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DEDICATION

Adele Gerard Tinning (A Real Psychic)

Michael H.D. Dormer (An Unreal Artist)

Robert S. Kiwala (My Good Friend and Dive Buddy)

Robert K. Johnson (A Great Marine Biologist)

Julie Kay Thompson (My Soul Mate)

ACKNOWLEDGMENTS

I was extremely fortunate to spend many evenings with Adele Gerard Tinning who had a profound connection to the paranormal world and who opened my mind to phenomena way beyond current scientific understanding.

Susan Gomon was an inspirational and supportive force that enabled me to focus on writing this novel.



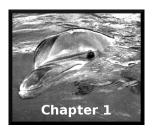
WARNING

My name is Dr. Sandra Grant. My research focuses on mental telepathy and my experimental subjects are dolphins. I have given Ron S. Nolan the exclusive right to publish this book about my findings, which are too important not to be made public. If any one nation, corporation or terrorist group obtained this psychic ability, they could conceivably wipeout every computer in the world!

Although THE TELEPATHIC DOLPHIN EXPERIMENT was classified Top Secret by the government in 1991, I feel enough time has expired that it is my civic duty to reveal what really took place. I personally assure you that this chronicle is based upon fact and that we really did make discoveries that have made a major contribution to the field of parapsychology.

If you have similar paranormal experiences to those described herein, please contact me through Planetropolis Publishing. I would like to you hear your story too!

Note that the contents of this novel are a work of fiction and businesses, characters, locations, and organizations that may be real are used in a way that is purely fictional.



Key West, Florida 1965

N ewcomers to Key West-at least those who came in search of island history, often as not received directions to the order of, "It's near the center of the grounds...just look for the birds. You'll find it." And looking up they would seem to notice for the first time the gaggles of gulls circling and screaming-a kind of parody of nearby Duval street along which shuttled disoriented tourists in a never ending, back and forth, coast to coast rush. Homing in towards the center of attraction, the visitors would find a full-sized, steampowered locomotive, a relic of Averill Harriman's interisland railroad, standing rock-solid on a short section of track, baking waves of searing heat from its shiny black plate.

Seagulls gracefully slid and crisscrossed overhead, sometimes landing briefly before lifting off towards the crystalline sand of Baker Beach and the rich fishing grounds of the Gulf. The train served as a social commons for the birds; a strutting ground where newly formed pairs enacted their preprogrammed rituals of courtship-leaving beneath their perches frozen drips, like vanilla frosting melting in the hot sun.

Small well-kept clapboard houses crafted in the classic style of historic Key West bordered MacArthur Park. Like most of the homes in the neighborhood, the Grant residence was washed chalk-white. The front porch was screened as protection against Florida's ravenous mosquitoes and remained cool even in the heat of the afternoon.

Overhead, suspended by brass links, a carved wooden sign in bright paint announced 'GRANT'S PET SHOP'. A green and red enameled parrot grasped the top of the 'O' in the word 'SHOP' hanging tight with yellow talons. A busy jungle of tropical banana, pink and red bougainvillea, and blazing birds of paradise engulfed the small yard separated from the sidewalk by a cedar hedge. Cement birdbaths and low benches were stashed haphazardly in the lush foliage. Looking more like a home than a business, a passerby would have never guessed the extent of the menagerie within-especially in the middle of a very quiet neighborhood in Key West, Florida during the summer of 1965.

Past the porch packed with faded wicker furniture and choked waist-high with neat stacks of yellowed newspapers, a wooden door with a cracked white porcelain knob led into the shop proper. Assorted bamboo birdcages, small and large, jammed side-by-side, harbored chirping and flitting, tropical birds in effulgent plumage. A chorus of demanding mynas, punctuated by piercing monkey screams, blended with whirling hamster wheels and the rhythmic throbbing of electric aquarium pumps. The whistles, chirps, and whisper of fine bubbles bursting free from row upon row of fish tanks laid a matte finish synthesis upon which grew warm earthy smells reminiscent of a moist, tropical rain forest spiced with a tinge of fragrant pipe tobacco.

Grandma Erma Grant sat on her favorite wooden stool, hidden behind a forest of suspended aquarium nets, dog brushes and red and yellow displays of Hartz Mountain parakeet seed. As usual, she was absorbed by the shop's ambiance, daydreaming amidst the collage of sounds, motions and smells and listening to the dialog of the animals as they freely expressed themselves in languages that she seemed to fully comprehend.

As a rule, she favored loose-fitting flowered blouses and long skirts which gave plenty of breathing room to her ample girth, but she never appeared in the shop without her forest green, full-length apron with pockets bulging with thermometers, sunflower seeds, yellow wooden pencils and cellophane-wrapped packets of Kleenex. She wore her thick silver hair braided and wrapped tightly in a bun just barely restrained by sturdy hairpins. She was the kind of person that people liked immediately upon meeting for the first time.

Grandma Grant stooped over gingerly and looked down into the cardboard box lying on the floor behind the counter. Seeing just an empty bowl of water and a few wilted lettuce leaves, she frowned and then called in a deep, rich voice toward the back of the shop, "Grandpa, I just knew it. I knew something was wrong around here. He's got out again, that little rascal. Shut the back screen and help me find him, will you dear?"

Her husband, Roland Grant, was five years older than she. Tall and thin, his bristly jaw was forever clenched to the stem of a briar pipe filled with tobacco. And like most pipe smokers, he enjoyed the ceremony of filling, lighting, tamping and scraping almost as much as the taste of the Wedgeworth tobacco smoke. Grandpa Grant could either be jovial or cantankerous and sometimes a little bit of both at the same time. He was set in his ways and accustomed to doing things according to his own well-established routine. So like many people do for some reason or other, he pretended not to hear Grandma on the first call even though his hearing was as sharp as ever.

Grandma smiled, knowing his tricks, she repeated her request, but a notch louder this time and then waited patiently.

From the rear of the shop, over the effervescence of aquarium air stones, she heard his deep baritone answer, "Old Gopher Brain is back here, dear."

Grandpa, wearing a blue work shirt and faded overalls, shuffled up the aisle hefting a struggling ten-pound desert terrapin whose stubby legs vainly breast stroked in empty space.

As he lowered the AWOL tortoise back into the box he continued. "He's just getting senile like the rest of us. Didn't get back 'fore you noticed he was gone this time did he?"

Grandpa gave the turtle a gentle rap on the top of its shell. "Here you go old Gopher Brain, you are a tricky fella, aren't ya? 'Bout time for Sandra to be comin' home, ain't it? Bet she stopped off at the park. She sure loves that train, doesn't she Grandma?"

"Grandpa, I love that child. I just wish her parents could have lived to see how she is turning out. She's a real charmer, and sharp too! Some day some young man is going to thank his lucky stars when she says 'yes'."

"You're right, but I don't think that's gonna..."

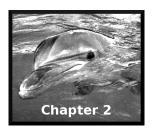
Grandma's eyes suddenly rolled up into the back of her head and she slumped forward. Her broad elbows landed with a thud on the wooden counter. She cradled her head in her palms and slowly rocked back and forth.

Cut off in mid-sentence, Grandpa snapped his jaw shut and puffed a cloud of blue-gray smoke from the stem of his pipe. It was another one of her 'spells' and he had learned to keep still at moments like this. Not until several years into their marriage had she cautiously revealed her secret-that she often heard voices from another place and time. By now Grandpa was convinced that she often did.

Roland...Grandpa...I just had the most wonderful vision about Sandra. I've known for years that she has my psychic gift. She is already starting to develop a power like mine in some ways, but different in others. I saw her grown into a beautiful young woman and swimming in the sea with dolphins. There was a very handsome man falling in love with her...and so were the dolphins."

"But Grandma, Sandra told me that she was going to wait for me until she grows up," laughed Grandpa. "But since she's only in junior high school, I don't think we have to worry about marrying her off quite yet. She still insists she wants to go to the University of Miami and become a psychologist. She sure has your way with the critters around here, I'll vouch for that."

Grandpa exclaimed "Hey! I just heard the front door slam. I bet that's her. Let's get the milk and the cookies going. This jabbering is making me mighty hungry for some of those wonderful, home-made chocolate chips you just baked."



Randamount College Santa Rosa, California 1991

Dr. Sandra Grant, Professor of Parapsychology at Randamount College, had been waiting on pins and needles for a call from Robert McCord, a long-time friend that she had known from way back in her grade schools days in Lawrence, Kansas. If they had chosen different career paths—he to become a corporate lobbyist for defense contractors and she to become a researcher studying the paranormal, they might have hooked up. But that was water under the bridge. Still, their friendship remained strong.

Two weeks ago when Sandra explained to Robert that she was having difficulties raising funds for her research on dolphin behavior, he requested a copy of her proposal and promised to do what he could to help.

When they spoke a week later, they went over a list of Robert's questions and he told her, "I don't want to get your hopes up, but I have a possible lead for you. I am meeting with General Pratt Houston this evening and I will call you as soon as I get his answer."

Sandra oscillated between pacing back and forth and staring at the phone. But after waiting until midnight on the East Coast with no call, she figured it was a no go and went to bed. Just as she closed her eyes the phone rang.

She prayed, let it be Robert with good news.

It was Robert and he had very good news. His voice boomed, "Sandra, I apologize for the late hour, but I gave your proposal to the source I mentioned. You got it. Full funding...one hundred percent of your proposed budget and two bottlenose dolphins to boot courtesy of the NUC."

"You mean it? Really? That's fantastic! A pair of dolphins and full funding?"

"Yes, the whole package. I'm over at General Houston's house right now and you wouldn't believe the shindig. Every who's who in defense contracting is here. These defense guys really love their fireworks and firewater. Anyway, the General took me to his study, unlocked his private bar and brought out a special fiftyyear-old bottle of Glenfelten. I knew that was a good sign, but I was still surprised. Lots of very happy defense contractors here tonight. Congratulations!"

Only a few minutes earlier, General Pratt Houston, a staunch Republican and an unyielding supporter of President George Scott, had announced to Robert in his typical patriotic fashion, "I spoke with Commander Cummings about the dolphin proposal that you provided us. You know I have found that timing is the key to success and this seems to be one of those occasions. It turns out that supporting this project would help us in a very pressing diplomatic matter that has been causing all sorts of problems. Our Military Application of Marine Mammals Program has come under fire by animal rights groups and we need to show that we've cleaned up our act so we will fund this project through my office as an unsolicited proposal. Robert enjoy this fine whiskey and use my private line to give Dr. Grant the good news."

In a lower tone of voice after giving Robert a joyful slap on the back on his way out, the General confided, "And tell your boys at NevTech that they are looking good for the semiconductor contract. Would'a taken it down today, but those lame brains in the General Accounting Office need some other kind'a damn disclosure form or something. It's just a technicality-not to worry."

Sandra hugged herself with joy. Nearly a two million-dollar federal commitment to pursue her studies in dolphin behavior. Plenty of funds for travel and equipment-and to outfit a dolphin research lab including study animals. Fantastic!

Sandra Grant was young, brilliant, single and much sought after by Randamount College's cadre of bachelors for whom she could spare no time and had little interest. In fact, she had no steady lover or felt that she needed or wanted one-an occasional overnighter was enough. Her work was her life and she was already recognized as one of the pioneers in the new and begrudgingly accepted field of parapsychology. She possessed rare, dual Ph.D.s from the University of Miami. Her first doctorate was in probability mathematics. After completing the requirements for her doctorate in math in a brief three-year period, Sandra had surprised her graduate adviser by continuing on and winning a second degree in theoretical psychology.

Her training in math provided a crucial foundation for her work in parapsychology. By employing the exacting discipline of probability analysis, she was

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gaining insight into the phenomenon known popularly as 'coincidence'. In fact, Grant called her work the 'quantification of coincidence'.

Not on close personal terms with her adviser, she had only revealed that she wanted to be certain that she could find a job when she graduated. But really, all was unfolding according to a plan laid long before she had moved up the coast from Key West to Miami for her college education and then on to Santa Rosa for her first faculty position. She had always been extremely careful never to mention that she possessed paranormal abilities—or that she had been raised in a pet shop of all places and by a psychic grandmother! She reckoned that there was only so much eccentricity that the university establishment would tolerate as she tried to make her way through the system.

Now in her second year on the faculty at Randamount College, she was venturing for the first time beyond number crunching and the painstaking analysis of mounds of probability data into the study of the causal mechanics of paranormal event. But to avoid the skeptical reaction of her colleagues, she only revealed that her new project would be focused on understanding dolphin behavior–especially the means by which they communicate with one another.

However, Sandra lusted to discover the mechanisms responsible for telepathy and to learn the 'how' and 'why' of ESP. Her telepathy experiments might even break the communication barrier between man and animal-something that her Grandmother seemed to have achieved long ago. With this new major source of research funding, her new experimental subjects would be Pacific bottlenose dolphins. Now she just needed to hire lab assistants and building contractors. At last she would be able to test her theories in a controlled environment without worrying about new project funding. Sandra moved to the old oak table in her cozy kitchen. She knew every scratch and stain on its surface. The table had been a graduation gift from her grandparents when she had moved to an apartment in Miami. Sitting at the table brought back memories of her college days when then, like now, the table served as her connection to her grandmother.

She made sure that both of her feet were firmly planted on the linoleum floor, and then pressed her palms against the grain. Within moments, she felt pressure as the smooth wood gripped her skin. Her palms tingled electrically.

The table tipped upward at a sharp angle braced on two legs. Then it pulsed slowly up and down, barely touching the floor with the tips of its front legs.

Sandra asked, "It's you, isn't it Grandma? I can feel your presence."

The table slid forward towards Sandra until it nudged softly against her waist. She could feel a sensation of warmth around her navel. The table nuzzled like a loving pet greeting its master.

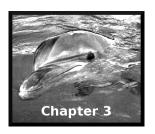
"Thank you, Grandma, for the healing. You know my project has been funded. I am so happy. Look I'm even crying."

The table lifted and then made a series of fast, light taps that sounded much like laughter. Closing her eyes, she could see her Grandmother's smiling face and bright blue eyes.

"Tell Grandpa that I love him too. Thanks again for all you do. I'll be thinking of you both always."

The table fell lifelessly from her palms and banged to the floor. What only minutes before seemed alive and full of energy was now just an ordinary kitchen table. Her grandmother had gone.

Just sitting at the table brought back memories. Sandra closed her eyes and leaned back in her chair.



Key West, Florida 1965

I t was a warm winter day in Key West. The palm glistened, still wet from an afternoon shower. Sea gulls flew erratically in the gusty breeze that had accompanied the storm. A dark curtain of rain squalls stationed on the far horizon threatened to bring more rain so Sandra hurried home in her bright yellow rain gear, her books wrapped tightly in a plastic bag.

She paused at the front step to enjoy the special fragrance that erupted from the slightly open door-the aroma of home. The two tiny spider monkeys raced around their cage while the macaw that stood guard in a cage by the door barked, "Pretty Sandy...Pretty Sandy," until she gave him a treat.

Her grandmother was sitting serenely at her station behind the counter with eyes closed and fingers lightly following the motion of the planchette on a much worn Ouija board. Her grandfather, broom and dust pan in hand, smiled and elevated his bushy eyebrows as if to say, *There she is...at it again, jawing with spirits*.

Grandfather Grant patiently accepted his wife's

preoccupation with the paranormal. It was apparent that she knew a lot of things that were beyond his reach-or at least beyond his power of reason. Accordingly he was careful to treat her gift with respect-especially since she always seemed to know exactly what he was thinking. He went with the flow, expecting the unexpected. Most of the time he really didn't think about it at all.

True to form, Grandma opened her eyes, smiled, and shook her head knowingly at him. She pulled a chair over so Sandra could join her. "Grandma, please tell me who you were talking to."

"Well dear, someone that doesn't live on earth anymore...but misses us greatly."

"How does the Ouija board work Grandma?"

"I'll show you, dear. Put your fingers on this side...lightly now and I'll put mine here. Now we'll ask the spirit to answer a question. See if you can think of one that you really don't know the answer to."

Sandra thought for a moment then asked, "Spirit do you know where I left my knit purse-the one that belonged to my mom?"

"Dear one, you need to be more exact in your question. Ask the spirit to tell you where the purse is located."

The planchette moved slowly at first, then accelerated determinedly. It spelled letter by letter, 'N...E...W...S...'

Grandma exclaimed, "Do you mean newspapers?" The planchette quickly drove to the top right of the board and stopped over the word "YES" which was neatly embossed in large yellow lettering.

"Sandy, go take a look around Grandfather's pile of newspapers-the ones on the front porch that he saves to line the cages."

Sandra returned with the missing purse. "Miracle of

miracles, it was right on the shelf hidden by the pile of papers. Oh Grandma, the spirit was right. It really works doesn't it? Thank you so much for helping me."

Grandma laughed, "Of course silly, you don't think I would waste my time on a farce do you?"

"But Grandma, when you were my age, did you know about these things? How did you learn to talk to spirits? I want to do that too."

"You will child...in time. Be patient, it will happen soon enough."

"But how did you know the first time-that it was real I mean? With a board like this?" Grandma's laugh was always a surprise-deep, masculine, and full of joy.

"I'll tell you about my first time. It was pretty funny now that I think about it. My brothers were little troublemakers, always playing tricks on me. My mother and I were outnumbered by the men too, four little brat brothers and dad against only mom and I. Really it was all in fun, but sometimes there was quite a battle of the sexes going on at our house."

Grandma smiled and seemed lost in thought for a few moments then continued. "Well anyway...where was I? This story takes place back in the twenties when we lived on a wheat farm in Sharon Springs, back in a time before electric dishwashers-actually even before electricity had come to the rural areas in western Kansas-if you can imagine that."

Sandra scooted her chair forward, raptly listening to the story. Her grandmother resumed. "We had a regular schedule: one washer, one dryer, one stacker. There were four of us so we rotated-that way one of us always had the night off-at least that's how it was supposed to work. The schedule for the week was posted on the refrigerator and after dinner, father would read off the job assignments. Well, sometimes dad let us trade off. And you guessed it, one of my rat brothers would always figure out a way to fix it so I ended up doing every shift.

"It was on about the sixth or seventh night in a row when I had gotten stuck with kitchen duty that I finally got mad as a hornet about it all. First I was mad, then I started crying but mom and dad had gone to play pinochle and I had no one to turn to. So I toughed it out and did the dishes in record time.

"As I stormed out of the kitchen I took a big spoon and slammed it against the kitchen door. I said to myself 'stay!' and I kept going thinking that it would fall on the hard floor and make a racket. I ran to my room and pulled the blankets over my head and began sobbing about what a rotten deal I was getting and asking God why he hadn't given me a least one more sister and one less brother.

"About an hour later my parents came home. Mom came in my room and held me close. She rocked me gently in the dark. She just held me real tight for a long time. Finally she said, 'Erma, please come with me to the kitchen'. I thought to myself something like, 'Darn, there must be more dishes to do'.

I was surprised to see that all my brothers and my dad were all in the kitchen–I figured that I must be in hot water for talking back to the boys. Mom wiped the tears from my eyes with the dish towel then gently turned me around; I just couldn't believe it. That old spoon was sticking pretty as you please right to the door. You could look close and see that nothing was holding it up–it was just doing what I told it to do. It was *staying*.

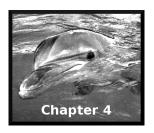
"My mom said, 'Go ahead honey, make it come down'. I looked up at her. She was smiling and looking kind of scared at the same time. I just shrugged my shoulders and thought 'down' and it dropped like a shot-clanged just as loud as I thought it would have the first time. All of a sudden you could've heard a pin drop in that

kitchen. No one said a thing and Mom took me back to my room and tucked me beneath the covers. Her face was wet with tears when she kissed me goodnight.

"But the next day, it was like I had awakened to a new world. My brothers seemed to notice me for the first time—I was suddenly treated like a real person. From that day on they were my bodyguards at school and wouldn't let me do any heavy work around the house."

"Oh Grandma, really? Is that really a true story?"

Beaming, Grandma took a yellow pencil from the pocket of her apron, stood, and then lightly touched the pencil to the wall. She turned towards Grandpa who was grinning ear to ear. She carefully removed her hand. The pencil stayed put.



Washington D.C. 1991

General Pratt Houston, a longtime veteran of the Defense Department, was beginning to show wear around the edges. His once muscular frame had turned to flab and his loose belly slopped over his belt buckle. Once pomaded in a smart crew cut, his gray hair had receded to a fringe above his prominent ears. And in spite of the General's indulgence in expensive handtailored uniforms, he still looked more like a retired shopkeeper than a decorated war hero.

But he had been slim and ruggedly handsome when he began his career at the University of Kentucky as an Army ROTC cadet in the fall of 1955. By the end of his first year, Houston had found his calling in the service. A few months into his junior year, he was promoted to the rank of lieutenant of his unit and was shunned by every girl on campus. Even the senior cadets found him to be a queer young man capable of unexpected bouts of intense antisocial behavior and racial bigotry. Ironically, in spite of having few friends and even fewer social invitations, Houston was a natural leader-taking command of the situation whenever the opportunity arose.

Houston, a self-proclaimed (albeit largely unsuccessful) womanizer, did excel in his capacity to consume alcohol. Even though his countless boasts of female conquests were mostly fantasy, Houston did manage to win the heart of a quiet, somewhat plain-looking girl whose father was a senator from the state of Rhode Island.

Upon graduation, Houston was admitted into Fort Knox Armor School. The bustling town of Louisville was a twisted version of paradise for the newly commissioned lieutenant.

The local prostitutes, who performed their service to country on their backside, soon discovered young Houston's enormous appetite for intercourse. His drink of choice shifted from beer to scotch in accordance with the time of day. Most evenings during the week, and Friday and Saturday nights without exception, Houston drove his 1958 Chevy convertible into town on Dead Man's Road-that section of Interstate 84 between Fort Knox and Louisville upon which dozens of overly intoxicated soldiers had smashed their big bore V8s into head-on collisions with bridge abutments and on-coming traffic.

Alcohol and sex were Houston's lifeblood. The fact that he never failed to show for duty, even though oftentimes a little unsteady in the command seat of his tank, attested to the remarkable resiliency of his constitution. His hard-driving escapades on and off the base won him a great deal of respect during an era when young army officers displayed their prowess with booze and broads as proudly as their service ribbons and insignia of rank.

A week into the Korean conflict, Houston volunteered for combat. He was promoted to the rank of captain and sent overseas. Captain Houston was outspoken in his disappointment that his beloved tanks were only playing a minor role during the Korean War. So, he changed venue and shifted to another of his passions, artillery, which found heavy action. Company C, Third Battalion, Fourth Brigade, under Houston's ardent command, devastated enemy installations with furious day and night barrages of high explosive rounds. Under his rule, the ordnance gunners and loaders learned to sleep in four-hour shifts and Houston's Company expended more ammunition than any three other artillery companies combined.

By the cessation of hostilities, Houston proudly claimed credit for the death of hundreds of enemy soldiers and his gung ho performance was recognized in the form of a field promotion to the rank of major-but his aberrant personality had begun to develop hairline cracks deep within the recesses of his subconscious.

Following reassignment to the Pentagon in Washington, Houston married his college sweetheart. Even Annie had thoughts of backing out of the marriage up to the very day of the wedding, but her father was highly impressed with Major Houston's ambition and service record. He privately advised her that she might not find a better catch.

To Houston's bitter disappointment, there were never any children, a circumstance that he blamed on Annie and which ultimately served to kill any passion which he may have once harbored for his wife. Houston buried his domestic frustration by delving deeply into the study of military strategy while developing liaisons with the high-class hookers who worked the expensive restaurants off Pennsylvania Avenue.

By the time that the U.S. involvement in Vietnam had escalated to full-scale combat, Houston had been promoted to the rank of general and given the command of the 14th Armored Division. General Houston was overjoyed that tanks did play a major role in Vietnam and the 14th Division's primary assignment was to lay waste to suspected Vietcong hideouts. General Houston was particularly proud of his contribution to the design of a new kind of tank weapon that disintegrated jungle, hooch, and VC in an intense explosion of jagged steel pellets. The 14th's upper echelon officers were alarmed when Houston insisted on personally participating in firefights. Shocking reports filtered back from the front line describing the General standing erect on the commander's seat of the lead tank, can of warm, foaming Budweiser in hand, urging and coaxing as much death and destruction to the enemy as his detachment could deliver.

An account in the widely acclaimed History of the Vietnam War by James Frost concluded, 'If General Pratt Houston would have had the real support of President Nixon and the American people, Houston would have single handedly wiped every Vietcong off the face of the planet'. When Houston did not get that kind of backing and when he learned that American college students had turned against his country, he became chronically disturbed.

Houston was literally the last American officer to leave Vietnam. Fatigues encrusted with rice paddy mud, face blackened with camouflage grease paint, he continued to fire his M-16 into the jungle as the chopper lifted off to transport him to a waiting carrier. The Navy gunner who finally yanked the weapon out of Houston's hands was startled to see tears running down the General's face making rivulets of mud in the grease paint. Houston had become very much insane.

As a matter of fact, the more unbalanced Houston became, the more he was promoted until after only twenty years in the service, he had advanced to the rank of Four Star General charged with the duties of Army Chief of Staff and had gone totally bonkers. His paranoia and bizarre notions about the communist threat deepened and became even more convoluted with every day of his appointment. The softening of relations with Russia particularly infuriated him. To his thinking, glasnost was nothing more than a premeditated Soviet plot to weaken the U.S. strategic position.

Houston was absolutely convinced that the on-going reciprocal arms and NATO troop reductions had been intentionally contrived to foster global complacency. The Soviet offer of peaceful relations was nothing more than a trick to encourage a false sense of trust—a communist ploy to achieve the Soviet's primary and unwavering goal of world domination.

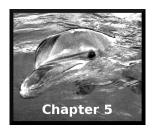
Whenever circumstances permitted, he reminded the President that the Soviet submarine fleet continued to proliferate with more than enough multiple and retargetable nuclear warheads to forthrightly annihilate the United States with a preemptive attack-especially now that world attention was focused on the Mid-East and President Scott and the vote-hungry members of congress were inanely playing into communist hands To Houston, the stakes were simply too high to take the risk. Something must be done and the time was ripe for action. With President Scott and his cronies playing kiss ass with the Russians, Soviet security would be at an all time low-an opportunity too precious to waste.

Houston's first move was to convince President Scott to authorize a new post in the government to be known as the Office of Defense Technology. In his new role, Houston automatically assumed the authority to direct and oversee the development and integration of all newly developed defense systems within each branch of the military. Houston argued successfully that a coordinating bureau was desperately needed in order to maintain inter-branch system compatibility and interchangeability as a plethora of new high-tech systems came on line that were developed during the War in the Gulf. His point that without a coordinating clearinghouse, each branch of the service would be likely to procure technology from their own favored, independent sources was looked on favorably by the President and the Congress.

Houston's early insistence that the President put an end to the Iraqi war by using tactical nuclear weapons had been such a dangerous idea politically that the top brass in the administration were relieved that Houston's proposal to cut costs (and stay out of the way) were well received. Thus the new Office of Defense Technology was given an unusually prompt birth.

But in reality, Houston had de facto gained an inside position of power that was much superior to that of his fellow Chiefs of Staff. The General's authority now encompassed all forms of technology throughout the military complex-including approval rights for all new weaponry purchased by the Army, Navy, Air Force and Marine Corps. His coup d'é tat had caught the military establishment off guard with no time to prepare a logical counter proposal. Too late they realized the significance of Houston's adept political maneuvering. But since another election year loomed on the horizon, they understood that opposition to any sure fire scheme to cut the budget deficit would be impossible to circumvent. At the same time, the high ranking military officers that had opposed Houston had their hands full with the aftermath of the Gulf War.

Houston immediately seized the opportunity to use his newly acquired power to initiate a tightly guarded secret operation—one that was intended to completely wipe out the USSR!



Usually General Pratt Houston had the ability to imbibe a phenomenal amount of alcohol and show no outward effect. Tonight was an exception. His cheeks and nose were flushed and his forehead glowed with a slick sheen, yet he was in very good spirits. That very afternoon the successful bidders on several billion dollars worth of high tech military systems software and hardware had been announced. Tonight the joyful recipients joined in a time honored ritual–a wild series of concurrent Georgetown parties hosted by the ranking Senators of the Armed Services Committee and General Houston. Defense contractors were notoriously heavy party givers–they were living particularly high thanks to the President's commitment to royally outfit Saudi and Israeli forces.

Plus Houston had his own reasons to celebrate—the messy situation in Hawaii that he had inherited from the Navy would soon be resolved. Dr. Sandra Grant would see to that. She would take the now-famous dolphins off his hands and get the public off his back. Houston reflected about the crazy circumstances that

led him to be concerned about the safety of a pair of marine mammals. The dolphin story was really strange-and one he wished would go away.

Sally and Tom, Pacific bottlenose dolphins, were the property of the United States Naval Undersea Research Center (NUC) located on the windward side of Oahu. Until recently, they had excelled in their training as underwater saboteurs and had reached the top of the ladder with a rating of Level Five. The dolphins had also demonstrated a very high innate intelligence, which at first surprised, then elated, and finally challenged the trainers. Then they had gone on strike.

Sally and Tom were siblings-if they had been humans they would have been termed identical twins. They were born secretly in captivity at the NUC in 1989. The serial numbers branded on their backs just ahead of their dorsal fins designated them as D109 and D110. Their parents had also been property of the United States Navy (D099 and D078). They had the distinction of serving as the original components of the Military Application of Marine Mammals Program (MAMMP)-that is until they were lost in action during the Gulf War.

MAMMP was a top-secret project loosely designated as 'wet-black technology'-therefore it had recently fallen under Houston's jurisdiction upon the formation of the new Office of Dense Technology. The program consisted of an arsenal of twenty-six painstakingly trained animals housed covertly at Navy bases in Hawaii and Florida. Of this cadre, only D109 and D110 had ever posed a problem, but now they threatened the very survival of the entire MAMMP operation.

Sally and Tom seemed to have extraordinary capabil-

ities. The first indication that something was amiss occurred during a routine training exercise. The handlers were using traditional methods; like those used at Ocean World to make the dolphins perform tricks. But Sally and Tom startled their trainers by performing the designated acts before the hand signal was delivered.

At first the trainers supposed that it was just a game. The dolphins were merely showing off and guessing what the next command would be. So the trainers mixed up the order of commands to throw them off. Still the dolphins performed the correct maneuver **before** the signal was given. The trainers rationalized that somehow they were giving some sort of subtle cue that was being picked up the dolphins.

However, ten days later during the next suite of exercises in which the human trainers were replaced by a bank of underwater signal lights, Sally and Tom continued to provide the correct behavioral response before the lights blinked their message not just once, but on every test. Eventually the trainers became convinced that out of the ordinary events were indeed occurring. Following standard military practice, they carefully drafted reports documenting their observations and filed them with their superior officers who, with only cursory attention, rubber stamped them and routinely advanced the dolphins to the final stage of training.

Level 5 was the most involved and complex stage in MAMMP in which dolphins were trained to conduct strikes against enemy targets. In essence, the dolphins constituted the Navy's biotech version of the stealth bomber. As living tissue, they were invisible to enemy sonar and could closely approach their target. In time of war, the sand bags harnessed to their backs during training would be replaced with pouches containing C-4 high explosive. The dolphins were trained to select the appropriate target and then ram headfirst into the side of the enemy vessel. The impact would activate a plunger strapped to their snout that would not only destroy the ship, but explode the living torpedo as well.

Sally and Tom quit performing during the second day of Level 5 training and stubbornly refused to obey commands delivered in any form. In his report, the lead trainer commented that the pair might be protesting on moral grounds. But after training valued in the hundreds of thousands of dollars, the trainer's conclusion was not viewed lightly by the program administrators and he was assigned duties elsewhere. After ten days of persistent non-compliance, the NUC top brass concluded that Sally and Tom were unfit for duty and should be retired from MAMMP. They were especially concerned that their behavior might spread to other marine mammals in the program; therefore they recommended that Tom and Sally be terminated.

It was a strange coincidence that just a few days after the NUC's decision, a reporter citing a confidential source had exposed the details of MAMMP operations in a series of blistering editorials in the Honolulu News. The public was outraged and animal rights leaders infuriated. Students at the Pacific Islands University campus organized a massive demonstration at the main gate of the Kaneohe Naval Air Station.

Much to the delight of the local newscasters and reporters, who seemed to relish any controversy regarding the military in the Islands because it always boosted viewers and readers, the weekend student demonstration turned into a long-term vigil. Activists from the mainland offices of Greenpeace, PETA, and the Sierra Club became involved. Senator Michael Kahana called for a senate investigation. The Humane Society filed suit and the number of protesters carrying signs and chanting 'Save the Dolphins' swelled into the thousands. In a related incident, two PIU students were jailed for breaking into the World Marine Fisheries Service Lab at Kewalo Basin and freeing a newborn humpback whale being studied by fisheries biologists.

The ensuing highly publicized trial of the students who had been charged with freeing the whale pitted animal rights activists against the United States military establishment. The NUC brass, concerned that they might lose access to their experimental weapons, brought in the Navy's top legal team. The afternoon that the students were sentenced to a year in the state penitentiary, several thousand animal rightists launched an impromptu siege of the courthouse and broke windows in the federal building.

At Governor James Hiroshi's insistence, General Houston had flown to the islands in his private Cessna Citation to meet with concerned officials. Houston took out a series of full-page advertisements in the Waikiki Daily and appeared on local newscasts where he insisted that the Navy dolphin project was a humanely conducted operation that employed dolphins only to rescue trapped submariners.

When questioned by reporters, Houston specifically denied that Navy mammals were trained or ever would be trained for any kind of offensive capability. He cited security protocol as the reason that tours of the NUC were prohibited and even went so far as to categorically deny the very existence of any program called 'MAMMP'. The General always felt that it was a privilege of his rank to never reveal the truth about any sensitive military affairs. "Incompetent civilians should mind their own damn business and leave the defense of the nation to us professionals." Houston had barked to his aide Commander Cummings after one of the heated sessions with the Governor.

Concluding that the situation in Hawaii was out of control, the General made arrangements to relocate MAMMP to the Naval Air Station at Key West, Florida. All records and the entire dolphin arsenal would be airlifted to the east coast by the end of the month. But Tom and Sally remained a problem. Just on principle, Houston was reluctant to set free animals in which such a large investment in training had been made in case they might be useful in the future, but these dolphins were now a liability to the program.

Robert McCord, a well-established consultant to defense contractors, had approached General Houston at one of the gala parties on the DC cocktail circuit with a brilliant and timely solution to the dolphin dilemma. It seemed that a scientist whom Robert knew needed funds to set up a dolphin research station to conduct behavior experiments. He had explained that the proposal had received favorable concept reviews at the World Science Foundation, but appeared to be stuck in the bureaucratic milieu due to concerns about animal rights.

The General would be able to comfortably rid the NUC of the dolphins–Professor Grant would have to take them both–meanwhile score points with the activists and get Kahana and Hiroshi, who demanded to know what the final disposition of the animals would be, off his back. Houston would emphasize the humanitarian aspects of Navy operations and capitalize fully upon the government's supportive collaboration with academia.

What the hell, maybe there is something to this ESP stuff anyway. If there is, I want to own it before the Russians get it for themselves. Yes two million dollars is a cheap price to pay for this neat package-plus if she wants a perfect site for her research project, it is just another weird coincidence, but I have just the right spot

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in mind. It's located 2,400 miles out of Honolulu...due west. It's called Enewetak Atoll and it is an ideal location for Grant's new lab-and we will be able to keep a close eye on her and those rebellious, twin dolphins.

Enewetak is a coral atoll in that part of the tropics once known as the Pacific Proving Ground. Now it served as a radar tracking station and a home for the Pacific Islands University Marine Lab. It was also a perfect place for dolphin studies according to the PIU chancellor-a bureaucrat savvy to the political process and a close friend of Senator Kahana.

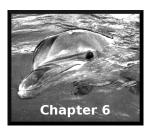
One extremely trying afternoon the General had gotten an earful from both the chancellor and the senator on how important the marine lab at Enewetak was to the field of marine biology. In the end, making a contribution to support the PIU Marine Lab had seemed the only reasonable means of getting the senator off his back and killing Kahana's investigation of MAMMP.

Houston was not unaccustomed to blackmail disguised in the form of pork barrel politics and agreed to a substantial endowment to the University. A telephone call was made and Houston was off the hook.

It was just after two in the morning when the General careened into the bedroom and collapsed next to his graying, soft, and featureless wife. During their three decades of marriage, Anne had been a useful hostess. Her family name and fortune had opened doors for him that otherwise would have remained impenetrable. He swallowed down the squirt of bile that flooded his throat as a blurry vision of his wife's coagulated cold

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cream, hair net and rollers swam nauseatingly in front of his eyes. He abruptly cut off her tentative attempt at conversation by snapping off the bedside lamp. Houston drifted away into dreams featuring the cold-blooded execution of Viet Cong insurgents...first one, then another until the barrel of his M-16 glowed a dull red.



A Year Earlier (1990) Arizona Institute of Technology DigiLab

Carl Eiger sported a neatly trimmed beard and shoulder length hair tied in a thick ponytail. He typified the Silicon Valley high tech executive lookestablishment suit coat and tie above the waist, blue jeans and Nikes below. His exceedingly poor eyesight, a consequence of years spent staring into computer monitors, demanded that he wear heavy horn rim glasses, which rested uncomfortably on his thin angular nose. Eiger constantly sponged at his forehead and wiped his glasses to soak up a never-ending deluge of perspiration, which he emanated in spite of the lab's air conditioninga new development that his body had played upon him since his conscription by the General.

Eiger's graduate studies had been conducted at the Arizona Institute of Technology DigiLab, a powerhouse for innovation in computer technology. His genius resided in what was then the arcane field of advanced software systems—specifically in creating programs that processed data in parallel fashion. Most computers, even the Cray supercomputers, performed their calculations one at time in series. Parallel processing computers however, were able to perform many functions simultaneously-just like the human brain.

The DigiLab's Connexion Machine was an experimental parallel processing computer endowed with great speed and awesome calculating power. Containing 64,000 processors in a multi-dimensional array, the 'CM' offered the first opportunity to quickly solve enormously complex problems, like assembling and analyzing the vast amount of data needed to accurately make weather predictions.

Eiger's doctoral research had been an attempt to teach the machine a simple, but vitally important attribute of the human brain-the ability to learn through trial and error experimentation. His work plan had consisted of programming a host of parameters into the CM then providing a set of rules, which specified exactly how the CM could manipulate the parameters. He had also designed a performance testing sequence by which the CM could evaluate whether the outcome had merit or should be discarded.

The topic to be learned had been to determine the fastest way to New York City from Cambridge under a wide range of traffic conditions; time of day, day of the week, and weather conditions, etc. CM tried thousands of alternate routes under a given set of circumstances until it found the optimal path. Once the CM had 'learned' the procedure, the task had been changed to Chicago then LA with nearly instantaneous results.

The research had proceeded much faster than anticipated—so fast that Eiger had feared that his work might be considered trivial and inconsequential. Therefore Eiger, following his well-developed instinct for survival, had stalled for time.

For several weeks he had fooled around with the

program, tweaking it to increase its performance. At the end of this period, he began to speculate that there might be an immediate practical application for his program. And nothing could be more practical than to have the CM use his new program to design a faster microprocessor for itself.

In simple terms, Eiger had designed a set of software algorithms that taught the CM how to analyze the layout of circuitry on an existing bank of semiconductor chips and then to experiment with variations in the layout (using a mathematical model) until it improved the original design-at least in theory. Programs like Eiger's would eventually serve as the architect of a future new generation of supercomputers.

Eiger had assembled the massive documentation for the CM's Intel master microprocessor bank and scanned it page by page into the computer. Then he had loaded his designer software and activated the program. By dawn of the next day Eiger had been astonished to discover that the procedure was a success. In addition to thousands of attempted modifications that failed and were rejected, one version had appeared in theory to hold the promise of astronomical improvement-at least in a simulated mock-up design.

Naturally, he had yearned to test the results in the real world to see if they would actually improve the CM's performance-or even function for that matter. But by then he had diverged so far from his original thesis topic that he had been reluctant to reveal his new program to his adviser Eiger had already been warned by his doctoral committee not to get sidetracked. During his five years as a grad student at the DigiLab, he had developed a reputation for not completing a project. However, this time things were different. He had finished his project and now he wanted to go onto the next stage and bring it to life. But there was a problem.

At the time, Eiger had thought, If I present my findings for these new studies, most likely they'll just say 'Here's your degree, son. You have graduated. You can pursue this at your next faculty position'. The problem is that no one else has a CM and my designer program won't run on anything else. I just have to find out if it works before I leave...maybe there's a way!

He had found one. The Innovation Branch at the DigiLab was heavily underwritten by RICON of Japan, one of world's foremost manufacturers of semiconductors and one of the few companies that had bothered to invest in the expensive development of one-of-a-kind prototypes.

Every week dozens of chip sets from RICON had been sent via courier to the DigiLab for testing. Diskettes with design modifications had been sent back and new chips had been returned for another round of testing. There had been a lot of coming and going.

But these are simple chips, like those used in PC's. Nothing as complex as a CM microprocessor array. But if I divide my new design into separate but linkable processor bank components, the director and his staff might not notice anything out of the ordinary. I could insert the sub units into a receptacle bank array and substitute it for the existing master array. I'm sure that it would work. Now how do I get them to make the sub units without finding out what I am really up to?

After Eiger had hacked into the security system that protected the DigiLab's inventory management database, it was an easy matter to set up a fictitious account and to enter his design specs into the traffic flow to RICON. Two days later he had picked up the packet from the delivery room without so much as a question asked.

In order to gain more privacy, Eiger had shifted his time slot to access the CM from four to six in the

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morning in order to minimize the risk of discovery. During the rest of the time, he hid out in his office and poured over the volumes of circuit diagrams that depicted the CM's inner workings until he had the component names and functions indelibly inscribed in his memory. On several occasions he had secretly accessed the CM's central processing compartment and run through a dress rehearsal. It was like looking into a maze of circuit boards interconnected with strands of multi-colored spaghetti. One slip and he would have had a serious problem. He was basically a programmer not a computer engineer, but pulling out the existing processor array and substituting another had seemed fairly straightforward.

Eiger had procrastinated for days on end, debating the potential risks of installing his new processor array. *What if it shorts out the entire compute system?* He had decided time and time again that the procedure was too risky; the reward was not worth the risk. Still, the array with the new chips had remained locked in his office closet enticing him to give it a try. After several days of internal debate and stress, he had realized that walking away from the lab, degree in hand and never knowing if his secret project would have succeeded would have been worse than not having a degree at all. Finally, he had decided to install the new array.

He had waited until three AM and then casually checked the CM lab. A rather pretty girl had been slumped forward in her chair in front of a Macintosh apparently asleep with her head on her folded arms and Jose, the janitor, had just finished mopping the floor around the Coke and candy machines and left the lab. It had been the most deserted he had ever seen the lab– even for the wee hours of the morning.

He had quietly entered the chamber containing the racks that held CM's complex electronics and took a

deep breath. In less than twenty minutes he had shutdown the CM, installed the new array and rebooted the system which appeared to have been operating normally. He had left the chamber, returned to the control room and run the accessory program that monitored its calculation rate. The CM's capacity to perform, measured in 'floating operations per second', had leaped from its normal five hundred kilo flops to over five thousand! His new chip had been an unqualified success!

By four in the morning he had replaced the new array with the original and had returned to his apartment where he had lovingly admired his new creation. But the moment of exaltation had been short-lived because he had begun to wonder what would happen if he ran his master designer program with the new array installed. Would it work again; could the CM be driven even faster?

He had decided to take a break and think things over. A week of strenuous hiking and cycling in the brisk air of Laguna Mountains had somewhat restored his body, but not a moment had gone by in which the temptation to try his new system once more failed to consume his every thought. Finally the compulsion to know had once again exceeded his fear of detection. Upon returning to the lab in the early hours, he had immediately installed his new array and run the designer program. In less than an hour he had another improved design and had deposited the diskette in the outgoing mailbox.

Again the new array had exceeded even those incredibly fast one that he had tested earlier. In too deep now to quit, Eiger had sent a third generation design to RICON for prototyping and had continued to repeat the design prototyping cycle until the CM could map a new generation chip in only a matter of minutes.

When he tested the CM with the most up to date

array, it had been transformed into a machine rushing to fulfill its own destiny-the CM was evolving. And by now, because of the billions and billions of trial and error iterations, even the CM's vast memory lacked the vaguest recollection of the path that it had taken to create the latest chip complex. Certainly no human could ever replicate the nearly infinite number of experiments that the CM had conducted nor reconstruct the monumental flow of decisions that the machine had made. There had been no trail to follow, no gigantic room-sized flow chart tracking the latest processor's circuitry. It was if the souped up processor array had simply materialized out of a vacuum.

Eiger had been acutely aware that he was treading on very thin ice in tampering with this particular computer because the Connexion Machine development had been the lifeblood of the DigiLab and the lab director took personal pride in its creation. Two weeks after Eiger had begun his escapade his worst fears had come true. He had received a message to meet with the lab director. As soon as he had entered the office and saw the head of lab security, several men wearing black suits, and a military officer, he had known that it was all over. The director had played back surveillance camera footage that showed Eiger's last experiment. At the director's insistence they had retrieved Eiger's latest array, downloaded his research data from the lab system and closed his account.

Since the Connexion Machine was sponsored by the U.S. government, specifically the Office of Defense Technology, Eiger's activities were regarded as a federal offense. The FBI had been brought in and Eiger was arrested and had been taken into custody. But, unlike the investigators who had planned to prosecute Eiger to the fullest, General Pratt Houston had listened to Eiger-very carefully as a matter of fact-and Houston

had been more than willing to intervene, have the charges dropped and allow Eiger to continue his research.

He had given Eiger a choice. Either he could join Houston's newly formed Smart Weapons Group at Chalmer Lab and build his own custom Connexion Machine-or he could spend the rest of his life in prison and be publicly branded as a traitor. As a bonus, Houston would make sure that Eiger received his doctoral degree.

So it was not much of a choice at all. Eiger had moved from DigiLab in Arizona to Chalmer in Pasadena where he had assembled a collection of top computer gurus, ordered the required expensive computer hardware and had begun building an improved Connexion Machine that he simply called the 'EXXION'.

About the Author



Ron S. Nolan, Ph.D. studied marine biology at Scripps Institution of Oceanography where his doctoral research focused upon the ecology of coral reef fishes in Enewetak atoll ...quite a leap from his early days in Western Kansas where he shared the farm outhouse with a nest of half frozen rattlesnakes and learned to read by the light of a Coleman lantern!

Engine 1073 located in Watson Park in Lawrence, Kansas serves as a key psychc power spot in the TDE novel. For more backstory topic descriptions, please visit our website.

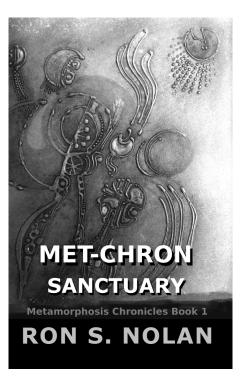


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Metamorphosis Chronicles Book One

Astra, a head-turning, Brazilian girl in her mid-twenties is not only beautiful but also brilliant...and in big trouble! After discovering a key to the genetic aging clock that could dramatically increase the human lifespan, she is tracked down by a psychic who delivers a stern warning that she must work to heal the planet before adding to the over population crisis by allowing a select few to live longer lives.



In the year 2029, the terminal impacts of global warming are having disastrous effects on ecosystems and global tensions have escalated as countries fight to extract the last barrel of oil. Astra's new mission is to assemble cryogenic repositories ('Arks') of frozen plant and animal embryos to preserve them for the future. However, she is opposed by a fanatical religious group that will do anything to stop her. But is it the Ark that they really want...or something hidden within? Either way, they will have to go to a mining base on the moon to find out.

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