strong. Despite the wealth and status of those who became the privileged Inclusives, the ethic of equalitarianism and the sheer numbers of the combined minorities rural folk black and white, Amerindians, rural Hispanics, - resulted in a strong block to balance the enclave resources with water rights. The Primitives were granted the right to control and develop a plan for the equitable distribution of water.

In the far north, with the warming, the great lakes remained ice clear all year. There continued to be a balance of adequate precipitation, and the water trade was well managed. Much of the land and water resources were managed by the Athabascans, previously known as herders, hunters with a culture defined by their local habitat. In some regions they would be known as Eskimo's.

Across regions, they had developed a strong cultural and political identity forming the greater part of the Primos' block in the north. In the south, in the extreme conditions of the fortieth parallel, the limited supply of water depended on the Primos' aquifer system. Distribution was accomplished by a series of underground pipes, installed and maintained by the regional Primos' Counsels. However, flow-valves were controlled by the local Primos' water utility. In this region the indigenous Americans, the Indians, played a much more diminished role, being dominated by the poor whites, blacks and the progressively more dominant Hispanic population.

Locally, in Missouri, 2084 was a contract year and there was speculation about a possible rate hike. If anything, Starner had hoped for a savings, a reduction. Water piracy, through unauthorized control of the network, was always present. Starner conspired with Jurgens and his crew of pirates to establish a politically sanctioned but clandestine trade in off-market water. He was starting to doubt the wisdom of this association.

Starner felt uneasy about needing to resort to dealing with Jurgens' band of mercenary Overlanders. They looked strange; their hair, their disfigurement due to thickening of the skin. And they were unscrupulous. Desperate to survive, the men went on the land just after puberty. They realized that the exposure to the sun, even when managed wisely, would mean death before their mid-twenties. As a culture, they survived by early breeding and polygamy. There was no clan loyalty and stealing of goods and mates among them was not uncommon. But they had little physical or social advantage and survived only by a terrible savagery.

Starner was equally desperate and now addressed his minions. "I will send security this evening to re-interview our patient and decide on his disposition after that. We have kept this out of the media and no one outside should know of his whereabouts. Now *you...*get out of here!"

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Jess and Jacob were back on the land. As Jess predicted, the moon was just a bit fuller this evening. Leaving the gate, they headed in a southwesterly direction, looking for an alternative pathway. Soon they found one that would be usable.

Todd, in turn, had been loaded on a small commercial transport returning after making deliveries from the Mound City commercial center. From there he could negotiate some assistance from Primos and get a cart to take him up-passage to his home in the Mound City outer cluster. Jess had witnessed his departure personally before leaving; nothing was left to chance.

As they walked, Jacob noted grandpa was decidedly quieter than when they had come overland.

"Is everything all right, Grandpa? Will Uncle Todd be OK?"

"I think he will be OK," replied Jess. "Once he arrives in Mound City, things will follow their course."

However, Jess did not speak his full mind. His intuition was that something was not right. The nurse's attitude was so solicitous in contrast to his disposition toward the critically ill man in the next bed. He would simply need to keep his attention on high alert, look for other clues to the sense of it.

Another layer of unrest revolved around the issue of hanta. He hoped his people were protected but was uneasy over several cases reported in clusters nearer the enclave which did not seem to resolve as easily as was usual with viral infections.

These two concerns would have to await the unfolding of events. A deeper concern was the attitude toward health, life and healing which had evolved in the Clusive culture, as he had just observed. Patients were numbers and medicine had evolved to a set of protocols performed with relative detachment from the reality of the patient. Assessment was largely through technical measurement, not direct observation; progress was noted by attending to the data displays on a host of physiologic monitors. Decision making was based on statistically developed algorithms. Care was also rendered

in a standardized manner, according to statistically evaluated and discussed protocol referred to as the universal standard.

Admittedly, significant advances in manipulating biologic process have evolved, especially since molecular biology lost its fixation on individualized steps in chemical pathways. The post-genomic era began to recognize the parallelism between the external environment and its definition as a symphony of interrelated organisms and processes. Internal climate and weather began to be as important as looking for single pathway biomolecuar abnormalities. Recognition of health, and the integrity of the host, replaced the focus on disease as solely the result of the presence of an intrusive pathogen, a microbe, or renegade cancer cell.

Jess, though not a licensed practitioner, knew healing. He had been educated by his grandfather, Richard Harding. Richard had been educated at the A.T.Still University School of Osteopathic Medicine in Kirksville, just east of where he now walked. He had completed a residency in family medicine with special interest in the manipulative aspect of practice. Manipulation had been the classical distinction between osteopathic and allopathic medicine at one time. However, in grandfather's day, osteopathic physicians had integrated the best of conventional medicine, including appropriate pharmaceuticals, surgeries, invasive and nuclear diagnostic to complement the judicious use of manual diagnosis and treatment. Many physicians were indistinguishable from their allopathic or MD peers.

Jess remembered his grandfather being called to bedside after surgery had failed to resolve a patient's pelvic or the abdominal pain. He recalled his treating cases more properly identified with conventional specialties – orthopedics, psychiatry, pulmonary medicine – after these conventional approaches had failed. Grandfather Richard had a big bag of tricks, referring to what he called different *models* of osteopathy. Sometimes the offending part would be the bones and the associated joint. Sometimes the pain would be due to a spasmed muscle; sometimes the complaining tissue would be a visceral organ or stale fluid resting in body tissue. Grandfather Richard would use what he called counterstrain, or muscle energy technique, or the Zink respiratory-circulatory model.

But as Jess watched and learned, technique was important, but more important was the ability to control one's attention, to redirect it precisely as needed through tissue layers as one's fingers glided like transducers over the surface of the skin.

As Jess had progressed in the work, he wondered if he was working with finely discriminative touch, as came with routine practice. Sometimes it felt as if he were seeing with his hands directly through tissue. Other times it appeared as if desperate tissue, with memories of old trauma, were reaching out to him, trying to communicate. At other times it felt as if someone else, a third person, were giving him suggesting, insights, or data – sometimes even orders – as to where to go next.

Regardless, the engagement with a patient was intimate, immediate, and very special. It was far from routine or impersonal. Even today, it was so different from what he was observing in the conventional hospital setting.

"Hooot, hoot hoot.....hooot whoooooo."

"Grandpa!" gasped Jacob. The sound was very close.

"Great horned owl," replied Jess, snapping into the present. "Biggest nocturnal bird of prey. But if you are not a jackrabbit, or a ground squirrel, you have no fear."

But the proximity of the bird made the call sound fearsome. Jess had been walking mechanically, just wanting to get home. The bird reminded him of where he was, and of the boy in his charge.

"So, what did you think of your first visit to an enclave? Did you think you wanted to stay?"

Jacob reflected a while, accustomed to the steady cadence of their home trek. The experience had been so different, so diverse he was not sure where to start.

"It was cold, and the light was kind of funny...It was very different," he searched for a way to describe his feelings.

"Yes, it is different," Jess assured him.

"That juice stuff; that was sure good."

"Yes," replied Jess, "we cannot grow apples in our climate anymore. They come from far north. Why, when I was a boy...", but his thoughts were interrupted when he saw a hint of movement ahead.

They had been approaching the crest of a ridge with a low swale before the next ridge. The undergrowth of low junipers crowded the trail. In the waning moonlight Jess was convinced he had seen movement, a hunched body moving furtively on the next ridge. Out here in the open land there was no room for mistakes. Grasping the boy's shoulder he pulled him down.

"Stay low and follow me." Without uttering another word, the two crept back down the ridge, then off to the east through the scrub. They circled a quarter mile or so, then rejoined the trail, went forward a hundred yards before deflecting again to their intended course to the west. Elusion was their only option.

"Looks like this will be our route," exclaimed Jess in a murmur voice.

"What was it, Grandpa? A cougar?"

"No, not so natural," responded Jess. "I suspect a predator of another sort, an ambush."

"But why?" Jacob was surprised.

"Out here, anything is possible," was Grandfather's only reply.

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"Well, what did you find out? Did he recall any details, identities, anything we should be worried about?" Starner interrogated the nervous appearing security officer.

"Sir, I really found out nothing..." the officer began.

"Nothing!" roared Starner. "What in the hell did I send you down there for!! Did he recognize anyone? Did you show him Jurgens' picture?"

"No, sir. Well, sir, actually, he wasn't there."

"Wasn't there!!" Starner fumed, "Well, where was he? Why didn't you find him, you idiot!"

"Well, Sir, I tried but they had already left."

"Already left? They? Who are *they*?"

"Sir, this morning early the patient's father arrived to visit."

"His father? How did anyone know he was here?"

The officer continued, "I do not know that, Sir, but..."

"Well, go on!"

A secretary intrudes with a message, "Mr. Starner, a message..."

"A message? Let it wait," Starner growled.

"Sir," insisted the secretary, Miss Pratt, continuing despite the reprimand. She was used to Starner's tone and ways so she knew how to continue to function under such circumstances. Despite a few scars from his abuse, she appreciated being well paid.

"Go on," Starner addressed the security officer, ignoring the secretary who waited patiently. "You said, 'they left'; explain yourself."

"Well, Sir," continued the officer, now thoroughly intimidated. "I am told by the nurse that the young man progressed very well through the day and in the evening the father requested his discharge. The patient was seen leaving the enclave in a commercial trade transport."

"Discharged! Trade transport! Well, have you made contact with the transport?"

"No, sir, since it is a commercial vehicle and not one of our fleet, it is not dispatched from here and we do not have the operator's contact code. We only know that he is being returned to where he had been picked up, in the commercial district at Mound City at the overland-passage interface."

"And that is outside enclave jurisdiction, in the area of the regional security police! We have lost him! This is trouble." Starner appeared seriously concerned. "OK, ok, you have given your information, now go! Gooo!"

"Yes, Sir!" The officer scurried off.

"Well, what do *you* want? I have already told you I am not interested in a message just now." Starner turned, addressing his secretary.

"I know what you said but I also know your best interest. This is from Jurgens," replied the secretary coolly.

"Jurgens, really?" replied Starner with mixed sarcasm and curiosity. "Give me that."

Starner rudely snatched the transcribed message from the secretary's hand and read it. His face reflected a mixed response as he read:

"Our team has noted developments contrary to your interest. Although we are not equipped to follow the rabbit, his parent and the boy have returned overland. We will follow and bring them to you for your sport."

Starner appeared pleased.

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"I haven't ridden overland for a longtime; I appreciate the chance," remarked Todd to his driver host.

"Don't mention it; Primo hospitality. Your father was most persuasive." They drove out of the enclave then down the highway in silence for a while. The country rolled slightly. A caracara took off from a tall saguaro near the road side. Overhead a pale phase redshouldered hawk circled in the dying evening heat again.

"Rides smooth; I see from the sign on the door panel that you are E. Rodriquez and Sons. You're not Ernest Rodriquez?" Todd asked inquisitively.

"No, well sort of," The driver seemed pleased at the recognition, "Ernest, that's my father who put up most of the money. He's nearing retirement from the water mine. He wants me to have a better life. So we bought this rig and bid on a contract for food delivery to the enclave." Then he redirected the conversation, "How about you? What are you doing over at Maitland? Do you work there?"

"No, ironically, I work at the water mine also, substation seven. I guess I know your father then." Reaching out his hand, he continues. "My name is Todd, Todd Harding. What's yours....?"

"I am José, *José* Rodriquez." They shook hands.

"Glad to meet you. I know your father from the work."

"Todd Harding, aha," remarked José. "They've been talking about you at the mine. My father mentioned it, that you just disappeared. But someone said they saw you hauled off in a police transport. Was that you?"

"I guess so. What are they saying?"

José continued, "No one could really make sense of it at all. One guy claimed to be there; said there was some sort of fight but the police cleared things away pretty quick, before he could get much involved."

Todd reflected, "I've been trying to figure things out also, as best I could. It began when I thought help was needed so I poked my head outside the passage at a ventilator port. Next thing I know two guys are on me and working me over. One other watched. Besides getting me down, they seemed to be intent on finding my flow-valve key. I'm assistant supervisor over at substation seven. I was able to hold my own for a little then a regional police cruiser came by. The officers intervened but after calling in, started to act strangely. They fussed over my injuries and insisted I be evaluated at the enclave so that's where I've been. I turned out to have an ankle sprain and a sore shoulder. But I'm doing OK."

"Yes, Dad said things have appeared strange lately." They rode again in silence for a while before José asked, "Do you think you would recognize any of them if you saw them again."

"Sure thing; the incident wasn't over in a flash. I would recognize them for sure, especially the one standing by; he looked like the boss, a surly looking Swede, clean cut. The others looked like desert rats, Overlanders."

José reflected a bit. "I'll mention our discussion to Dad. He's cozy with the Regional Primos' Counsel."

By now the moon had risen and shown on the road. They approached the bluffs which overlooked the valley floor.

"Almost there," remarked José. "How is that ankle doing? You don't seem to have a much of a problem."

"The ankle feels pretty good, but I could not have walked the distance. Which reminds me; I hope Dad and Jacob are faring OK."

José remarked, "Yes, he should have mentioned there were three of you. We could have made it work."

"Well, Dad's an old hard head; and he has Jacob out on his first overland adventure. He can handle himself."

"Well, here we are. You know it's against code to drive the transport into the compound. I usually unload here. Will you be OK?"

Todd nodded and alighted then walked around to shake hands with his new friend. "I appreciate the lift. Hope to see you around. Say hello to Papa Ernest for me."

"I will," responded José. "Say, if that ankle is still feeling good, we have a dance coming up this Saturday. If you can make it, you're sure welcome. It'll be up in the community hall next to the school, in the far north cluster. If you need me, I'm in dwelling 27."

"Ok, well I guess that's it. If you ever get down to the southeast cluster, I'm at 34. So, a Dios."

"A Dios, Todd."

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"Cagey old man, thought you'd given us the slip. You surely do make a job difficult!"

Jess was surprised at the growling silhouetted hulk in front of him. He had let down his guard as close as they were to the passage system. Close to home he always felt comfortable.

"Go, son; run for the passage; run to the right out of sight and around them. It's a short way," Grandpa whispered to Jacob.

"But Grandpa!" exclaimed Jacob frantically, afraid for himself but instinctively concerned for his elder.

Jess covered the boy's mouth with his hand. "Now *go*! Be brave and run fast."

Jess rose to meet the challenge. There were two. One lunged toward the boy then stumbled. "Luis," cried the other, "we want the old man; leave the boy go."

The two spread out a bit, beginning to circle. Jess was startled. They were Overlanders, wild appearing, with thick heavy features from sun-worn skin but he knew them to be both strong and determined. He moved in such a way to keep the two in front of him, in view. On alert, he assessed their pattern.

"Be ready; let them make the first mistake," came the calm voice. It was Eva again. "You will come out OK."

Jess moved lightly on his feet, staying mobile, ready to respond.

The larger of the two moved in first, trying to grasp the old guy right off, thinking it would be easy. Jess let him get close then ducked as he passed under the closing arms, giving the assailant a punch to the lower ribs as he jumped forward and spun. The tissue was tough but he knew he had made an impact. The man doubled over. As he came close to the other, with the momentum of his leap, Jess chopped the back of the man's neck. Both attackers were startled at the old man's agility. Jess realized he was standing too close to control the action so he executed an ukemi roll in the soft sand to the opposite side of the clearing. Both assailants were angry, recollecting their intent and approached for a close to this encounter. Anger and humiliation filled them. They were professionals and this was an old man.

Jess, in turn, was neither smug nor afraid, totally engrossed in the instant and the need to survive. Time stood still. "My, they are ugly," he thought to himself.

The shorter man took the lead this time with a punch. Jess spun and converted the man's inertia, grasping his forearm and guided the wrist into forced flexion as the two spun. Sensing their dire intent, Jess felt no reservations. The forearm had an almost scaly feel but he knew the same principles would apply. Using full force to flex the wrist against his own braced torso, he heard the man's ligaments tear with a snap. In pain the short one slumped to the sand, his wrist limp.

Before Jess could catch his breath, the larger man was on him from behind, gripping him in a bear hug. Sensing the deadly grip closing

like a reptilian coil, Jess checked its progress first with a power elbow driven backwards up under the man's lower ribs, then he inhaled as he drilled a double handed powered knuckle into the back of the man's enormous hand as it wrapped him. Surprised by the intensity of the pain, the enemy slightly loosened his grip. Jess used the opportunity to exhale and drop beneath the massive arms. Taking advantage of the proximity, he spun in place and planted a pivot punch deep in the creature's groin. Stepping back he allowed the assailant the room to double forward. Then placing his knee in strategic position, he grasped the man's hair, and Jess himself doubled forward, enhancing the forward momentum of the tumbling torso before him. Knee and forehead met with a crack; Jess felt he was pounding on rock but the man slumped forward stunned as Jess stepped aside, readying himself for what could come next.

Jess was beginning to weary. As he turned to meet the two who now moaned and cursed, hobbling toward him, committed half heartedly to finishing it, he heard sounds from behind. It was little Jacob.

"Over here!" the boy called. He was followed by two stout Primo passage security scouts.

At the sight of these, the two original assailants stumbled down the path and then off into the scant shrubbery.

"Are you all right, brother?" One of the security men stepped to Jess's side attentively.

"My knee is sore, but not quite as sore as his head," remarked Jess, watching the two retreating figures.

"Grandpa, Grandpa! Are you OK?" Jacob was frightened.

His Grandpa put an arm around the boy. "I'm OK; but you've done good bringing our friends."

"So, what was that about?" one of the officers inquired. "They seemed pretty intent, more committed than mere muggers. Do you want us to make up a formal report?"

Jess considered the assault to be more than mere chance or an opportunistic robbery. Too much for coincidence. "Yes, let's go talk."

The party left for the familiar safety of the passageway.

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