

A star-ship navigator risks her career pursuing justice for a quarantined planet. Her quest is marked by conspiracy, romance, space battles, telepathy and spacetime portals. Integrity and hope are her keys to victory.

Copernicium-296

By Steven Eckroad

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Copernicium-296

Portals through the 5th Dimension

Steven Eckroad



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By Steven Eckroad

TELPHER NOVELS

Telpher
Copernicium-296

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Prologue

Handbook of Economic Policy & Industrial Development

Galactic Federation Legislator Briefing Series

Fourth Edition, 2350 GES

Appendix C: Elements, Materials and Processes

Copernicium-296 (296Cn112)

Isotope of Copernicium

Atomic number: 112

Number of neutrons: 184 (filled shell)

Naturally occurring: No

Year of discovery: 2156 GES

Place of discovery: Facility for Antiproton and Ion Research (FAIR), Darmstadt, Germany

Mode of synthesis: Multinucleon transfer using uranium + thorium reactions

Half-life: ~2 billion yrs. (effectively stable)

Mode of decay: Alpha decay

Economic potential: None known (see Discussion)

Discussion: Theoretical models suggest that crystalline compounds of Copernicium with certain elements with a Perovskite structure may exhibit quantum piezoelectricity—the ability to generate electricity from quantum spacetime fluctuations. Some innovative thinkers have posited space platforms supporting large arrays of CnP transducers that would generate significant levels of power. The availability of effectively free energy (after construction costs) would be expected to revolutionize space station manufacturing. There also would be a revival of R&D on economic methods for transmitting power to planets from orbiting platforms.

Outlook: The cost to synthesize Copernicium-296 renders unlikely any serious economic development involving this element. That would change, of course, if naturally occurring deposits were discovered. In two centuries of galactic exploration none has been uncovered.

PART ONE

“I am enough of the artist to draw freely upon my imagination. Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.”

—Albert Einstein, Saturday Evening Post, 1919 CE

"There is no difference between Time and any of the three dimensions of Space except that our consciousness moves along it."

—H. G. Wells, The Time Machine, 1895 CE

Chapter 1 – Mine

Location: The Planet Mycenae, Apollo System. Local Date: 9th Twelveday, Circ 521.

“Hurry up, Kyl! If it gets dark before we get there, we’ll have trouble putting up the tent.” They didn’t really need a tent, she was sure. It was the beginning of summer, and it wasn’t going to rain. Shawna wanted to sleep out under the stars. But Ma had insisted, so they were lugging one along. She turned back. Kyl was using a large branch to dislodge a moss-covered log. The forest loomed all about them. “Kyl!”

Kyl jerked up. “Coming...” He looked longingly at the log but dropped the branch and rejoined her. Through a break in the trees the orange light of Apollo suffused the western sky throwing shadows across their path. A few vapor birds stood silhouetted against the carroty sky. Broad-leafed, pungent smelling turpene trees lined the rocky path that led up the mountainside. Shawna heard the shrill chirp of a mountain dee-dee, warning of their approach.

“Look, sis, you talked me into coming on this expedition so’s you could explore old mines. But I’m the reason Ma let you go. So, cut me some slack and let me have fun too.” Kyl was just entering adolescence and trying hard to be grown up with his language. He secretly admired his older sister. She had their Pa’s high cheekbones and ivory complexion, so unlike the ruddy and rugged features he and their younger brother got from their Ma. With her graceful figure, fine black hair and matching eyes, Shawna was the most beautiful girl in their school in Kyl’s opinion. Seeing how the older boys looked at her, Kyl often felt protective of his sister.

“Kyl, those tunnels will be just as interesting as old logs. More, in fact. Come on!”

“I doubt it. Anyway, aren’t you afraid to go into them?”

“Yeah, sure. That’s why I wanted you to come along, to keep me safe.” She laughed and tried to punch him on the arm, but he eluded her, scampering up the path ahead. Shawna ran after him, relishing the

limber strength in her legs and the breeze through her long tresses. The woods were full of rich scents, and the restless brook alongside the path shared the excitement she felt on this adventure.

They made it to a clearing before dark. Shawna had found this clearing at the beginning of the past summer. Grudgingly, she erected the small tent with Kyl's help, then defiantly rolled out her sleeping bag outside. Kyl did the same, copying his sister. They scrabbled about in the deepening twilight for wood and scraped a space down to the purplish earth for a fire. Kyl told her this was necessary so that after they left there'd be no danger of a fire spreading unnoticed. He knew all about outdoor stuff. Shawna wouldn't admit it to him, but that was the other reason she wanted him to come. She wasn't so good at building campfires.

After supper, eaten in the glow of the fire, Shawna walked out into the meadow. There was only silence here, so different than the night noises of her family's farm. She gazed in wonder at the star-studded sky. She twirled herself around slowly, making it seem that she was the center while the stars themselves did her bidding, leading to a destiny that must be hers. It always got to her. Would the spacers ever come back for her? How she ached to be able to go to the stars herself. Had she known about a young woman named Jocelyn Bell or what a pulsar was, from another time and another world, Shawna would have been encouraged in her urge to explore the heavens. But neither she nor any of her people knew about other worlds. Or hadn't, until the visit.

Twirling slowly, Shawna remembered the events that had forever changed her life. A ship that travelled between stars had come to Mycenae, though no one else gave its origin much credence. It had been one circ ago, or about eight months using the time measuring system of the starfarers. The starship sent down what they called a *lander* to the city square in Mycenae City. Five oddly dressed men had disembarked! Their uniforms were emblazoned with green letters, *I/S*, separated by a golden lightning bolt. Their leader was called Lieutenant Blair. They spoke a language very similar to her own, though with a sharper accent. They said they'd come from another world and were looking for a lost starship. Nobody believed them. It

was just folks from another city playing a joke, they said, by modifying an air car to look like a spacecraft. Everyone went back to their farming, their trades, their shops, and forgot about it after the strangers left.

Before the visitors left, however, the most unbelievable thing had happened to Shawna. She and her brother had just discovered a cave under Ask Mountain, a short distance from their family's farm. It was full of strange devices. Shawna had told Mr. Sinderson, her science teacher, about the cave and the things inside it. When the spacers came—that's what she called them—Sinderson told them about the cave and that a girl on a nearby farm knew how to get to it. The Lieutenant Blair fellow had come to her farm, and she had been invited to lead them to the cave. It had been a matter of considerable pride to her, but embarrassment to her parents. In her family children were supposed to be seen and not heard.

Shawna's reverie was suddenly broken. "Hey Shawna! Come here. What's that strange glow up the mountain?"

Shawna joined her brother on the other side of the small meadow from which they could see the mountainside they intended to climb the next day. Near the top of the first ridge there was a break in the trees, exposing the side of a cliff. It was faintly glowing. Neither of Mycenae's two moons had risen yet. There was no explanation for the glow. They both stood in silent wonder. Finally, Shawna said, "We'll go up there tomorrow and see what's causing that. Let's turn in now so we can get an early start in the morning."

Before falling asleep, lying on her back, and gazing up into the sparkling depths, Shawna returned to her memories. Lieutenant Blair and his men had made a big fuss about the contents of the cave, saying those things had come from a lost starship called the *Exeter* that had landed on Mycenae less than a year ago. Shawna was sure there had been no such event in her lifetime. The spacers didn't understand why all the stuff in the cave was old and rusted, some of it falling apart. They thought it was probably the air or something in the cave.

The name of the starship, *Exeter*, was not unfamiliar to Shawna. According to stories she had heard all her life, that was the name of a space-faring ship that had brought her people to Mycenae hundreds of

circs back. The stories recounted how they had come from a planet called Earth that circled a star called Sol. The stories spoke of an advanced civilization on Mycenae, with marvelous machines and communication devices. Then a planet-wide plague had wiped it out, leaving the few survivors with the difficult task of rebuilding their world. The plague happened almost 300 circs ago, and what had been before was little remembered in Shawna's day. Nor did most people care.

Had Shawna known the history of a planet called Earth, she would have likened the conveniences and machines of her present world to a mix of technologies spanning the 20th to 24th centuries of that planet. The knowledge required to design and fabricate some of the more advanced pre-plague technologies had been lost. If something went wrong with the more advanced devices still in existence, only a few knew how to fix them, making for a lucrative profession.

Kyl and Shawna set off early the next morning with lunches packed and full stomachs from hot porridge and grist cakes. Shawna marveled silently at the world that was opening to her as they hiked up the mountain trail. Like other Myceneans, she hadn't conceived other planets with human civilizations on them. The starship visit changed all that for her. It validated what Mr. Sindere taught her in the advanced science classes after school. Before the spacers had come Sindere visited Shawna's cave with her and found an electronic book, or tablet, that was still operable. When he energized it, he was able to read on it old records that served to confirm the ancient stories.

The information on the tablet described Earth, their people's original home. Earth's star was more yellow than Mycenae's star, Apollo, meaning it was hotter. Mycenae apparently had about the same gravity as Earth and a similar atmosphere, but it took less time to orbit its sun. There was more information that suggested that Mycenae was only one of hundreds of planets in the galaxy that had been colonized from Earth. All of them were different, yet all of them had people like her living on them. Shawna yearned to travel to those distant stars, to learn the ways of those distant people.

Mr. Sindere told her about the old mines. As the new colony on Mycenae had grown it needed more power sources. Some among them

sought to make a nuclear fission reactor. Most of the colony opposed this but the proponents went ahead anyway and began to search for uranium. They found it in the mountain range north of where Shawna had grown up. The coming of the Great Plague ended their efforts. Shawna wanted to explore those mines, fascinated with her planet's strange history. Maybe she would find a clue about how her people had gotten here.

It didn't take long to get to the first tunnel. Shawna dropped her pack and eagerly began to push away the vines and brush that partially hid its opening. She got the portalite out of her pack and prepared to go in.

"Hey, sis! You sure you want to do that? Doesn't look too safe to me." Just as he said that a few small rocks cascaded from above the mine mouth, barely missing Shawna. "See!" Kyl boasted.

"It's okay Kyl. I can see inside, and it looks clear. C'mon! We'll be careful."

They cautiously entered, their portalites showing them a long tunnel whose ceiling was just over their heads. It was dank and cool. The gentle noises of the forested hillside were lost in a dark stillness. Shawna looked back to assure herself the tunnel opening was still there. She admitted to herself that she was just a bit scared after all. She pushed on. After progressing about 20 meters the tunnel intersected another tunnel that went each way to the side. The floor there was uneven.

Kyl said, "It looks like some of the tunnel has caved in there." Shining his portalite, he pointed to the roof. "I think we should turn around, Shawna." He pulled on her tunic sleeve.

Shawna, normally more sensible than Kyl, was distracted by her curiosity. She still hoped to find something and started down one of the side tunnels. She pulled away from Kyl but tripped on the detritus and fell to the floor. An entire side of the tunnel collapsed with a deafening noise and a shower of small rocks. The tunnel filled with dust.

"Shawna!" screamed Kyl. He frantically searched with his light, but the dust reflected its rays back, blinding him. "Where are you, Shawna? Are you hurt?" In the silence, he started to cry.

Shawna groaned and sat up. "I'm okay Kyl. Just got a little dirty." She rose, somewhat shaky, and brushed herself off, pushing her hair off her face. The dust was settling, and she saw Kyl standing on the other side of a pile of rocks. "It's okay, Kyl." She felt around for her light but couldn't find it. "I lost my portalite. Hold yours at my feet so I can see to get over this pile." She put out her hand to the tunnel wall to steady herself. The wall was moist, fresh rock having been exposed as the outer crust of the tunnel wall had fallen away. "Ow!" she cried out jerking her hand back.

"What, Shawna? What happened?"

"It shocked me. The rock face did." She looked up at Kyl, saw his frightened face, and said, "Hey, it's all right. It wasn't a serious shock. More like static electricity." She cautiously put her hand to the rock face again and felt the slight tingle of an electric voltage, like a low-voltage battery. She thought for a few moments, then said, "Kyl, turn off your portalite."

"Why? It's already too dark in here." He was still sniffing.

"Because I've got a hunch. I want to see if I'm right. Just do it. Here, hold my hand." She took hold of her brother's hand. He relaxed and reluctantly switched off the light. "Now, just look to the back of the tunnel, let your eyes adjust to the dark."

They stood in quiet expectation. Slowly a glow appeared. It was bright on the fresh face of the wall that had caved, dimmer elsewhere.

"Wow!" Kyl squeezed his sister's hand in excitement. "It's the same glow we saw last night."

"Yeah, but I don't think it's uranium. From what I learned in physics class, uranium doesn't glow like that."

Kyl had enough. "C'mon Shawna, let's get out of here before something worse happens." He switched on his portalite and turned back to the tunnel opening. Shawna willingly followed him. She had satisfied her curiosity, though in an unexpected way. But the experience had just raised more questions she'd have to find the answers to some day. Her questing mind eagerly embraced the challenge.

Chapter 2 – Detour

Location: InterStellar Starship Exeter en Route to Verde, Adonis System, Sagittarius Sector S5, Orion Spur. Ship Chronometer Date: November 1, 2376 GES (Greenwich Earth Standard).

Commander Jana Anders was now acting Captain of the *ISS Exeter*. As she settled into the flight couch, she reminisced inwardly to herself. *Okay, the stars say we made a 350-year detour into the past. We went to an unknown planet orbiting a star in an unexplored part of the galaxy. Regardless of what I might wish or prefer to believe, it's just physics. Stars have a proper motion, marking off centuries not years. The heavens we saw when we dropped out of warp were those of the 20th century, not the 24th. The stars don't lie.*

Just five of the original one thousand plus passengers on the *Exeter* would now reach their original destination, the planet Verde in the Adonis System. Or, as Anders would say, might reach it. The rest, passengers and most of the crew, had opted to stay on the new planet. It wasn't listed in the Federation Stellar Database, so they had named the planet Mycenae. They chose to colonize rather than to chance the dangerous maneuver Commander Anders had proposed to get them back home. They were right that the scheme was risky. Would it be successful? The five aboard *Exeter* were about to find out.

In fact, the first part of her scheme *was* successful. They had survived the slingshot around Apollo. That's what they had named Mycenae's star. Apollo. Jana thought that perhaps its namesake helped them with the slingshot. Apollo, the offspring of Zeus and Leto, was recognized by the ancient Greeks as the God of Archery. His arrow, their starship, had been loosed from his bow and was still in flight. The remaining question for her and her crewmates: how true was his aim?

The entire undertaking had been hazardous, from leaving Mycenae on short fuel rations, to plunging deep within Apollo's gravitational well and accelerating to a significant fraction of the speed of light to dilate time. Centuries would go by on Mycenae but just minutes for the *Exeter*. Jana had calculated when to activate the Frankel-Spinoza

Drive, the precise inflection points in the energy-momentum metric defining the ship-star microgravitational system. It was a tremendous risk to enter warp so perilously close to a stellar mass and at such a velocity. In fact, it was crazy. It had never even been contemplated in the annals of space travel, let alone attempted. *But what's the alternative? Live in the past, never see our loved ones again? Okay, I'm in my early forties; I do have both the stamina and wisdom to help colonize a new planet but that isn't how I want to spend the rest of my life. I want to go home. I want to see my brother again, to smell the Alanthus blooms on Verde, to quietly gaze upon the sparkling Galene from the patio of the Orange Haven. And to continue navigating the stars.*

The HyperNav, the *Exeter's* errant navigation system, restarted when they entered warp after the slingshot. It had been a welcome event. Signals had come first from Terra Control Nexus and now, after two weeks, the HyperNav was communicating with Verde Nexus. Jana had announced at the time, to great sighs of relief, "Those signals probably confirm a successful return to the 24th century."

To herself she wondered whether it would be the same 24th century they had left. Science savants had said for ages that travel to the past wasn't possible. It was the grandparent paradox. What if your journey to the past resulted in the death of your grandmother (or grandfather) before your parents were born? *Well, if we indeed have returned from the past, we are about to find out if anyone is missing who should be there.*

The ship chronometer showed seven months, three weeks, four days, and ten hours since they had departed Earth on the fated trip. It had seemed an eternity to most of them, though just over half a year, Earth time. Indeed, light that had left Earth's sun the same time as they had was still on its way to Verde and would not arrive for hundreds of years. Such was the illogic of their mariner's craft, whose safety they had never questioned. Until the events of these last few months, anyway.

Jana Anders had begun the routine journey as *Exeter's* First Officer. As XO, she was chief navigator. Yet she hadn't foreseen a rip in spacetime as a possible consequence of a malfunctioning navigation

module. She blamed herself. With multiple degrees in astrophysics, warp drive engineering, and tachyon communications, she felt she could have at least entertained the possibility. *I should have been more vigilant. Now I have the destinies of a thousand human souls weighing on my conscience. I'm trying to remind myself that there was no way to anticipate such an event. But I still feel responsible.*

In retrospect, the failure of the ship's HyperNav did not surprise Jana. She had complained to company management that the new navigation module had not been adequately tested. To no avail. Even her seniority (she was InterStellar's longest serving navigator) meant nothing. InterStellar had pursued profits for years rather than securing safety for interstellar passenger travel. This journey was the maiden flight for a new navigation system that permitted spacetime compression much nearer large gravitating masses, such as red giant stars. This reduced travel time, encouraged more tourism, and resulted in greater use of the IS Starfleet. And greater profits. InterStellar was the sole means of travel between the stars, a monopoly sanctioned by the Galactic Federation. The mega-corporation could do as it pleased. Jana kept up her running commentary with herself: *Were it not for my love of the challenges that my career offers, I would have resigned long ago. But I'm caught up in the slipstream of my heroine, Amelia Earhart. I compete with myself (or others) to come up with shorter, safer routes amongst the stars. I want to be perfect at it.*

The *Exeter's* crew were all on the bridge for the next step: the exit from warp that would certify their hoped-for arrival in Verde space, as well as the hoped-for time. Swiveling in her couch, Jana looked at them one by one, catching the eyes of each, noting the rigid posture of one, the anxious expression of another. Each in turn looked back to her, their skipper now after Captain Arun Tang's untimely death on Mycenae. The four of them, her spread-thin crew, had become her fast friends: Lieutenant Joss Sommers, ship's Helmswoman. Lieutenant Serene Jackson, ship's Chief Medical Officer. Rolfo Hardy, Chief Petty Officer. Lenk ("Lanky") Kestleman, Midshipman *cum* Chief Engineer.

The five seemed lost on the spacious bridge of the *Exeter*, normally home to as many as a dozen crew. Virtual control panels, suspended

in midair, blinked status signals to no one in particular. Consoles bearing InterStellar green and gold markings stood on both sides of the bridge and behind Jana. Many of the stations were untended: shipboard comms, environmental controls, passenger cabin monitoring, and others not essential for this journey. Flying this lady with only five crew was a challenge that they all had risen to. The captain's chair was empty. Jana refused to sit in it out of respect for Arun. He'd been her mentor for years, almost as close to her as her brother. She missed him.

Serene leaned over and whispered something to Lenk. He smiled faintly and momentarily relaxed his bony frame against a bulkhead. Jana thought: Poor Lenk! He'd had to come up to speed in a matter of days on all the touchy aspects of negative mass accumulators and hyperdrive sequences. *Well, if we make it home, his future is bright! If! Was that the question on everyone's mind? I've traced out a different word invisibly on the console in front of me, not the word if but when. When as in which future. Our future, the future for each of us. Will it be seamless with the 24th century we departed? Or will there be a dislocation?* Jana tapped the unseen word in front of her with no distinct rhythm. Rolfo, her icon of stability, paced slowly about the bridge.

It was quite against protocol to have everyone on the bridge, but protocol was just about the last thing on anyone's mind at that point. It was what would happen when they surfaced? Where would they be? Would they be home? Moments ago, the HyperNav's tachcon navigation beacon had signaled impending envelope reversal—all systems primed and ready for exiting the warp bubble and entering normal space. The ready light on the reversal icon glowed green, awaiting the Helmswoman's action. Joss hesitated, eyes narrowed, awaiting the skipper's command.

Jana leaned forward in her chair and spoke softly yet firmly, "On my mark..." She paused, remembered the last time she had heard those words, spoken by their late Captain. It had been the beginning of the nightmare, when they executed an unscheduled reentry into normal space on their outbound passage from Earth. The HyperNav transponder had failed, its last reading suggesting a spatiotemporal anomaly. Entering normal space had been Tang's idea, to get a fix on

where they were and hopefully reboot the HyperNav. They should have been in the stellar neighborhood of Bellatrix according to flight plan, but when Sommers executed the envelope reversal, they had learned an awful truth. Later analysis suggested that the *Exeter's* hyperdrive engines had opened a rift into the fifth dimension due to a bug in the Alcubierre-metric algorithm. It sent them to a far distant region of space and, as well, back in time 350 years. The fix to the algorithm had come to Jana, almost as mysteriously, months later in a dream. She hoped it would bring them back to their own century in a recognizable sector of the galaxy, and not to another outlandish spacetime location. Soon they would find out.

“...three, two, one, initialize!” Jana finished the command.

Joss Sommers focused on the flashing VR icon, executing the reversal sequence. There was the expected moment of weightlessness. The *ISS Exeter* surfed down the departing gravitational wave into normal space without a shudder. Holographic displays leapt into view over the command console giving them a stunning three-dimensional view of their local surroundings. Collective shouts of “hooray” and other cries of joy were deafening for such a small group of people. There shone their home star Adonis, a bright orange red in the star field display. The ship chronometer synchronized with local time beacons, registering the expected date, November 1, 2376. In their collective excitement and utter relief no one noticed at first that the fifth planet of the Adonis system, Verde, could be seen transiting the star.

Sommers began the maneuvers that would bring them in a few hours to within planet-orbiting distance. Someone broke out a bottle of Verde champagne. Soon the anxiety that had owned the bridge only moments before was swallowed up in celebration. Jana held back a portion of herself, thinking of her brother Jame, and wondering... Would he be there?

* * *

They cycled the airlock and stepped through the shuttle hatch out into Verde's crisp autumn air, breathing deeply the evidence that all they had hoped for was finally and truly theirs. Shouts of "welcome

home" and other glad greetings from the waiting crowd dissipated any lingering clouds of doubt. They were home! Even in such a moment and though now a civilian, Jana would not abandon her Federation Navy training. They managed an almost regal march step as they approached welcoming relatives and friends, following a protocol that she had firmly enjoined before they touched down.

Jana searched for her brother's face. She found him off to one side. His large welcoming smile did much to allay her fears. Even at that distance their eyes caught and held for long moments. Held until something in Jame's expression, subliminal, caused her to look to his right. Jana's eyes fell upon the auburn-framed face of a woman standing beside Jame, shorter than him by a head. Their eyes met briefly, then averted. Jana faltered for a moment, taking hold of Rolfo's arm who had stayed close beside her as they descended the ramp. An intense flashback flooded over her bringing again the dream on the *Exeter* in which she had seen the solution to the HyperNav anomaly.

As quickly as it occurred the dream image was gone, replaced by a momentary fancy in Jana's mind that the demure beauty standing at Jame's side was in fact the 20th century actress Rhonda Fleming in her role as Laura Denbow in *The Gunfight at the OK Corral*. Jana thought for a moment. *Okay, I get it. I was just watching that vid on my personal viewer before we began the final approach to Verde*. She laughed aloud at the absurdity. All her crew knew she was addicted to 20th century Westerns. Releasing Rolfo's arm and brushing aside his murmured concern, Jana got a grip on herself. It was just the emotional intensity of gaining, finally, the much longed-for reunion with her brother.

She looked back to Jame, connecting again with his eyes that beamed with pride. A name popped into her head, Sonja, and she somehow knew this to be the name of her brother's companion. She was a lovely woman, appearing to be about Jana's age, yet seeming almost ageless. Despite Sonja's modern Verde attire, Jana fancied this woman to have an almost antique appearance—someone centuries old, like a figure in a diorama of the Old West suddenly come to life in the 24th century. Recalling her own recent journey to the past and the flashback to the shipboard dream, she knew there must be a connection

but failed to see it. Regardless, whoever Sonja was or where she came from, it was clear that she was important to Jame, and that Jana was no longer the only woman in her twin brother's life. Rejecting incipient envy, she vowed to herself to accept Sonja regardless of her provenance or her place in Jame's life.

Chapter 3 – Federation

*Location: KCMetro, Capital of the North American Federation, Earth.
Date: August 2377 GES.*

Sir Thomas Frist, OBE, stared with a mixture of distaste and determination at the soaring triple towers, headquarters of the largest corporation in the galaxy. The broad plaza fronting the imposing structure was replete with Japanese Maple trees, grassy quadrangles, and wide crystalline walkways. In the center stood a 30-meter-high obelisk that was supposed to portray an early spacecraft as conceived centuries ago, before actual space flight. A piece of Flash Gordon memorabilia, some would say. A golden-hued, zig-zag arrow traversed the gleaming silver body of the spaceship from tip to tail. It drew the eye of the beholder from near the needle shaped nose down to the craft's base, resembling a lightning bolt. At ground level the bolt pierced a carnelian-hued star, which was anchored by two stylized, emerald capital letters, *I/S*. Underneath was the name of the corporation for which the letters stood: *InterStellar*.

The choice of a spaceship icon from the pre-space era was no accident, nor was it driven by nostalgia for earlier, simpler times. It conveyed the message that InterStellar had always been there. And always would be.

InterStellar provided the sole means of travel and commerce among the far-flung star systems that humanity had colonized in the last two centuries. The multi-star-system corporation's influence extended far beyond travel and trade. All exploration, all exchange of culture, all propagation of human ideals across the wide swath of stars was beholden to InterStellar. The closely held trade secrets surrounding the Frankel-Spinoza warp drive were the foundation of the IS stranglehold. Cold fusion rockets could ply solar systems, but space warp technology was needed for the stars. No one had ever found another means to traverse the galaxy. None had been able to compete with IS, though many had tried.

Sir Thomas eased his pace across the plaza as he reminded himself that the IS monopoly was politically possible through its arrangements with the organization of which he was General Secretary: The Galactic Federation of Star Systems. GFSS was a closely governed federation of over 80% of the inhabited star systems in the galaxy. The GFSS-IS public-private partnership had endured severe strains and reconfigurations over the years but none so threatening as the current crisis. Now some Federation members were beginning to embrace sentiments leading to dissolution of the Federation, or at least significant relaxation of its control. Calls for breakup of the IS monopoly were on the increase as well, particularly since the *Exeter* incident. Hence this meeting with the new CEO of InterStellar, Verlana Merdeaux. Failure to resolve the crisis could result in a complete breakup of the Federation, to say nothing of IS's vast and very profitable domain. More than ever, they needed each other.

Sir Thomas had just arrived via mag-tube from Delft and was tube-lagged. The two-hour plus journey was pleasant and he had gone over his plans for the upcoming meeting. It was not a meeting that he had called for, nor the proper venue in his opinion. Merdeaux had been cheeky in suggesting he travel to the cowboy capital of the North American Federation. It was hot, the streets were dusty in contrast to his own spotless environs, and men wore their shoes unpolished. She should have come to his place and not the other way around. Merdeaux was newly appointed to her post having won the battle for ascendancy in the wake of the turmoil caused by the disappearance of its starship, the *ISS Exeter*. Frist had not met her but was familiar with her background. She was a wily and hard-hitting corporate combatant, having won out over men whom Frist did know—men who were both qualified and not above dirty tricks to get what they wanted. In Frist's opinion she had not yet earned the right to call the shots.

Sir Thomas' title, Order of the British Empire, was an affectation since Britain had long since been assimilated into the European Federation. He had appointed himself the honor as a reminder of his humanitarian motivations in his civic service to the Federation. He briefly wondered whether his upcoming meeting with Merdeaux would test those ideals. Honorary initials aside, Frist knew himself to

be a man with long experience in both politics and commerce. He was proud of his vision for forging a win-win outcome in the present distress. The two behemoth organizations must become more closely entwined than they were now, even though they must outwardly affect a less chummy relationship. In his mind, it was a foregone conclusion as to who should lead the single, combined entity. He would have to carefully mix cordiality with conviction as he navigated the potentially treacherous waters ahead. Fortunately, he had cultivated an IS employee who had risen to a position close to Merdeaux. The starships, however, were what gave IS the upper hand in any negotiations. He thought to himself: *It's the starships. It always comes down to the starships.*

Chapter 4 – Cabal

KCMetro, Capital of the North American Federation, Earth. August 2377 GES.

Verlana Merdeaux congratulated herself in setting up the meeting with the head of the Galactic Federation on her own turf. She knew Frist would be irked by having to leave his quaint and picturesque Delft and travel to North America, of all places. The Netherlands city of Delft had centuries ago become a suburb of the Hague but had retained its name and distinctiveness. She would have enjoyed an opportunity to visit the ancient city, said to have an unchanging charm, with its narrow canals and bicycle paths. People still used this simple mode of transportation. Verlana couldn't deny the appeal of a visit. But that was not to be, at least not now. She needed to have the upper hand in the negotiations. Getting her way in the venue was but a symbolic victory. The real bomb was yet to be dropped. She was the one who had the bomb. Frist had no idea what was at stake and what needed to be done to capitalize on the opportunities in front of them. She was still contemplating the most effective way to overwhelm him and his "One Federation" vision when her Admin announced that Frist had arrived.

"Julie, let him stew for a few minutes. Tell him I just received an unexpected communique that I felt compelled to answer. Use those two words. Offer him a beverage. Chat him up a bit. I hear he's quite charming and urbane." Verlana knew Julie preferred men who were sophisticated, not just boys in grown up suits.

Some minutes later, Julie admitted Sir Thomas into Verlana's office. After exchanging pleasantries about the weather, his trip from Delft, and the view from her office, as well as getting on first name basis, Verlana moved the conversation into deeper territory. "Thomas, I know you will agree with me regarding the importance of good relations between our two organizations. The progress of humanity in all respects, from exploration to economics is protected by the Federation's stabilizing influence on trade. And InterStellar is your

servant in that endeavor. On the Federation's behalf, we enrich interstellar commerce by managing the costs of shipping and guaranteeing the flow of tariffs into Federation coffers." Frist's vigorous nods at this let her know that she had achieved step one of her plans: put him off his guard. They would need to cooperate in what was ahead, but she wanted to ensure that she stayed on top.

Sitting directly across from her, a low beverage maker floating between them on an a-grav platform, Frist responded, "Yes, InterStellar is key to establishing and maintaining Federation influence, not only through trade, but also by supplying the warships of the Federation Navy at below cost to us and by training her warp drive engineers. But let's not forget, of course, that your company is, shall we say richly rewarded for its services." Verlana smiled at the mild push back. She detested weak opponents.

"Indeed!" she answered. "And we need to work together to ensure the continuance of our mutually rewarding relationship, the more so in these difficult times. So, let me ask you: where do you see the need for closer cooperation? What are the burning issues that IS and GFSS need to address?" Verlana adjusted her tone to one of genuinely seeking the opinion of a peer. She reminded herself: *As well as keeping things under my control, I do need to encourage him to contribute his not insignificant expertise to the new galactic order I have in mind. We both will benefit and we're both needed to make it work.*

Frist carefully considered his response to this talented and forceful executive. Her wiry frame certainly suited her style, even though softened by the olive tone of her skin and wavy burgundy hair with amber eyes. Though entering middle age, as was he, it was clear that she retained much of the allure she must have enjoyed in her youth. He wondered: *Is this a trick, or a ploy for greater rewards? Or something else?* He decided to stick with the known threats for now.

"First and foremost, we must seek to neutralize the arguments of those few non-Federation star systems that openly embrace dissolution of the Federation. They argue that Federation hegemony is antithetical to the democratic ideals of political and economic freedom. In fact, these people are anarchists, bomb throwers so to speak. We see the results of their rhetoric: piracy and sabotage. The fact that these attacks

almost universally are directed against Federation members is telling as to their origin. The only unknown is whether the violence is state sponsored or the work of disaffected individuals. In any event, Federation resources are stretched thin maintaining vigilance in non-Federation sectors to guarantee galactic tranquility for the benefit of all."

Verlana leaned forward, genuine concern on her features. "What about the many non-Federation systems that do maintain friendly relationships with us? They don't receive the economic benefits of membership—lower tariffs and convenient shipping schedules. Yet the governments of those systems justify their higher cost of commerce by touting their greater political freedoms." She paused, choosing her next words cautiously. "Inevitably, centralized economic planning leads to political constraints in one way or another. Don't you agree?" They were coming to the heart of the matter, approaching the stage where she hoped her proposed solution would be met with favor. How would he respond?

Verlana's words struck home. They went to the heart of his daily struggle to balance the economic well-being of the Federation with the democratic freedoms of its people. He often had dealt with such sentiments and there was no easy answer. He was an ardent democrat. But he was a realist as well. In the face of the current seismic strains, one could argue that if the economy went into the tank, egalitarian ideals wouldn't put food in your mouth. With some reluctance he said, "Well, it's the eternal tension between the carrot and the stick. The answer then is to make the carrot more appealing and strengthen the stick."

She smiled as she responded enthusiastically, "Good, I'm glad to hear this. So let me tell you about a much more appealing carrot and afterwards we can talk about the stronger stick." She leaned back, extending both arms along the back of the self-contouring couch. "First some background. I understand, Thomas, that though you are first and foremost a politician, you are not without an interest in science. Particularly in areas that could have a larger significance than mere satisfaction of curiosity?" At his nod, she continued, "I will confess that I did some research on your background. I was surprised

to find that your undergraduate degree was a double major in economics and chemistry. So, you no doubt would be familiar with the arcana of atoms, elements, chemical compounds and so forth?"

"You are correct, though that field of inquiry does not much engage me at present." He paused, then added, "And, for the record, I also did a little research on your background. An impressive career in business, I would say."

Verlana ignored the compliment. "So, what do you know about so-called superheavy elements? In particular, the element Copernicium? I believe it is element number 112 on some kind of table. Ignore my clumsy science, I skipped as much of it as I could in school."

"You're right. Copernicium's atomic number is 112, designating the number of protons in its nucleus, and it is categorized as a superheavy element. Without going too much into the science you avoided SHEs, as they are known, are unstable elements with an unusual nuclear structure. All atomic nuclei contain electrically charged protons, which repel each other. But nature has provided a sort of glue, neutral particles known as neutrons. The more protons in an element, the more neutrons needed to keep the nucleus from breaking up. The more neutrons, the more massive the nucleus. Although SHEs have an abundance of neutrons they are still unstable. In short periods of time, they transform to lighter elements by radioactive decay.

"The table you refer to, the Periodic Table, is just an arrangement that groups elements by their atomic number, showing how elements have similar properties. Properties such as color, density, whether solid like this table or liquid like my drink." He lifted his glass and continued, "The origin of this table..."

Verlana waved her hand, "Okay, okay. I don't need a history of science lesson. Admittedly, your lecture triggered long-lost memories. As I recall, some elements occur naturally, and some do not. We can dig around on this or that planet and find a lot of elements, but there are those that one would never find in nature. We know about them because clever folks figured out how to make them. Do I have that right?"

"Yes, you do. And the element you mentioned, Copernicium, is one of those not found in nature. Like all the superheavy elements, it

is unstable, decaying away in seconds or less. Even were it created in the Big Bang, there would be none left for us to find at this point in time." He stopped and looked at her. Her face was neutral, giving no indication of what she was thinking. When the silence became uncomfortable, Sir Thomas almost blurted out, "So, Verlana, what does Copernicium have to do with carrots and sticks?"

With a thin smile Verlana answered, "Just this: We have found large deposits of a Copernicium bearing ore—naturally occurring. My science advisors tell me that the isotope we've got—they called it an isotope, whatever that is—has more than a billion-year half-life. To me that means that our Copernicium will stick around for a long, long time. It means you can make things with it, valuable things, things that will last. So, do you have any ideas about what we could make with Copernicium?"

"Copernicium? Stable Copernicium? Astounding!" He stared at Verlana. "Are you sure?"

"Yes, I'm sure. But you haven't answered my question."

"What question?" He was standing now, pacing the room, trying to remember what he had seen recently regarding Copernicium, something important to this revelation.

She answered, stretching out her words, "My question was whether there was something valuable that you could make with Copernicium?" Then he remembered. He walked over to his briefcase and pulled out his tablet and opened it to the resource he had been browsing on his trip from Delft.

The title read:

**Handbook of Economic Policy &
Industrial Development.
Galactic Federation Legislator Briefing Series.
Fourth Edition, 2350 GES.**

He swiped quickly to the page he remembered seeing, handed the tablet to her and said, "Read it for yourself."

Verlana took it, glanced at the section heading, and began reading. Frist paced while she read. When she looked up at him, she had a smug smile. "So, I guess there might be a use, a valuable use in fact."

Frist stopped pacing and faced her. His voice went up a register as he exclaimed, "Obviously!" Pausing to think, he lowered his voice and continued, "Because of its position in the Periodic Table, and relativistic effects due to the size of its nucleus, it is possible—as noted in that article—that Copernicium could combine with certain other elements to form crystals exhibiting a form of piezoelectricity responsive to quantum fluctuations in spacetime. However, significant R&D would be required to develop a practical device. For one thing..."

Verlana raised her hand. "Please spare me the physics or chemistry. What's the bottom line?" Her voice had a mirthful tone as if she already knew the answer.

"It means that mankind would at last gain the means for achieving unlimited power at effectively no cost. This is quite a find! Where have you found it?" He was already assessing the impact on the Federation's economic security.

"Yes, it is quite a find. As to where, we'll come to that. The thing is, Sir Thomas, to preserve the find for our benefit we need to have some protection." She lifted an eyebrow and looked directly at him.

"By our benefit I assume you mean some arrangement like the Credits for Peace program?" This was an arrangement with IS that he had inherited. It provided personal incentives for meeting certain goals.

Verlana laughed softly. She was beginning to like dealing with this Federation power broker. He caught on quickly, even if he was a bit fussy about observing protocol. His predecessor had been both fussy about protocol as well as dense. Fortunately, Frist ascended the throne of the Federation just a few months before Verlana took over InterStellar. She liked his composure, even when surprised with new information. He possessed a wide range of facial expressions, from almost boyish to steely. His short haircut, graying fashionably, augmented a compact frame which had something of an old-world charm. She wondered, briefly, how far she could push the relationship.

Frist was still speaking. "And the protection needed...?" He suspected this meant certain trade incentives or legal maneuvering, for which he had ready answers. He wasn't prepared for what came next.

"It's simple, really. What we need is a naval blockade of the planet where the Copernicium is found." She smiled again, wondering how he would take that.

"You can't be serious!" He almost dropped his drink.

"Au contraire, I'm deadly serious. If others find out about the planet, we'll have a problem."

"What do you mean, find out? Isn't the planet already known?"

"No, it's not. As far as what is found in the Federation Stellar Database, it is in an unexplored star system." With that, Verlana leaned back into the couch's comfort and crossed her legs, revealing shapely knees. She had dropped her bomb and it had usefully exploded. How would Sir Thomas respond to the concussion?

Frist's eyebrows furrowed. Agreeing to quarantine a planet with the Federation Navy was no small undertaking. He perched on a corner of her desk, probably an impertinence even in cowboy country. "Verlana, what am I missing here? If the planet is not listed in the FSD and is uninhabited and no one knows about it except you, what is the problem?"

"I didn't say it was uninhabited. Nor that others didn't know about its existence."

"What!"

"Thomas, please come here and sit down." She patted the couch beside her and shifted, catlike, to one end. "Let's take this one step at a time."

* * *

Sir Thomas Frist left KCMetro late the next morning, after a breakfast meeting with Verlana to tie up some details. As he boarded the mag-tube car he was still marveling over the woman's boldness and vision, yet her willingness to negotiate fairly. Apparent willingness, anyway. *We'll see!* However, he was forced to admire the adroitness with which she had maneuvered him. Dinner at an out of the way bistro with genuine Euro cuisine and drinks later at her apartment had

warmed and given a personal touch to the developing professional rapport. On the other hand, he congratulated himself on resisting her subtle flirtations that occasionally penetrated (purposely, he was certain) an otherwise inscrutable demeanor. But there would be opportunities later for more intimate negotiations. There was a time and a place for everything. What Frist did not perceive was that even this side of Verlana Merdeaux hid a conscious stratagem, which she would not hesitate to use as needed. Physical pleasure just made winning better.

As the train floated noiselessly out of the station, he settled himself in the private compartment and sketched out on his tablet the major points surrounding the new world that Verlana had outlined. She had refused to give him key details, in particular the location of the mystery planet, until he had secured arrangements for the naval blockade. This required someone with the rank of admiral, while being an individual who knew who approved promotions at his level. It would have to be someone who could be trusted to maintain secrecy while not seeking personal advantage from a privileged position. Frist knew just the man, one who owed him a favor from a past beneficence.

The rest of her stratagem was straightforward in design, but not so easily achieved in his estimation. She made no bones about her grand vision: Establish InterStellar as the dominant economic force in the galaxy, while luring all non-aligned star systems into the Federation fold. Along the way, she wanted to establish her home world, Verde, as the pre-eminent planet in the galaxy, replacing Earth's position. This was one aspect of her vision that Frist did not share, but he chose not to make an issue of it. Merdeaux's scheme amounted to creation of an economic and political empire, with the two of them as co-regents, though it would be suitably disguised and never billed as such. And the carrot, the thing that would bring all inhabited as well as yet-to-be colonized star systems into a single organization, the thing that would fully establish InterStellar as the lifeblood of that organization, was Copernicium-296. Or, more specifically, it was the unlimited energy obtained from space by orbiting platforms of Copernicium-Perovskite (CnP) transducer arrays. Once paid for, the power stations would provide essentially free and limitless energy to their owners!

The economic benefits, if this could be achieved, would accrue to the Federation through revenue from taxes and tariffs. For InterStellar there would be a cut from these, but an even larger source of revenue would come from the exclusive rights to manufacture and sell the CnP arrays. Also, known only to the two of them, there would be financial benefit above and beyond normal salaries and bonuses, to say nothing of the satisfaction that came from holding a position of power. The full extent of Verlana's lust for power had become apparent to him as they enjoyed one another's company the evening before. It unnerved him to think that his own rise to supremacy in the Federation might have been as bald a grab for power as hers. He squirmed a bit, seeking a more comfortable position in his seat.

The next step was to set up the naval cordon around this mysterious planet and then begin mining operations of the Copernicium-rich ore. All of this was to be achieved without the knowledge of the planet's inhabitants. Frist still wondered at the story of how the planet came to be colonized. In fact, he wasn't sure he believed the tale. Verlana had wisely pointed out, however, that it didn't matter how the people got there or what happened to them. For the time being that star system would not be joining the Federation, at least until a hold on the planet and its resources was guaranteed. After that it could become a Protectorate of the Federation, if he insisted, with access tightly controlled. He put away his tablet and reclined in his seat for the rest of the trip.

Chapter 5 – Transcript

Location: InterStellar Starship Draconis en Route from Earth to the Planet Verde. Date: November 2377 GES.

Henri Gruen was Senior Policy Advisor to the CEO of InterStellar, a position he had recently attained. He was proud of this achievement. He had done a lot of ass-kissing to get there and now expected to enjoy greater freedom in IS's corporate jungle. Gruen was headed to the proposed new corporate headquarters of InterStellar on Verde. He was travelling First Class on *ISS Draconis*, a hyperspace liner normally reserved for company personnel. He mused to himself: *What a mistake, relocating headquarters from Earth to Verde. Verde, of all places!* Verlana Merdeaux, the new CEO—and his new boss—was a native Verdean. Gruen supposed that she had gotten tired of the Mother World's time-honored ways, the Home World's genuine ascendancy. *These days people on the far-flung shores of the galaxy don't give a shit about where they all came from!*

The warning bell sounded as *ISS Draconis* prepared to enter warp, during which there would be a period of weightlessness. Reluctantly, Gruen clicked off the image of the *Exeter Debriefing Transcript* he had been reading. The debriefing detailed how the starship supposedly had returned from the past and from an unknown planet on which most of the *Exeter's* crew and passenger manifest had decided to make their home. To Gruen it was like reading a baffling science fiction novel requiring significant suspension of disbelief. Gruen strapped his pudgy and less than athletic frame into the flight couch in his executive stateroom and waited for the warp sequence to complete.

The interruption helped him forget about InterStellar politics for the moment. He went over in his mind the purpose of this trip, official and unofficial. Officially, he was to meet with Jame Anders, InterStellar's VP of Development and Chief Science Officer, and Hald Forsen, the one-time Director of Research for IS. Forsen was now a consultant, whatever that entailed. Gruen had first met both Anders and Forsen a couple of years ago when Anders had visited company

headquarters for a debriefing with Forsen. Forsen had suddenly resigned, dumping the whole research program on Anders. A month or so later Anders hired him back as a consultant, of all things. Should have let him stay out to pasture, was Gruen's opinion. He was a weird bird even if a genius. Forsen then returned to Verde, the principal location of IS's research facilities, and pretty much resumed his former duties under Anders. Gruen had yet to visit the vaunted Saturn Lab outside Verde City and looked forward to that part of this trip at least. Forsen was smart, no doubt about that, if not a bit quirky with his fascination with old Earth culture. As in 20th Century Earth. *What about the 24th Century where we now live? Well, of the few native Verdeans I know at least Forsen shows appreciation for Earth heritage, even if it's Earth's essentially barbaric past.*

Gruen caught himself. He was getting into the kind of funk about company culture that he'd despised while he fought his way to the top. He readjusted his attitude to one that befitted his new position. He sighed. *Back to my meeting with Anders and Forsen.*

Dealing with Forsen would be problematic only because of his non-employee status. As a consultant he didn't have the same motivation as an employee to play by the rules. As a former employee, Forsen would have to abide by the lifetime Secrecy Agreement that all employees signed at hiring. At least Gruen didn't have to worry about fair practices in employment if Forsen proved difficult. His consulting contract could be terminated, no questions asked. Forsen probably wasn't independently wealthy and would likely prefer to continue earning Federation Credits. Not that Gruen expected any difficulty, but it never hurt to be prepared, to know where all the pieces were on the board.

Gruen knew he would have to be more careful with Anders. The tall, well-built Jame Anders was a highly respected and well-entrenched part of InterStellar—one could almost say a charter member of the InterStellar family. He pre-dated Gruen by many years and would likely have the ear of the CEO in any dust up. Anders and Merdeaux had both grown up on Verde and, it was rumored, had been childhood playmates. It was even rumored that Anders and Merdeaux had been a different kind of playmates in their early youth. He couldn't

see how the tall, blond, fair-skinned Anders and the short, olive-toned Merdeaux would have made a memorable couple. He could hardly credit them getting along very well, either. Again, true or not, it was good to have the lay of the land. Even half-truths could come in handy in a pinch. Gruen was good at cultivating sources of information and rewarded them appropriately. And not necessarily with Federation Credits. There were those outside the hallowed halls of IS who valued inside information from time to time.

The official topic of the meeting was for Anders and Forsen to brief him on an invention that had come out of the warp envelop communication project. In turn Gruen would be expected to liaise with company executives on its features and use. The invention made it possible to have essentially instantaneous audio-visual communications with starships when in warp and across vast reaches of space. Formerly, only the pings from a starship's transponder were received in real time, giving location and certain diagnostic information. Federation Navy ships had already been fitted with prototypes of the device.

The unofficial purpose of the trip had to do with InterStellar's passenger liner, *ISS Exeter*—it's sudden disappearance and the bizarre story told by the survivors when it reappeared months later. Verlana (that is, Ms. Merdeaux—he never used her first name to her face) had made it clear to him that this aspect of his trip was *sub rosa*. She had not stated it so bluntly, but the bottom line was that Gruen was to ensure that *Exeter's* survivors were keeping to the company's mandate of secrecy regarding what had happened on that fated trip. Most particularly, there was to be no mention to anyone whatsoever, on pain of legal action, of a previously unknown planet on which the ship's crew and passengers had supposedly been marooned. For her part, Merdeaux apparently believed the outlandish tale. Interestingly, after she had taken over the InterStellar helm, she had ordered a companywide blackout of all details of the *Exeter* incident, including censure of all public news stories on the episode. She also had informed Gruen just before he left that InterStellar had obtained Federation approval for a quarantine of the planet by warships of the Federation Navy. Gruen had already known that something like that

was in the works from other sources. He had said nothing, nodding soberly at her assumed confidence in his discretion in the matter. Another useful bit of information.

The *Exeter* incident had roiled the company, leading to a shakeup at the executive level and resulting in the Merdeaux ascendancy. The company's initial response to the incident had sought to calm the anxious public, reminding people of the long history of safety in interstellar travel. It had all been a matter of a minor glitch in the starship's navigation system, easily corrected, they explained. The heroic Commander Jana Anders, *Exeter's* First Officer, had found the problem and returned the vessel to safety. That's what everyone had believed, and still did. It's what Gruen believed at the time, as well, not being high enough on the totem pole to know the truth. Now he knew better. That is, if the supposed truth really was the truth. He was skeptical.

Jana Anders! He'd never met this Anders but had seen holo pics of her. The images showed her to be a striking blond with naturally straight, shoulder length hair and finely combed bangs that all but covered a high forehead. She looked to be taller than most women and many men, though it was difficult to tell from the picture. Merdeaux had warned him to avoid her ice-blue eyes if he could, and then had laughed as if at a private joke. Apart from the physical resemblance to her twin brother, she was said to be unlike him in personality. It was interesting, he thought, that the twin sister of IS's Chief Science Officer was involved in this *Exeter* caper. She also had been a childhood friend of Merdeaux. He would have to be careful. Anders, the female Anders, was noted for her competitive nature and persuasive ways.

The thought of Jana Anders reminded Gruen of the *Transcript* he had been reading. He picked it up again. This section was a transcription of Anders' own verbal account about their supposed journey back in time to an unknown planet and subsequent return to Verde. According to official debarkation records, only five of the *Exeter's* original crew were aboard when she arrived at Verde. Each of the five affirmed separately that *Exeter's* remaining crew and the entire passenger manifest elected to remain on a planet they had found

rather than attempt a dangerous return. According to their testimony it was a rocky planet, fourth from the star, slightly smaller than Earth. It had abundant water and an atmosphere like Earth's. Anders had affirmed that the Federation Stellar Database designated the planet's star as 54 Piscium, a K0 main sequence star, 36 lightyears from Earth. The FSD had no known planets in that star system. It was an uncharted sector of the galaxy.

Gruen read the introductory portions then skipped to her account of their supposed marooning and miraculous return. Her remarks to the psych examiner were as vivid as if she was reliving the events she thought happened. Coming to the end of her statements, Gruen read with amazement her defense of the truth of their experience.

* * *

"Due to an unknown bug in the Alcubierre-metric algorithm, the Exeter's hyperdrive engines opened a 5th dimension rip in spacetime through which we had travelled into a far distant region of space. And, even more alarming, back in time 350 years. And I must insist on this. Stars have a proper motion, not discernable in a single night's observation, but certainly manifest over centuries of time. Data in the FSD confirmed both where and when we were. There was no question. The stars don't lie.

"I don't cherish the illusion that my report along with my interpretation will not be received without a certain amount of skepticism, or even outright disbelief. Even for me it's difficult to acknowledge that the fix to the HyperNav that I finally concocted came to me in a dream."

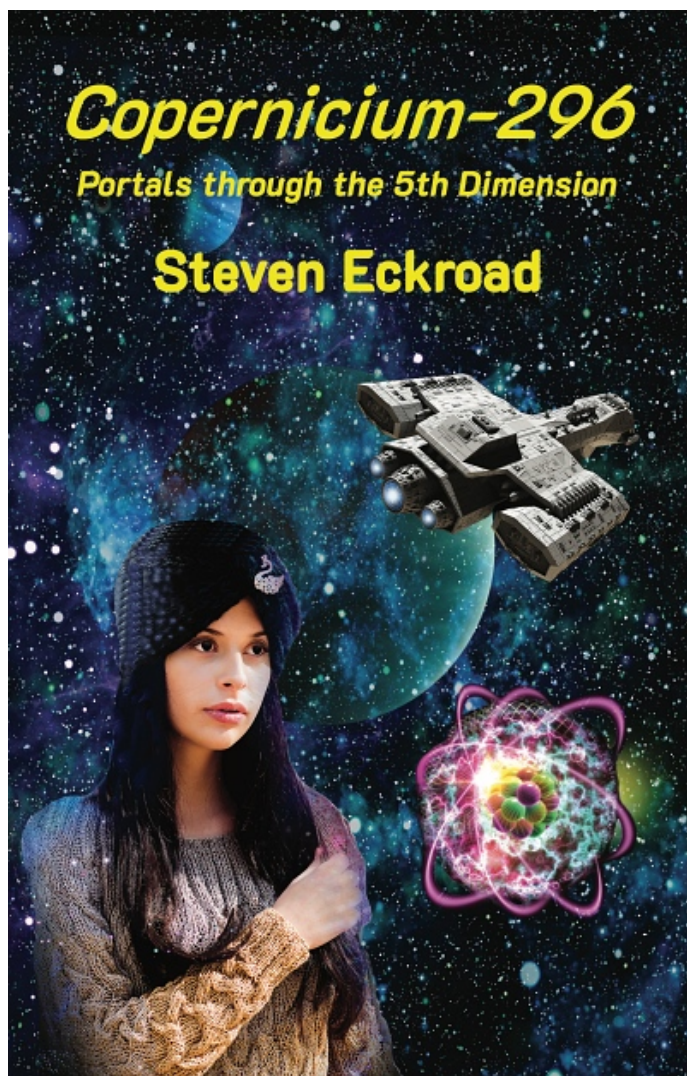
* * *

Gruen switched off the Transcript with a sigh. It was simply incredible to him that a person of her education and intelligence could have become so delusional. That's what the company's psychiatrists had concluded, and after reading her own testimony Gruen agreed.

When he had first heard what the five astronauts had reported about their adventure, he had suspected space sickness. Now, having read her very words, there was little doubt. He almost felt sympathy for Anders and the others—interstellar travel was known to exact a high toll on those who spent more time between planets than on them. But they asked for that life, he decided, and they were well paid for it. Sometimes the strain was just too great. He looked forward, in a way, to meeting Jana Anders, if only as he might anticipate visiting a zoo displaying otherworldly creatures.

About the Author

Steven Eckroad is a scientist/engineer with a degree in physics and practical expertise in emerging electric power technologies. He is a member of Mensa, and his hobbies include astronomy, electro-mechanical tinkering, gardening, nature photography and theology. He loves reading science fiction and watching Star Trek. He has completed two novels: *Telpher* and its sequel, *Copernicium-296*. A third novel, a sequel to the first two, is underway. He is married, has travelled widely, and currently resides in Southern California.



A star-ship navigator risks her career pursuing justice for a quarantined planet. Her quest is marked by conspiracy, romance, space battles, telepathy and spacetime portals. Integrity and hope are her keys to victory.

Copernicium-296

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