

TOM SWIFT

and the Nuclear World

BY
Michael Wolfe

Made in The United States of America

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A Japanese moonbase discovers a rogue planet traveling through the solar system. Named "Akari" it is scrutinized by astronomers, including Tom Swift Jr. who discovers that the planet possesses an unusual multiple ring system. This, along with other facts, leads Tom to believe that Akari possesses intelligent life. It is initially taken for granted that Tom would lead a manned expedition to the new world, but the events of recent human-alien interaction have left international scars... both physical and emotional... that Tom is hesitant to challenge.

The situation takes a new turn when a terrorist group hijacks a Swift ocean installation. Tom and others are in the process of trying to recover the installation when, suddenly, the terrorists are put into a catatonic state, defusing the situation. Mystified, Tom begins investigating and eventually learns that the terrorists had been rendered docile due to transmissions from Akari. The planet is somehow capable of broadcasting signals similar to brain waves, a fact driven home when such transmissions reveal the true name of the planet as being "Zea."

A manned expedition is proposed by JAXA: the Japanese space agency. They prepare their most advanced spacecraft, the *Chigiri*, and Tom offers his orbiting space station to serve as Mission Control. Behind the scenes, however, Tom is in secret negotiations with JAXA officials. Only a few people are aware of Tom's scheme, even as he and his family prepare to travel up to the space station.

And, that's just in the first third of this adventure!

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Chapter One: The Impossible Planet

“So explain it to me,” Bud Barclay asked. “Why 'Akari'?”

“Simple enough,” Tom Swift Jr. answered. “It was discovered by Professor Hideko Ichikawa at Japan Prime. He decided on the name Akari, which is the Japanese word for 'light' and, considering how bright Akari is, it seemed pretty appropriate. Besides,” and here Tom gave a small lopsided shrug, “admittedly it's a better name than its original designation of 2015D1, which is how it was initially labeled. But, ever since Professor Ichikawa realized he had found a planet, instead of a comet, he felt a new name was needed.”

It was four hours past sunset and the two men were in the observatory located at the southern end of Swift Enterprises: an enormous scientific and engineering research and development facility in Shopton, New York. Tom was at the controls of his megascope space prober: a telescope which used focused electron beams to scan objects.

Five weeks ago a bright new object in the sky had been discovered by the astronomical crew stationed at the moonbase which Japan had established near the crater Grimaldi. The newcomer had attracted the attention of the scientific community.

Tom Swift Jr., a lanky young man of thirty, was internationally recognized as a scientist and engineering prodigy. He had just returned from spending a month engaged in intense research at the bottom of the South Atlantic Ocean and was now looking forward to finally being able to use his own equipment on the recently discovered object.

Bud Barclay, also thirty, was not only Tom's best friend but his brother-in-law as well. Possessing a slightly more muscular build he was the senior astronaut for Enterprises. As such he harbored an interest in anything new from space.

For the past three hours Tom had been sending scanning beams from the megascope out in the known direction of Akari. Relaxing a bit he leaned back in his chair, rubbing absently at his blue eyes.

Bud noticed the gesture. “Maybe you need a break, Genius Boy.”

“I’m okay,” Tom replied. “Besides, according to my estimates we should be getting the first 'reflections' back from Akari any moment now.” He raised his voice slightly. “How’s it looking, Dad?”

Across the observatory floor Tom Swift Sr. was peering into the eyepiece of the 107-inch reflecting telescope he had designed and built years earlier. Although not quite as tall as his son he was possessed of the same wiry build, blonde hair and blue eyes.

“It’s incredible,” he said, still staring into the eyepiece while his fingers tapped on a computer keyboard. “Most people on Earth should be able to see it unaided. I can’t get too many details yet, but I can see the bulges Ichikawa spotted.”

Bud frowned. “Bulges?”

“Akari doesn’t seem to be round in the way we’d consider a planet to be,” Tom Sr. answered, looking in his direction. “It has something of a noticeable equatorial bulge, and what seems to be a similar bulge near both polar regions. Hopefully the megascope will provide more information.”

“But it’s definitely a planet? Not a comet?”

Tom Sr. and his son exchanged a look. “It was both the brightness, as well as the bulges, which made Professor Ichikawa believe he’d found a new comet,” Tom explained. “But if it was a comet it should’ve started forming a tail by now. It hasn’t.”

“And it’s already been determined that Akari is larger and more massive than the average nucleus of a comet,” Tom Sr. added. “It’s smaller than the Earth but larger than Mars.”

It was at that moment that the megascope beeped. “Here we go,” Tom said, turning back to the controls. “The computer’s crunching the reflections now. I’ll put the incoming data on the big screen.”

The three men turned to watch as information began appearing on a large display located on the observatory wall.

OBJECT “AKARI”

Distance from the Sun: 438,069,171 miles.

Current speed: 53 miles per second.

Equatorial diameter: 5814 miles.

Polar diameter: 5007 miles.

“Traveling faster than Mercury,” Tom murmured. “It's following a high inclination path ... about eighty-five degrees to the ecliptic ... so, at its current speed, it'll cruise through our solar neighborhood in,” he stared up at the observatory ceiling, his mind working, “I'm saying eighty days.” He shrugged again. “Of course we can debate what makes up the 'solar neighborhood' ...”

“Hardly enough time to get excited,” Bud commented. “But it's clear that Akari isn't gonna collide with us or anything?”

Tom sighed. “No. It's just a fast wanderer passing through the solar system. It'll hardly get closer than it is now.” His voice carried a touch of irritation, and Bud instinctively knew better than to press the issue. Ever since Akari had been discovered a wave of panic had passed through the population of Earth.

Admittedly there was some justification. Almost two years earlier the Earth had been threatened with annihilation by aliens from a planet in the region of Cassiopeia A. The aliens had perhaps ironically been referred to as the “Space Friends” and, for years, they had maintained an intermittent contact with Earth, most of it going through the Swifts. Among the more dramatic demonstrations of their technology had been the placement of a second “moon” into orbit around the Earth.

It was finally revealed that the “Space Friends” were pathologically fearful of human thought patterns, which their advanced but sensitive minds intercepted and received as pain. After years of studying Earth it had been decided that, to preserve the ironclad harmony which the Space Friends imposed upon the local region of the galaxy, the human race would have to be destroyed. It was only through the direct intervention of Tom's sister Sandra that the crisis was averted and the Space Friend presence in the solar system was wiped out, but the price had still been high. Panic throughout the world had resulted in widespread riots and fighting, culminating in the nuclear bombing of Paris.

The “moon” which the Space Friends had delivered to Earth had been recalled into space as part of the situation. Since then every new object found in the sky was looked upon with concern. Practically every nation on Earth had increased funding and development of new astronomical

assets, and greater emphasis was placed on extending humanity's reach into space.

From a scientific viewpoint the new initiatives were welcomed with open arms. But many scientists ... including Tom and his father ... openly decried the fact that all of the effort was born more out of fear than out of a desire to expand knowledge of the heavens. The governments of the world had been pressing the scientific community for reassurance that Akari wasn't a cosmic cannonball aimed at Earth. All evidence seemed to point away from such a situation.

So far. Tom silently knew that most of the world's people wouldn't breathe easier until Akari was a distantly receding dot in the sky.

And now the megascope was again beeping for attention and Tom's mood brightened. "Great. We're now getting the first composite image." Pressing a button he turned back to the wall screen, his father and Bud copying his action as, for the first time, a clear close-up image of the planet Akari appeared.

"Oh ..." Tom Sr. began.

"Wow," Bud finished.

Tom had to agree with the assessment delivered by his friend and father. On the screen could be seen a globe whose surface was mottled in shades of brown, blue and green, all of it dressed in swirling masses of white.

But what made the sight truly distinctive was ...

"Rings," Bud exclaimed.

Tom nodded. "Three of them." And indeed, Akari boasted a Saturn-like ring of bright purple around the middle. But there were two additional rings circling the planet, both of them separated from the center ring by an angle of forty-five degrees.

"And there's the bulges Ichikawa spotted," Tom said. "Rings."

"Sort of looks like a drawing of an atom," Bud commented.

"It does," Tom agreed. "And it's astronomically impossible."

Bud turned to look at him. “Huh?”

“Planetary ring systems,” Tom Sr. broke in, “tend to develop along a planet's equator. At least that's been our experience so far.” He nodded at the screen. “Two additional rings ... placed at such precise angles against the equator ... smack of something else entirely.”

Tom saw a guarded look sliding onto Bud's face.

“Yeah,” he told his friend. “I mean, it's still too early to tell. But an arrangement like that pretty much screams some form of intelligence at work.”

“Oh boy,” Bud softly moaned.

Tom turned to the megascope's computer controls. “I'm going to go ahead and pass this image on to the other observatories. We need to start getting our heads together because, when the higher-ups get wind of this, I doubt we'll be getting much sleep.”

Chapter Two: Planetary Powwow

In point of fact it was less than twenty-four hours before official visitors descended on Swift Enterprises.

“This is what happens,” Tom explained to Bud, “when aliens try to destroy your planet. People pay attention.”

On the upside the visitors at least were people who possessed a reputation for calmly sympathetic discussion. Dr. Rex Morrow was the director of the Office of Science and Technology Policy and regularly advised the President on such issues. He was accompanied by Senator Richard Tobey from the United States Senate Commerce Subcommittee on Science and Space. Tom and his father had originally met both men back during the alien crisis of two years earlier, and Tom quietly hoped the mood would be considerably less tense now.

The visitors were now gathered with Tom, his father and Bud in Tom's office, all of them standing around Tom's worktable. Above the worktable a telejector lobe projected a three dimensional graphic of the solar system, with the position and flight path of Akari presented in red.

After several moments of study, Tobey allowed himself a grudging nod. “I might be the least scientifically literate person in the room,” he said. “But as near as I can determine from seeing this, the planet is going to miss Earth entirely.”

“That's what we're concluding,” Tom said. “And every other astronomer we've spoken with agrees with our assessment.”

“Well I don't mind telling you how much of a relief that is,” Tobey said. “Especially coming from you and your father. My office, as well as those of my colleagues, have been flooded with concerned messages from people all over the country. And my sources in the State Department tell me that similar situations have been going on throughout the world ever since Akari was first spotted.”

Tom was trying his best not to sigh. “Senator ... it might not be evident to anyone but an astronomer, but things are coming out of space all the time. Comets ... meteors ...”

Tobey's eyes met Tom's across the worktable. “Extraterrestrials.”

“Granted. The human race has had its face viciously rubbed into the fact that it's a big and complex universe out there. I know it's difficult, but you and the other leaders in the world need to try and convince the public that every new sighting in space isn't automatically a disaster.”

“I understand that,” Tobey replied. “But you've got to understand the uniqueness of my position. I've met people who believe that the Moon, Sun and stars are all the same distance away from us.”

And some of them sit on your Committee, Tom thought.

“I sympathize with the Senator's problem,” Dr. Morrow said, “and so does the President. He immediately signed the recent Science and Space Science Educational Initiative Bill upon receiving it.”

Tom Sr. nodded. “Some of our Public Relations people have been tapped to help produce videos for both school and television.”

“In the meantime,” Tobey said, “Akari is in the here and now. We can't wait for the next semester.” He looked again at Tom. “You're saying there's a good chance the planet is somehow connected with intelligent life?”

Nodding, Tom pressed a switch on the desk and the 3D graphic was replaced by the most recent image of Akari. For a few moments everyone stared at the ringed world.

“Just to cover our bases,” Tom said to his visitors, “Dad and I spoke with every available expert in the field of planetary ring formations. Our original assumption was correct and it's the collected opinion that the formation we're seeing on Akari cannot occur naturally.”

Morrow was leaning closer to the image. “Tom? Are these rings composed of solid matter? They certainly don't look it.”

“Rather resemble purple light, don't they?” Tom agreed. “Feodor Zeldovich, a physicist with the Russian Academy of Sciences, thinks the rings are some sort of plasma formation. Maybe storms of some sort, although he wouldn't go so far as to offer an explanation of how the rings maintain such precise positions.”

Tobey was also regarding the image. “Okay, I'm no planetary scientist. But isn't Akari sort of out beyond the orbit of ... Mars? Jupiter?”

“Good guess,” Tom said. “Its path will take it closer to the orbit of Jupiter than Mars, although neither planet will be in a position to be affected by its passing.”

Tobey nodded. “Okay. But the reason I asked is that, if I’m reading this image correctly, I’m seeing an active atmosphere as well as what sort of looks like some kind of ocean. Wouldn’t all that be frozen at the distance Akari is?”

“Very good,” Tom told him. “And normally you’d be correct. But studies made by the observatories on the Moon, our space station and here on Earth seem to agree that Akari has a mean surface temperature of twelve degrees Celsius.”

“What’s more,” Tom Sr. added, “all evidence seems to point to Akari possessing an atmospheric pressure similar to that of Earth.”

Tobey shot a look at him. “Breathable?”

“Absorption spectra readings indicate the presence of an oxygen-nitrogen atmosphere. We’re still fine-tuning our readings, but—”

“But I’ll sum up,” Tobey said, straightening up. “We’ve got an Earthlike planet zooming through our solar system, and some of the facts indicate the possible presence of some sort of intelligence.” He looked from one Tom to another. “Do I have it right?”

“A rather clipped summation,” Tom Sr. admitted, running a hand through his graying hair. “I would just rather it was worded differently for public consumption.”

“Akari’s been visible for just over a month now,” Dr. Morrow said. “No one’s mentioned the Earthlike conditions, or the chance for intelligence.”

“The ring system is what really set off speculation about intelligence life on Akari,” Tom said. “And they weren’t clearly visible until I used my megascope on the planet.”

“What I’m getting at,” Morrow said slowly, “is whether or not we should maybe downplay the notion of Akari possessing intelligent life.”

Tobey’s eyes narrowed at the Swifts.

“It goes against everything I believe in,” Tom Sr. said, “to withhold scientific truth from the public.”

Tom nodded agreement. “But Dad and I are also sensitive

to what people might think. That's another reason we wanted to speak with the both of you. We'd like some advice on the matter.”

Tobey exhaled noisily.

“You know of course,” Morrow said, “that the President recently met with another Congressional delegation advocating the creation of an armed space navy to deal with future threats.”

Tom let out a small moan, and Bud closed his eyes and shook his head.

“Dad and I have told people, and told people, and *told people* that aliens on the level of the Space Friends cannot be harmed by anything our technology is capable of producing. The Space Friends blew up their own star to create a defensive shield of radiation around their world. They were well on the way to turning our own Sun into a weapon before my sister managed to ... get lucky.”

“Sandra has been going back and forth over the world, meeting with people and governments,” Tom Sr. added. “She's talked herself hoarse explaining how sessions of concentrated thought can keep the Space Friends at bay far more effectively than terrestrial weapons.”

Tobey sighed. “I certainly appreciate Mrs. Barclay's efforts. But most of the people I deal with believe more in thermonuclear warheads than in thinking happy thoughts. And that's the kindest way I've heard it described.”

Bud realized his hands had bunched into fists and he forced himself to relax.

Tom also seemed to be trying to come under control. “Getting back to the situation with Akari,” he said, “we at least have two things working to our advantage. The first is that Akari is moving rather rapidly through the solar system. In a few months it'll be heading on out into the void.”

He then sighed. “The second thing ... and I thought I'd never be happy to admit this ... is that human stupidity is in our favor. We might as well release close-up images of Akari because the majority of the population wouldn't catch on to the clue given by the ring system.”

“Other astronomers could mention it,” Morrow pointed out. “Some reporters are smart enough to put two and two

together.”

“Let them,” Tom replied. “Most people wouldn't believe the Sun rose in the east unless they first heard about it on MTV.”

A look passed between Bud and Tom Sr. Tom hadn't always been so cynical. But over the years he had seen science being downgraded in his own country. He had also trusted and had felt close to the Space Friends, only to have that trust thrown back in his face.

Morrow and Tobey also seemed to pick up on Tom's mood. “We'll take what you've told us and meet with others in Washington,” Tobey told him. “Give us a few days and we'll get back in touch.”

Tom nodded half to himself.

“One more thing. Best guess, Tom: is Akari from the Space Friends?”

Tom's face slightly softened into thoughtful lines. “I've ... been wondering about that ever since I got a good look at the planet. They sent Nestria to spy on us for several years, so I can't entirely dismiss the possibility that Akari is a much larger observation platform. All we can do is continue to watch it for any sign of change.”

Tobey nodded. “We'll set up the usual direct channels for you or Enterprises to let us know if Zea acts unusually.”

“Whatever constitutes 'unusual action'.” Tom then frowned at the Senator. “What did you say? 'Zea'?”

Tobey seemed perplexed for a moment, then shook his head. “Sorry. I've had a lot on my mind ever since the planet showed up. I plan on getting a full night's sleep when I get back to Washington.”

“A good idea for all concerned,” Tom Sr. remarked.

* * * * *

The comfort of home cooking odors met the noses of both Toms as they entered the Swift home.

Tom Sr. took a large speculative sniff. “Pepper chicken.”

“Very good,” Mary Swift said, smiling as she brought a bean casserole to the table. Her petite blonde form was closely shadowed by the considerably larger and muscular seven foot tall girl who placed a plate of jalapeno cornbread

alongside the casserole.

“Just in time to wash up some and eat,” Mary instructed her husband and son. Her eyes looked further. “Bud didn’t come along? He doesn’t like my pepper chicken anymore?”

“Don’t take this the wrong way,” Tom Sr. said, “but I suspect he appreciates Sandy’s cooking over yours. Something to do with ambiance, I suppose. Hello, Sestina.”

The giant girl attempted what passed as a welcoming smile and, just as usual, came short of the mark. A product of genetic engineering, Sestina, besides being mute, seemed perpetually frozen in a state of melancholy. She was devoted to the Swifts, however, and served as cook for the family (deferring most culinary decisions to Mrs. Swift). Another advantage of her presence (although one not normally spoken of aloud) was that her enormous strength and agility made her an excellent bodyguard.

For her part, Mary studied the faces of her menfolk and quietly decided to keep any conversation concerning the new planet until after they all had some food inside them. With Sestina settling into a specially reinforced chair, Mary opened the conversation with news about the recent literary success of Charles “Chow” Winkler: a friend who had once had Sestina’s job as cook for the Swifts.

“The Food Network’s offered Chow his own show,” Mary was saying. “But I think he’s serious about editing that updated collection of James Warner Bellah stories.”

Tom and Tom Sr. seemed interested in the announcement, as well as the food, but long association told Mary their thoughts were far away (and she suspected the distance as being somewhere beyond the orbit of Mars). Sestina, with her enviable sense of perception, also picked up on the mood and, with a few gestures, silently queried to Mary as to whether or not she should serve cocktails immediately after dinner?

Mary signaled no. “All right,” she said to the men. “Are we leaving for the new planet anytime soon?”

The remark caused both Toms to look up in surprise.

“Heading for Akari?” Tom Sr. asked. “Why, Mary!”

“The thought never occurred to us,” Tom added.

Something went *thunk* deep inside Mary, and she found

herself almost regretting the decision to forgo alcohol. “I really don't mind the two of you sometimes treating me as if I were terminally naive—”

“We never think of you like that, Mom,” Tom assured her.

“At least not terminally,” his father said.

Mary gave her husband what she hoped was a stony glower. “I'll deal with you later.”

“Oooo. Promise?”

Tom chuckled lightly and Mary was at least glad that the mood had been punctured and lightened. “Akari is an interesting problem,” Tom told his mother. “And usually my first thought would be to try and mount a manned expedition. But with all that's going on ... and with the current mental state of the world (and here Tom sighed) ... I think the notion of a Swift space trip might not be well received in several quarters.” A shrug. “If I can arrange it I might try to launch an unmanned probe.”

Mary helped herself to more chicken. “I know a lot of people still have their heads in the sand concerning space,” she said. “And you're right in that Akari is interesting. But what's the problem? It's heading back out into space. And it's not as if it's inhabited or anything.”

Silence, and Mary noticed the look which passed between the Toms.

A sigh. “Sestina, dear? Do you remember how I taught you to mix a Long Island Iced Tea?”

Chapter Three: One Of Our Airports Is Missing

The next day found Tom engaged in a conference not only with several members of the Enterprises Astronomical Sciences staff, but also linked by video with scientists from different parts of the world.

“Yesterday Senator Tobey asked a question which I never quite got around to asking,” Tom said to the group. “Namely: how is Akari ... a planet located as far off in space as it is... maintaining Earthlike temperatures? The existing climate model doesn't quite support the reality. If Akari's atmosphere was thicker then I could accept the surface temperature findings. But it isn't.”

Dr. Susan Flonate, one of the Enterprises astronomers, was frowning at some fresh data from the various instruments which were observing Akari. “The planet's albedo is certainly high,” she said. “But not high enough to account for the temperature.”

Dr. Gilbert Dougann, from the *Societe astronomique de France*, commented from his place on the video screen. “Akari's rotational speed is also not fast enough to explain the heating.”

His image being beamed from the base which the Japanese maintained on the Moon, Professor Hideko Ichikawa produced a thin smile. “It would seem, Tom,” he said, “that my little discovery has raised more questions than answers.”

“Just like every good discovery,” Tom replied, also looking at some recent data. “And it's becoming more and more obvious that real answers will be collected only by direct exploration.” He continued staring at the small display on his handheld Tiny Idiot computer, but he could sense everyone else waiting in expectation. “I'd like to send instruments that could study the atmospheric structure of Akari. Also a Doppler wind experiment, an entire suite of spectrometers and a gas chromatograph. Any other suggestions?”

Looking up at the others he noticed the expressions on all the faces.

It was Flonate who tentatively broached the subject. “Are

we speaking about an unmanned mission, Tom? Or ...”

“An unmanned mission,” Tom replied curtly.

He could see the looks the others were trying hard to exchange only among themselves. “I appreciate the unspoken sentiment,” he told them. “But I’m having to take several conditions into account here. The largest, of course, is Akari’s velocity. In the time it would take to intelligently put together a manned mission the planet would already be well on its way out of the solar system.”

No one said anything for a moment. Then Professor Ichikawa slowly spoke. “I should mention, Tom, if only in passing, that my people have been considering mounting a manned expedition. It’s just that your new ship, the *Challenger II*, is the fastest spacecraft available—”

“High praise coming from both you and the people at JAXA,” Tom replied. “My regards to Director Kobata and please keep me in the loop if a decision is made to launch a manned mission.”

“Assuredly.”

Looking around, Tom gave a final nod. “Okay. That should wrap things up for the time being. I’d like to see proposals for an unmanned probe by this evening.” He gave another glance in Professor Ichikawa’s direction. “If JAXA and Japan Prime decide on a manned mission then obviously we’d want to coordinate our efforts with them. In the meantime I’ll pass along our progress” ... here he grimaced slightly ... “what of it there is, to Washington.”

The Enterprises scientists quietly strolled out of the office while the faces faded from the screen. Tom remained where he was, cycling through the notes in his computer.

He then noticed Bud silently leaning against the doorway. “Hi.”

Bud silently nodded.

“A riddle wrapped in a mystery inside an enigma,” Tom said. “To quote Mr. Churchill.”

Leaving the doorway, Bud strolled towards his friend. “I have long noticed,” he remarked, “how you expect answers to just come out of the blue as quickly as possible.”

“I’m not that bad—”

"I'm not saying it's entirely bad," Bud broke in. "But I guess I was somehow thinking that, as you got older, you'd develop more in the way of patience."

"Normally I'd be patient," Tom said, switching off his computer and pocketing it. "But the way Akari is we're sort of operating under a deadline. And you're not telling me what's really on your mind."

Bud's brown eyes steadily met Tom's blue ones. "Okay. I can see how not going out to Akari personally is eating into you."

Tom sighed. "Bud—"

"That planet out there is like a red flag being waved at a bull. I can see it practically pulling at you, begging you to come visit."

"Yeah," Tom admitted, his voice weighted with frustration. "You're right. And Ichikawa was right. With *Challenger* I could already be out beyond the Moon at this point and arrive at Akari in practically no time at all."

Bud quietly watched Tom, waiting.

"And we both know why I'm not doing anything like that."

"Because a lot of people are scared," Bud pointed out. "That's their—"

"And they're already edging onto panic with Akari as it is," Tom went on. "You've seen it. I've seen it. All they need right now is to learn that a Swift is flying out towards it and Hell'd break loose here."

"They were happy enough with the results Sandy brought back from the Sun," Bud countered.

"Right. And do you remember how rough things got before Sandy took off?" Tom nodded. "Do you really want all that happening again? *Especially* now?"

Bud took in a slow breath. "Ouch."

"Thought so."

"I want you to know I'm behind you one hundred per cent," Bud assured Tom. "But I also want you to be fully honest with me and everyone else."

"I know," Tom said, looking about. "I know." He clapped a hand on Bud's shoulder. "All these years and I still don't

open up the way I should. I just want to *know* about Akari. I can practically taste it.”

“Genius Boy, it weirds me out too. Big time. In the meantime, though, let's go grab some lunch.”

“Fair idea.”

Leaving Tom's office they traveled down to the ground floor of the Enterprises Administration Building, heading to the cafeteria. Making their way down the serving line they took their meals to a table.

Bud poked at the Swiss steak on his plate. “Okay, it's official. Either we somehow entice Chow to come back to work for us, convince Bingo to return to Earth or kidnap Sestina away from your Mom.”

Tom chuckled. He was about to start on his stuffed mushrooms when a slender pair of hands slipped around from behind, covering his eyes.

“Boo!”

Tom reached up to take the hands in his own. “And it's the one hundred per cent edible Phyllis Newton,” he remarked, looking up at the pretty newcomer. “Swift Enterprises smiling face to the world at large.”

“If you had bothered to ask,” Phyllis said, “I could've joined you and Bud for lunch.”

“It was a sudden thing,” Bud said, coming to Tom's defense. “If it hadn't been for my off the cuff suggestion Tom'd still be pasted to his computer.”

“Hm!” In spite of a smile on her face, Phyllis was trying to look serious. “I was worried more about him being pasted to that Susan Flonate.”

Tom feigned surprise. “Phyllis! I'll go ahead and admit that Dr. Flonate's attractive. But she's really not my type.”

An eyebrow lifted on Phyllis' face. “Oh? You have types?”

“Certainly.” Rising from his seat Tom let his arms encircle the girl's waist and his eyes gaze into hers. “Gorgeously shaped brunettes with large soft brown eyes, sweet smiles, dimples and large soft ... ah-hhhh, did I already mention eyes?”

Bud was judiciously trying to concentrate on his salad. In the meantime Phyllis was laughing, or at least doing a good

job of it as Tom began moving closer for a less vocal demonstration of his affections.

Phyllis turned her head slightly. "Public demonstrations of affection between Swift Enterprises employees are strictly frowned upon," she said, albeit breathily.

"There's no such rule," Tom pointed out.

"Oh, well, in that case ..."

Bud reflected on the quality of the cafeteria's ranch style dressing.

"I could use something in the way of a break," Tom finally said, still holding onto Phyllis. "We still haven't seen the Shopton Players' take on *Sunday in the Park with George*. I can get tickets."

"Mmmmm." Phyllis slightly rocked back and forth in his arms. "Sounds lovely. And then afterwards?"

"Afterwards?"

"Uh huh."

Tom went silent.

So did Phyllis.

"Don't mind me," Bud said. "I'm just here for the beer."

"I'll pick you up at six-thirty," Tom assured his lady.

"All right." A soft kiss delivered to Tom's cheek, and then Phyllis drifted on out of the cafeteria. Tom kept his eyes on her departing form, then seemed to float back into his chair.

"Y'know," Bud remarked casually, "I've sometimes been surprised by how enjoyable and personally fulfilling married life has been for me."

"Now you're starting to sound like Mom," Tom said, sampling his soup.

Bud shrugged.

"And Aunt Helen. And Dad. And Uncle Ned. And Sandy _"

"Great minds."

"And Sestina's picked up some interesting hand signs lately."

"I apologize if I'm sticking my nose where it doesn't belong," Bud said without meaning any of it. "But you and Phyl ..."

“I know,” Tom breathed, slumping slightly in his chair and looking thoughtful. “And I’ll privately confess that this bachelor routine’s been wearing sort of thin. I mean, Phyllis and I have a relationship ...”

He suddenly noticed he had Bud’s full attention.

“She plays a really mean hand of whist.”

“Oh, of course.”

If Tom had a further retort it was immediately lost as a beeping came from the pockets of both him and Bud. Rather than a potentially annoying phone ringtone it was, instead, a priority alert designed to get the immediate attention of top Enterprises personnel.

Tom managed to reach his Tiny Idiot first, keying in its phone function. “Go ahead.”

His father’s face appeared on the screen. “Tom, something’s happened with Island One.”

“Huh!”

Bud also had his computer out and was tuned into the same call. “What’s wrong, sir?”

“First off we just got word that the stationkeeping anchors have apparently gone offline. As of now we don’t know the reason. Not only that, but it looks as if Island One is on course towards New York City. It’ll arrive in six days.”

Chapter Four: Icy Demands

Years earlier... when Tom was still a small child... his father had developed an idea for what he called an “Ocean Airport”. The concept called for an enormous floating platform which could serve as halfway points for aircraft flying overseas. According to Tom Sr. there would be six such platforms constructed. Two would be positioned in the Atlantic Ocean, and the remaining four would occupy both the Pacific and Indian Oceans.

The idea received very little in the way of enthusiasm. Aeronautical technology had already produced a sizable number of airplanes which could effortlessly cross the oceans without having to land. In an additional irony the Swift family would itself successfully produce transcontinental aircraft years later in the form of several of its line of “Pigeon Special” jets.

In spite of all this, Tom Sr. received financial backing from a conglomeration of South American investors to produce a working pilot model. The result was Island One. Located at a point in the Atlantic equidistant between North America and Europe, Island One was a platform measuring 9100 feet in length by 600 feet in width. Held in place by a sophisticated computer-guided system of stationkeeping anchors, the platform was composed of fifteen decks. The topmost deck provided sufficient landing and takeoff space for a wide variety of aircraft, and facilities for servicing and refueling were available.

As impressive a feat of engineering as it was, both Tom Sr. and the investors failed to attract a substantial number of customers in the airline industry, and the prototype had been the only one built out of the original six platform scheme. In spite of this, Island One managed to earn enough to eventually repay the backers. Its presence allowed for shorter range aircraft to make trips across the Atlantic. The platform also served as a site for oceanographic research, a communications hub, a weather forecasting facility and even an astronomical observatory. Three universities maintained annexes on the platform, and space was continually being rented out to related educational and research concerns. Even more personally satisfying to Tom Sr., Island One had been instrumental in the saving of several trans-oceanic

aircraft which experienced some form of trouble while in flight; providing an immediately available haven for emergency landings. In the eyes of the senior Swift, Island One was the ugly duckling which had managed to become a swan.

* * * * *

Leaving the cafeteria, Tom and Bud rushed over to the nearby Security Section. Entering it they found Tom Sr. standing alongside Sherman Ames. Around the same age as Tom and Bud, Sherman was the security chief for Swift Enterprises. As usual the wiry young man was dressed in what many privately thought of as his standard uniform: a black shirt over black slacks and similarly colored shoes. Upon his face were the ubiquitous horn-rimmed glasses (also black) which contained numerous electronic systems allowing him to constantly receive updated information.

Sherman and Tom Sr. were standing before a row of Enterprises security personnel who were sitting before control consoles and monitoring screens. As they turned to nod at the new arrivals, Tom could see that several of the screens were either blanked out, or showing computer-generated images of Island One.

“Contact with Island One was abruptly broken off twenty minutes ago,” Sherman explained to Tom and Bud. After that our instruments started registering movement. The platform is moving west at speed, with New York City being its projected destination.” He nodded at the blanked out screens. “We've been trying to re-establish contact with the observation cameras on the platform but, so far, no luck.”

Tom moved closer to the screens, giving his father a glance. “I take it...”

“Aircraft from Fearing Island have already been scrambled,” Tom Sr. said. “They'll overfly the platform in... about one hour and forty-five minutes. Both the Navy and the RAF have offered overflights, and we're considering options.”

“We're getting an image relayed from the station,” Sherman added, nodding at another screen. Looking at it, Tom could clearly see the platform on the water, the picture being sent from the Enterprises facility located 23,000 miles out in space.

A word from Sherman and the technician at the console touched a switch, causing the image to grow larger on the screen. "So far we can't make out any sign of trouble, or even any sign of people on the deck. But can you see--"

"Yes," Tom said, frowning. On the deck of the platform were several oblong objects arranged in rows. Performing a mental calculation, Tom estimated that each object was two hundred feet in length, perhaps a bit less. "Any idea what those are?"

"Not yet," Sherman declared in a voice which promised that, as soon as possible, he would wring an answer out of whatever source fell into his hands. "I've asked Ken to not only focus the station sensors on them, but to dedicate at least two Swiftsats to the job."

Tom sighed. "Well I'm stumped. What about storms, or anything which could've bollixed the anchors?"

His father shook his head. "The north Atlantic's been clear."

"What about before communications were lost?" Bud asked.

"Nothing unusual," Sherman reported. "The last report we received mentioned a cargo ship which was scheduled to dock with the platform in a few hours. All routine, but we're checking back on it. The ship had left Rotterdam six days ago."

Bud was rocking back and forth on his heels. "Jog my memory," he asked Tom. "What would it take to disengage the anchors?"

"The anchors have built-in multiple redundancies which are linked to GPS tracking satellites," Tom replied, looking at his father for confirmation. At Tom Sr.'s nod he went on. "To have all of them go offline at the same time would require commands being issued from the control deck."

"And the control deck is where the platform's engines are also operated," Tom Sr. added. "Which means that, more and more, I'm thinking less along the lines of an accident occurring and more along the lines of... what?" The last was directed at Sherman who was not only touching the frame of his glasses, but leaning closer to his lieutenant: Pico Jefferson.

"Incoming message," Sherman announced.

“From Island One?”

Sherman shook his head, mystified. “From the State Department.” He nodded at Pico. “Put it on the speakers.”

Pico obeyed, and a female voice suddenly appeared. “... as near as we can tell.”

“Excuse me, ma'am,” Sherman said. “I've got both Tom Swift and Tom Swift Jr. here with me now. Can you please start over?”

“Certainly. I'm Deborah MacKenzie, assistant to the Secretary. We've just received a message claiming to be from Island One. As near as we can tell, the source seems to be genuine.”

“Go on,” Tom Sr. said.

“According to the message, Island One is currently in the hands of an armed force claiming to represent the Popular Haargoland Front.”

At hearing the announcement Tom Sr. softly groaned, rubbing at his forehead.

“Oh boy,” Tom muttered.

“The person sending the message has stated that the personnel on board Island One are being held hostage. Furthermore, any attempt to rescue the hostages, or make any attempt at landing upon the platform, will result in the immediate execution of the hostages.”

MacKenzie's voice seemed to pause, and Tom Sr. looked up at the speaker. “Go on.”

“I... think you should listen to this recording we received,” MacKenzie replied.

A few moments later a new voice, male, was heard over the speaker. *“We of the Populaire Haargolandse Voorzijde publicly denounce the Swift Family in relation to this new planet which is invading our solar system,”* it proclaimed harshly. *“This is nothing less than another attempt by the Swifts... backed by alien invaders... to gain supreme control over the people of the Earth. Our organization protests this action and is taking steps to unify world opinion against the Swifts. Unless action is immediately taken against the Swifts we will crash this platform... this symbol of Swift arrogance, and especially of its arrogance against the PHV... into the city of New York six days from now.”*

After a moment, MacKenzie's voice returned. *"Here I should point out that this message was also sent to the FBI, and the Secret Service. A sigh. "We have reason to believe that it's also being broadcast to the world's news services."*

"Wonderful," Bud growled.

"Mr. Swift, we are in contact with several members of Congress, as well as the White House. Senator Richard Tobey has detailed his conversations with you and has advised the President that you and your family should receive Federal protection."

"We may need it," Tom said, his thoughts going back to the events during the last alien crisis.

"We'll keep a channel open with you and alert you as to progress."

"Thank you, Miss MacKenzie," Tom Sr. declared.

The speaker went silent and everyone exchanged a look.

"Here we go again," Tom said.

"This is crazy," Bud declared. "The Haargolanders can't expect people to roll over for this sort of thing."

Tom Sr. was slowly rubbing a hand through his grey hair, his thoughts going back to when he had developed Island One, and the trouble which had been caused by the radical Haargoland separatist movement which still plagued the northeast part of South America. "You can accuse the Haargolanders of a lot of things," he told Bud. "But common sense isn't one of them."

"Mr. Swift," Sherman said to Tom Sr., "I'm going to need a decision on the planes we sent to Island One."

The two Toms quietly gazed at each other for a few moments. Then Tom Sr. turned to Sherman. "Recall the planes," he ordered. "We can keep watch on the platform from orbit."

Nodding, Sherman turned to his technicians.

Tom was still looking thoughtful. "Dad? Planes can be easily monitored from the platform. But we can dispatch jetmarines from Fearing."

"Good idea," his father said with a nod. "The Navy should also have submarines that could reach the platform within six days. Six days," he repeated softly and speculatively.

“Even traveling at full speed you wouldn't get severe damage ramming the platform into NYC,” Tom added. He turned to the image the space station was sending of Island One. “Those objects on the deck, though.”

“Bombs?” suggested Bud.

“If so they're deuced big. Which, of course, would back up the Haargoland's threat.” Tom continued staring at the screen.

Sherman had been engaged in conversation with Pico. Now he straightened up, his face revealing raw concern. “I think we've got a worse situation than that,” he said.

He had everyone's attention. “What?” Tom asked.

“We've just received more information about that cargo ship that had docked with the platform,” Sherman said. It was the LNG carrier *Ijsheer*. Suriname registry.”

Tom Sr. slowly exhaled. “Oh...”

“Liquid natural gas,” Tom breathed.

“Apparently it was carrying a full load, and it had sent a request to Island One for a brief stopover in order to rendezvous with several other similar carriers.”

“And if they all reached Island One—” Tom Sr. began.

“Our preliminary estimates suggest that the total LNG cargo could've been somewhere around twenty-four million cubic feet.”

The color seemed to drain out of Bud's face. “Twenty-four million cubic feet of liquid natural gas.”

“And all of it at a temperature of minus 260 degrees Fahrenheit,” Tom said.

Chapter Five: Cold Front

Tom and his father, accompanied by Sherman and Bud, spent the next hour in a video conference call with MacKenzie and various officials representing the governments of New York, New Jersey, Connecticut and Pennsylvania.

MacKenzie... who turned out to be a handsome woman in her late thirties... worked to recover from the initial shock. "So this disaster..."

"Depending on how the wind breaks, or how far the gas spreads if its released," Tom said, "we could see asphyxia and lethal freezing over an area encompassing all of New York City, as well as possibly as far as Bridgeport, Toms River, Bethlehem... perhaps even the outskirts of Philadelphia and Manchester. It's difficult to tell right now. We'll need to be on top of the local weather patterns from now until the situation is... resolved."

One of the people on the screen was Major General Wash Cabot: commanding the National Guard for New York State. "I've got all our eastern units on full alert," he announced, "and we're passing details along to the Pentagon. I may be obvious, however, in presuming that we need to handle this as delicately as possible."

Tom nodded. "Very delicately. We have no way of knowing how the gas containers on Island One are rigged to blow."

Johannes Hendrix, the mayor of New York City, possessed the look of a man in command of a sinking ship, and one who would go down with it. "Could the military perhaps put a team on board Island One and re-take it?"

"Until we know more about how the Haargolandiers are holding the platform we don't dare make a move," Tom said. "Right now there're..."

"One hundred and seventy-three," Sherman murmured.

"One hundred and seventy-three people being held hostage on Island One." Tom could read the expressions on several of the faces in the conference and he quickly nodded. "I understand that we're also dealing with the lives of millions in and around the New York City area. But, while

we still have time, I want to do whatever we can to save everyone.”

“Understood,” General Cabot said. “Right now all we're doing is considering options. We certainly won't make a move until we check with you first.”

“That goes for my own people as well,” Mayor Hendrix chimed in. “My new Chief of Counterterrorism is already hard at work.”

For the first time since the crisis was announced, Tom smiled. “Give Harrison my regards,” he said. “He knows how to reach us if he needs anything.”

“The State Department's also getting in touch with the governments of Suriname, Guyana, French Guiana and Brazil,” MacKenzie announced. “However, I'm sure you're aware that they've been dealing with the Haargolandians longer than we have, and it's like herding cats.”

“Tell me about it,” Tom Sr. muttered.

“Right now our primary concern is reconnaissance,” Tom pointed out. “I plan to take the *Sky Queen* on a high-altitude overflight and try and gather more information. I've also got several other assets I can make use of. We'll pass on anything we learn.”

Other assurances were given and shared before the conference faded away. When the screen became blank Tom leaned forward, his palms flat on the top of the conference room table.

“I used to be a scientist,” he murmured to the table. “I used to be an engineer. An explorer. When did I start spending so much time involved in strategy and damage control?”

“You're still a scientist,” Bud said, moving closer to his friend. “You're a scientist who also takes responsibility.”

Tom didn't look up. “Dad.”

“Tom?”

“The Haargolandians. Will they kill?”

It was on the tip of Tom Sr.'s tongue to lie. He swallowed the temptation. “Yes.”

“They wouldn't have already killed the people on the platform,” Tom was saying, more to himself than anyone

else. “They need the hostages alive to keep the platform guided and under control. Sherman!”

“Tom?”

“Our people on Island One. Do any of them have military or combat training?”

Sherman didn't move, but the lenses of his glasses flickered as he accessed Enterprises computer files. “Four with martial arts training. Thirty-two ex-military.”

“And the Haargolanders probably have all of them bottled up,” Tom Sr. pointed out.

“We've still got the prototype blackout guns,” Bud said. “Overfly Island One at high speed and put everyone under, then move in with our people.”

Tom didn't immediately answer. Then: “Tempting. But two problems. First: the blackout frequency still has side effects I'd rather not consider. Second: the bombardment might not penetrate all the decks on the platform.”

“Ummmm. Fly over it with drones from Fearing? They could electronically disable the platform.”

“But it'd still be drifting,” Tom replied. “Plus the drone systems would have no effect on whatever weapons the Haargolanders have.” He thought for a moment longer. “What to do?”

“Need an idea?” Bud suggested.

“Love one.”

“Stick to your original plan. Take Phyllis out tonight.”

A pause, then Tom turned an incredulous face up to him. “Are you *nuts*?”

Bud shrugged. “Maybe. And you're getting close to the edge. I recognize the signs. You need to step back a bit and take a breath before making a mistake you can't afford to make.”

Tom straightened up from the table, pressing his fingertips to his temples. “Yeah. Maybe.” He let out a sigh. “But the way things are I wouldn't be able to enjoy anything. And I can't treat Phyllis like that.”

Bud didn't respond but made a mental note to secretly contact Phyllis as soon as possible.

Something seemed to occur to Tom. “Sherman? Get Freida on the screen here.”

Sherman didn't bother operating any of the communication controls, but instead touched the frame of his glasses. Moments later the conference room screen came back to life, focusing on the face of Freida Ames: formerly a cyberneticist and programmer with the Swift Enterprises robotics lab in New Mexico. She still wore those hats but had added another... or, rather, had added a gold ring... as Sherman's new wife.

As such she also operated much more closely to Enterprises.

Considerable closer in some instances.

Looking up from some work she'd been attending to offscreen, Freida blinked at the group, her eyes going to her husband. “Oh. Hi.”

“Freidahun, Tom's got a question.”

“Shoot!”

“Freida,” Tom began, “you've heard about the latest mess dumped on us.”

“Just bits and pieces.”

“I need a professional opinion. Do you think you or anyone else here could hack into the control systems of Island One?”

Freida slowly chewed on her lower lip.

“Right now I'd be satisfied if we can somehow patch into Island One's video system and be able to examine the situation directly.”

Freida frowned around the problem. “Tom... understand that, as near as I know, Island One is technically similar to an ocean liner. It would be difficult, and I mean really difficult, to just take over something like that by remote control. I...” Her voice faded as she tilted her head slightly in thought. “Tell you what. If you or Sherman can supply me with the specs on Island One I can have me and my merry pranksters look it over and get back to you. Good enough?”

Tom seemed to sag with mild relief. “More than enough. One further item: take into account I might want to make such a move from either the Flying Lab or a jetmarine.”

Frieda nodded.

“Thanks.”

The screen cleared again and Tom turned to look at the others. “The Haargolandians aren't really looking to attack New York,” he said.

Bud snorted. “Fooled me.”

“They saw all the panic and chaos that happened back when the Space Friends were threatening the Earth,” Tom pointed out. “The crisis ended before they could take advantage of it, but now Akari's come along and they're using its presence to stir the pot against us. It's revenge. Maybe mainly against Dad, but overall against all of us. That's why they've set up a situation which is taking as long as it is. They want the tension to build up and, hopefully, set off a violent reaction, with us as the target.”

His father was frowning. “You're thinking that maybe the Haargolandians wouldn't go through with their threat against New York City?”

“I may be on the edge,” Tom replied, “but I'm not crazy. They wanted to present something with enough teeth to be taken seriously. The option to use Island One against the east coast is probably very real.” He rubbed his hands together. “Okay. First things first. We'd better call both Shopton Police and the FBI and arrange for protection around the home. Not an armed force, you understand. Just some people watching over Mom to make certain nothing happens. I hope.”

“Second: we prep *Sky Queen* for immediate launch and overflight. Sherman? Make sure the *Sky Queen's* remote sensing equipment is upgraded. I'll contact Fearing Island and order a few jetmarines to be launched. Maybe a seacoast as well. Their job will be to shadow Island One and, if possible, assist in any opportunity to affect a rescue.”

“You want some Security teams on *Sky Queen*? Or the jetmarines?”

Tom considered it. “I want to launch as soon as possible. If you want, put at least two teams on board *Sky Queen*, and have four more teams sent to Fearing to ride along in the jetmarines.”

Sherman immediately began murmuring to his glasses.

“The Haargolandians won't spot the *Sky Queen*?” Bud asked.

“I plan to fly at an altitude of fifty or so miles,” Tom told him. “Some of the systems on Island One might be able to locate us even at that height, but only if they knew what to look for. I don't think the Haargolandians would be that good, but I'll have Ken play fullback from the space station and help keep an eye open for signs of radar or anything similar.”

Bud nodded. “Just let me go tell Sandy bye and I'll be on the flight line in under an hour.”

Tom almost smiled. “If she lets you go.”

“Oh we're cool,” Bud replied as he left the room.

* * * * *

Dusk was starting to fall as the *Sky Queen*... the third version of Tom's famous Flying Lab... rose from its underground hangar. Clearing the hangar doors the wings began unfolding to their full span of 325 feet. Meanwhile, some distance away, two Swift Enterprises “Whirling Duck” VTOL aircraft lifted off, carrying Enterprises security team to the Enterprises space launch and sea vehicle port on Fearing Island out in the Atlantic.

Tom left the loading of further security personnel up to Sherman, and briefed his father before the older man went home to Mrs. Swift and Sestina to organize the police observation. He then entered the enormous atomic powered aircraft, heading up to the flight deck. He privately knew he needed to be busy in order to keep his mind from falling into gloominess, and few things filled the bill like attending to flight preparations.

Sitting in the pilot's seat he first satisfied himself that the *Sky Queen* carried sufficient surveillance gear, and then started going through the checklist.

“Engine generator switches,” he was muttering. “Reactor coolant crossfeed... heat distribution channels... Hydraulic A... Hydraulic B... AC Voltmeter Select...”

Frowning he glanced around. “Where the heck is Bud?”

“Mister Barclay couldn't make it,” a new voice announced, and Tom looked back to see a familiar figure casually strolling onto the flight deck.

“Phyllis!”

“Co-pilot Newton reporting for duty,” Phyllis replied, primly settling herself into the seat next to Tom.

Tom had to privately admit that Phyllis settled rather well. At least she was more watchable than Bud. “*You’re* a qualified co-pilot?”

“Not as such,” Phyllis slowly said. “But seeing as how the Pilot had promised to take me out this evening—”

“Phyl—”

“No problema!” Phyllis said with an airy wave of a hand. “I think a moonlight flight over the Atlantic would be wonderful.” She batted her eyelashes at Tom. “And it's not as if you haven't taken me flying before.”

“That was in a Pigeon Special—”

“Apples and oranges.”

“And this is a serious mission.”

“Right.” Phyllis began adjusting herself into the seat straps. “So what the heck are we doing just sitting here? Get this thing moving.”

Chapter Six: The Chanting Horde

Rising on its vertical lifters, *Sky Queen* rose several hundred feet into the air before Tom engaged the main thrusters, sending the giant aircraft soaring to the east.

On the flight deck Tom kept one hand on the control yoke while the other skipped fingers across the touch surface consoles. “Normally I’d wait until we’re out over the ocean before going supersonic,” he explained to Phyllis. “But, as everyone and their dog knows this is an emergency, I don’t think too many would mind if I jumped the gun. Plus I’m going to start gaining altitude so there’ll be a noticeable tilt to things.”

Phyllis braced herself as background hum of the aircraft began to increase. “I hate to sound paranoid—”

“Go ahead. Why should you be different from the rest of us?”

“Wouldn’t the Haargolandians have placed agents around Enterprises to let the terrorists on Island One know if you were doing something like this?”

“Shifting wing configuration for supersonic travel,” Tom announced. “Approaching Mach one. And to answer your question, yeah the Haargolandians might have thought of something like that. I’m just taking a risk here. For all the Haargolandians know I’m flying off to Maine for a lobster dinner.”

“That’d get my vote.”

“Ummm, well... mine too. But we’re gonna make several high speed passes over Island One from an extreme altitude. Hopefully... knock on composites... we won’t be spotted until we’ve landed back at Enterprises.”

The *Sky Queen* continued lancing upwards into the growing night, its wings folded back as its speed increased. Soon it had passed high over the eastern coast and was continuing to climb. Phyllis was noticing how the stars were growing sharper, and a glance at the flight indicators convinced her they were also much nearer.

Eventually Tom brought the plane level. “We’ll be flying over Island One in... forty-two minutes,” he said. His fingers tapped on a few glowing indicators. Silentennas engaged.

Thermal shields online. We'll be coming in quiet and without an infra-red signature."

"My hero," Phyllis said with a small smile. "Do you think the Haargolanders could detect anything flying as high or as fast as we are?"

Tom shrugged. "The Haargolanders managed to snatch Island One. I don't want to take chances that they're not prepared to do anything else." He sat back in his seat, staring out the forward viewport.

Phyllis continued staring at the profile she knew and loved so well. "I know I'm going to sound as if I'm wearing my stupid hat," she said, "but couldn't you just hover high in the air over Island One and somehow get more information that way?"

"I could," Tom admitted. "But it's harder to hide the *Sky Queen's* heat signature when she's stationary. I think we can get what we want doing it this way. Which reminds me: let's see if everyone else is ready." He brushed a hand across the communications controls. "*Sky Queen* to space station. Ken?"

"*We're awake up here,*" replied the voice of Ken Horton: commander of the Swift space station. "*We're tracking both you and the platform. I'm also receiving signals from the jetmarines on their way out from Fearing.*"

Tom nodded. "Good. I'll let you know if we need anything special. In the meantime just monitor all wavelengths and holler out if it seems that something from the platform might be watching us."

"Got it."

Tom touched the controls again. "*Sky Queen* to jetmarine fleet on channel eight. Come in."

"*We're here,*" a new voice announced.

"Great. Who'm I talking to?"

"*Peter Chesnau: Swift Enterprises Oceanic Systems. Currently in command of the Helen Morton—*"

Phyllis smiled, being unable to help thinking that a jetmarine named after her mother had to represent some sort of omen.

"*We're accompanied by the Shopton Princess, the Sea Pike and the seacopter Pretty Sestina—*"

“Wait, wait, wait.” Tom sat up straight. “We got a seacopter named after Sestina?”

“It's the new one,” Phyllis said in a low voice, reaching over and touching Tom's knee. “Bud and Sandy and Sestina were out at Fearing when it was formally completed, and someone asked what it was going to be named—”

“Yeah, but—”

“And Sestina was standing there, looking three years old, wistful and about ready to burst into tears.”

“She *always* looks as if she's ready to cry.”

“Tom. It was a little thing, and Bud suggested it. You know he's fond of Sestina.”

“I like her too.” Tom let out a breath. “I was just... surprised, that's all.” He turned back to the console. “Sorry. Just getting an explanation here.”

“*It's okay,*” Chesnau replied. “*We're traveling at eighty knots.*”

“Which means you'll rendezvous with Island One in,” Tom's eyes unfocused briefly, “nine hours. When the platform's at maximum sensor range I want all of you to dive as deep as possible without losing sight of the platform and remain in touch. Hopefully updated instructions will be forthcoming.”

“*Roger that.*”

“Check your surveillance channels. I may have something ready for all of you very soon.”

“*Roger that,*” Chesnau repeated.

“*Sky Queen* out.” Switching the radio off Tom once again sat back. “And that, as they say, is that. Not even twenty-four hours since this entire *mishegas* began and we're already accomplishing something.” A sigh. “I feel better.”

Phyllis chose her words as carefully as possible. “I don't want to puncture a balloon you've worked so hard to inflate,” she said, “but what are you hoping to accomplish? I mean in the way of reconnaissance?”

Tom nodded. “Fair question. The Haargolandars pretty much caught us with our pants down.” He noticed the raised eyebrow on Phyllis' face. “Those of us who wear pants. But their plan couldn't possibly have covered every base. At the

very least I want to know as much as possible about the situation on the platform. At the most I want to try and find a flaw. Some sort of opening we can use to take back the platform, rescue the hostages and prevent one king-hell of a catastrophe from happening.”

“Fair answer,” Phyllis replied. “I just didn't want to sound like a Doubting Thomasina.”

“You're not,” Tom assured her. “In fact, I'm glad you came along. Helping me to jell my thoughts and put things in perspective...”

He paused, his eyes widening in realization. Then he pointed a finger at Phyllis. “Well, shepherd, well! This is a letter of your own device'.”

Phyllis blinked. “Huh?”

“This is why you're here instead of Bud. It wasn't just a case of Bud being henpecked.”

“I haven't the slightest idea you're talking about,” Phyllis replied offhandedly while, at the same time, mentally recalling the brief conversation she'd had with Bud before racing out to where the *Sky Queen* was about to launch. “But if you prefer Bud's company to mine—”

“You know I don't,” Tom said, reaching out to take one of Phyllis' hands. “Looking at you makes my mind work better. I'm calmer.”

Fingers crossed in Phyllis' mind.

It was then that the door to the flight deck opened and Sherman walked in. “Tom? Freida's got something for us.” Leaning forward he switched on the repeater screen located between Tom and Phyllis.

Freida's face appeared. “You know, Tom,” she said, “things would've been simpler if you'd told me that Enterprises regularly monitored Island One through a video channel.”

Tom blinked. “Oh! I thought I did.”

“Anyway... here's what we've got. The Haargolandars may be hotshot hijackers and terrorists and stuff, but they're really not very smart. If I'd been in charge of taking over Island One I would've—”

Sherman coughed.

“Oh. Okay. The Haargolandars didn't disconnect all the video cameras, which is what they should've done. Instead they simply switched off the main link from the master control.” She shook her head. “Clumsy.”

“You found a way back in,” Tom said.

Freida nodded. “Yeah. I piggybacked a mirror signal on the central carrier wave. They were using it to broadcast their messages to us. Stupid! I can switch all the cameras on from our end.”

Tom let out a breath. “If you weren't married...”

“I'll take care of reimbursement,” Sherman assured him. He smiled at his wife. “I take it you've been testing this out.”

“Pico's already got himself and others looking at various views within the platform,” Freida replied. “And, to answer the big question, all the hostages seem to be alive. We're still doing a head count, but it looks as if everyone's been herded into the big cafeteria on...”

“Level Two,” Tom murmured.

“Yeah. The cafeteria and the recreation room next door.” Here Freida let out a sigh. “And the weepy news is that yes, the Haargolandars are armed. Very much so. We've even spotted a few who look as if they've wired themselves to explosives.”

Tom's expression was icy with thought.

“They might be more than suicide bombers,” Sherman muttered. “They might have orders to try and blow the LNG tanks in case something happens.”

“True,” Tom said. “I'm also willing to bet that more than one of them carries some sort of remote detonator.”

“So we move carefully,” Phyllis added.

“*Very* carefully.” Tom thought a while longer. “Freida? You get a cookie, and I want Pico to relay the video images here, as well as the space station and the jetmarines.”

“I'm on it,” Sherman said, touching his glasses.

“Oh, and send the images to the FBI and the others in Washington monitoring the situation,” Tom said. “They might have some ideas we can use.”

Sherman nodded.

Freida was motioning for attention. "Tom? Something else you might want to know. Something weird."

Phyllis' stomach went *uh oh*.

Tom sighed. "I don't know if I can handle weird right now, Freida."

"Sorry, but this has even bugged out Pico and your Dad, and they're two of the most unbuggable people I know. It's better if I show you." Looking down offscreen she performed some sort of action, and then the image changed. Tom, Phyllis and Sherman were now seeing what Tom recognized as one of the corridors of Island One.

A line of men were standing with their backs against the wall. The presence of firearms did more than anything else to tell Tom he was looking at about twenty or so of the Haargolandars. He didn't try counting because his attention was drawn by the fact that the men seemed to be staring straight across the corridor at nothing. Not only that, but he could hear their voices chanting in unison: "Z... z... z... z... z... z..."

Ever the doyenne of the timely understatement, Phyllis expertly summed up everyone's unspoken opinion. "Oh, this can't be good."

"Or," Tom added, "to quote Brother Barclay: what the hell?"

"Z... z... z... z..."

"And your Dad never mentioned this about Haargolandars?" Phyllis asked Tom.

His eyes still on the screen, Tom shook his head. "Sherman? Start running a computer search on this."

"Hopefully Pico's already started," Sherman said.

"Talk to Dad and also get in touch with anyone in Washington who's an expert on the PHV. This might not worry me so much if we knew what was going on."

Nodding, Sherman turned to leave the flight deck.

Phyllis' attention moved from the screen to Tom. "You don't have an idea what this could mean?"

"No-ooo," Tom slowly said. His eyes glanced over the Sky Queen's instruments. "But the situation might change in... twenty minutes. That's when we'll be flying over the platform."

Chapter Seven: Echoes

With ten minutes left before the *Sky Queen* was to overfly Island One, Tom was speaking with his father. “I don't know what's going on with the Haargolandiers,” Tom Sr. was admitting. “This chanting business is a new one.”

“Does the PHV have any sort of religious connection?” Tom asked.

On the repeater screen his father shook his head. “As near as I know, Haargolandiers are usually either Catholic or Dutch Reformed. The PHV was established along political lines rather than religious ones. We're still checking—”

A beeping interrupted Tom Sr., and Tom touched an icon that was blinking on the corner of the screen. A second smaller window appeared showing Ken Horton's slightly perplexed expression.

Tom made adjustments to the controls, insuring that his father would also see and hear the message. “What is it, Ken?”

“Tom, is the Sky Queen making any sort of transmission?”

Tom frowned. “Not that I know of.”

“Reason I ask is because both the station and some of the Swiftsats have been picking up intermittent traces of some sort of signal fluctuating about in the three to twelve Hertz range. Whatever it is it won't steady out, and we can't get a clear fix on the signal source. We don't think it's coming from the platform, and that pretty much left you as a suspect.”

Tom gave both his father and Phyllis a questioning look. “Don't think it's us but I'll try and check. Right now, though, we're coming up on Island One and I want to concentrate on the flyover.”

“We'll keep looking up here,” Ken promised.

“Same at my end,” Tom Sr. added.

Tom broke the connection. “Getting ready to deploy sensor pallets,” he murmured.

“Tom?”

“Um? Yes?” Tom looked over at Phyllis and saw her gazing absently out the canopy, worry trying to climb onto her face. “Honey?”

“Don't ask me why,” Phyllis slowly said, “but that business about the signal is trying to dig into my memory.”

“Huh?”

“I know,” she said. “I'm just public relations, publicity and the resident doll-baby. But the way Ken described that signal sort of touched something in my noggin. I keep thinking it's something I should know, or should remember.”

“Don't force it,” Tom instructed. “Whatever it is let it come up into your consciousness naturally. In the meantime...”

Before their eyes images began unfolding upon the flight deck's canopy as the electronic SmartGlas material started receiving information from the various sensors which were now peering down at Island One from the *Sky Queen*.

Meanwhile Tom was using the repeater screen to cycle through various views which Freida's snoop circuit was pulling from the platform. “If we were spotted,” he said, “the most likely locations for a reaction would either be the control room or the flight tower... ah! Here we go.”

Creating two images on the screen, Tom managed to produce scenes of both locations. There was no sign of anyone. Even more important there seemed to be no evidence that any alarms were being raised.

“So far so good,” Tom said. “Apparently we haven't been seen. But where the heck is everybody? If I were the Haargolandians I'd at least have people stationed in the control room.”

“Can you move the cameras about?” Phyllis asked.

Tom shook his head. “Maybe Freida or Pico could back at Enterprises, but that'd possibly give away what we're doing to the Haargolandians. I should be able to see something—”

Sherman's voice came over the intercom. “Tom?”

“Go ahead.”

“Not that we're planning to without your say-so, but I've got the security teams wearing Werewasp parasuits and

ready for a high-altitude drop onto the platform.”

“Ummmm.” Tom chewed on his lower lip, frowning at the information which the canopy was displaying. “Tempting. Optical and thermal tracking shows no sign of anyone on the top deck. But I don't want to make a move like that until I know for certain the sort of detonators that are on the LNG tanks.”

“Agreed. Just alerting you as to an option.”

“And I appreciate it. Ah-hhh, I'm going to go ahead and launch the Eye-Spies. They're small enough to where they shouldn't easily appear on radar.” His fingers began tapping on the computer keyboard near his seat. “Programming them to surround the platform and gradually track inwards.”

Moments later a cloud of objects dropped from the belly of the *Sky Queen*. The objects were metal spheres the size of a baseball which could, on command, fly through the air, swim beneath the water or attach itself to a surface. Packed with electronic surveillance gear, the spheres were referred to as “Eye-Spies”.

The spheres plummeted down towards Island One, free falling as long as possible until, watching the radar within their workings, each sphere switched on its annular rotor, slowing its speed until the entire group was hovering just a few feet over the surface of the Atlantic. The little robots then began rapidly converging on Island One.

Up in the *Sky Queen*, Tom was watching the graphic representation of the Eye-Spies progress. “Sherman?” he asked into the intercom. “You should very quickly be able to intercept any private calls made by the Haargolandars. Cell phones... walkie-talkies... things like that.”

“Thanks,” Sherman's voice replied. *“So far, things are quiet.”*

“Here's hoping they stay that way.”

“Tom.”

“Phyl?”

Phyllis was learning closer, pointing at the repeater. Looking, Tom could see someone entering the Island One control room. He seemed to be gazing around in uncertainty.

“That doesn't look like one of the Haargolandars,” Phyllis said.

“Sure doesn't,” Tom agreed. He touched the intercom. “Sherman? You seeing this?”

“I am,” Sherman's voice replied, “and I've been accessing the Island One personnel records. That's Solis Honekker, and he's one of the shift supervisors.”

Tom once again began cycling through the platform cameras. “There,” he said. “And there again.” As he and Phyllis continued watching they saw more and more people cautiously wandering about the platform corridors. Switching to a previous channel, Tom once again was able to see the Haargolandians lined up against a corridor wall, with their chanting still filling the audio circuit. There now seemed to be more of them, all of them repeating the letter “Z” in unison.

Phyllis was shaking her head. “What the...”

“I wish I knew,” Tom said. Privately he was pleased that something unexpected seemed to be interrupting the Haargolandians' scheme. But he also felt uncomfortable about something inexplicable happening so close to twenty-four million cubic feet of liquid natural gas.

Studying the scene for a few more moments he seemed to reach a decision. “Sherman. Get up here.”

Phyllis glanced at him. “What're you going to do?”

“Whatever's happening I don't think it's part of the Haargolander plot. I don't understand any of it, and I really don't like it when something unpredictable occurs, but I'm gonna risk bringing us lower over the platform.” He looked back over his shoulder as Sherman appeared. “Ah! Contact the undersea fleet. Have them rendezvous on the surface, then transfer as many of the security teams as possible over to the seacopter. Once that's done order the seacopter to make best speed here.”

Nodding, Sherman began relaying the instructions.

Phyllis said, “Tom, look.”

Returning his attention back to the screen, Tom watched as Solis Honekker moved over to the master console. “It looks like he's going to try and use the radio,” Tom said.

Seconds later Tom's guess was confirmed as the communications board announced a signal was being received on the Swift Enterprises master frequency.

Touching the response plate, Tom allowed a hesitant voice to be heard on the flight deck. *“Hello? This is Honekker on Island One. Mayday?”*

“Go ahead,” Tom said. “This is Tom Swift. Are you all right, Mr. Honekker?”

On the screen Honekker was looking around. *“I think so,”* he said. *“We were all under guard. Then the guys holding guns on us started standing against the wall and chanting, and we finally worked up the nerve to try and get out. We don't know what's happening.”*

“Get your people ready,” Tom ordered Sherman. He then turned back to the screen. “We're almost there, Mr. Honekker. Can you somehow disarm the terrorists?”

“Some of us already have,” Honekker admitted. *“Some of the hijackers just dropped their guns onto the floor.”*

“Have you or anyone else noticed anything that might be a detonator for the gas tanks on the main deck?”

Honekker was now looking directly up at the camera. *“We were told the tanks could be detonated by a command sent by a special radio frequency here,”* he said. *“But, so far, I'm the only one in the control room. Whoever was supposed to be on watch here has joined the others chanting.”*

Tom's thoughts went back to Ken's news of a strange transmission. “Sherman?”

“Tom?”

“You've got bomb disposal people with you?”

“Very definitely. If you get us down we can immediately start searching the gas tanks for detonators. This is a risk—”

“But I'm willing to take the chance,” Tom said. “Mr. Honekker?”

“Yes, Mr. Swift?”

“Collect as many of the weapons as you can. See if the hijackers can be guided into a room where the door can be shut and locked. Have some people with weapons watching them.”

“Yes sir. I'll try and get Mr. RONALDA or Mr. BAINES up here as soon as possible.”

Tom nodded, sitting back in his seat and exhaling noisily.

“Well,” Phyllis remarked. “That seems to be that.”

“You know what scares me?” Tom asked.

“What?”

“This whole business starts and finishes in less than a day. That is, if we're actually at the finish and everything doesn't just blow up in our faces.”

Sherman had finished listening to the messages coming in through his glasses. “If you make a slow pass over Island One,” he told Tom, “the security people can parasuit on down and start working. And the seacopter will soon be here with an additional twenty people.”

Nodding, Tom reached for the control yoke. “Adjusting rate on lifters,” he announced. “Converting to subsonic configuration. We're now at... 41,900 feet and continuing descent.”

“No wonder I feel like I'm in an elevator,” Phyllis said.

“Sorry,” Tom said. “If the situation is as promising as it's sounding then I want to take possession of Island One as quickly as possible.

Sherman moved closer. “Tom? I want to be with my people on the platform.”

Tom emphatically shook his head. “No. You can coordinate efforts from the back. I'm not risking you.”

Muttering, Sherman went to the sensor cubicle located at the rear of the flight deck.

Tom continued guiding the *Sky Queen* lower, his eyes on instruments that told him how close he was getting to the platform. He wanted to get low enough so that Sherman's security troops wouldn't have far to travel as they left the aircraft. At the same time he didn't want to risk the Flying Lab's vertical thrusters somehow damaging the LNG tanks. He decided that, once Sherman's people were out, he'd settle down on the ocean surface as near as possible to Island One.

He then noticed Phyllis looking at him with an expression that, from years of experience, told him that a thought was hesitantly tumbling about inside the pretty head. “What?”

“Um... you're going to go over to the platform?”

“Yeah.”

“The reason I asked is because... I know basic first aid,

and—”

“Lady you're not taking one step outside the Flying Lab.”

“Tom—”

“Not until I'm one hundred per cent certain that the situation on the platform is fully under control. And maybe not even then.”

Phyllis' eyes narrowed slightly, her lips pressing into a thin line. Then: “Very well, Tom,” she said placidly.

“Phyl—”

Phyllis turned her head to watch the descent. Sighing, Tom returned his attention to the controls.

From the sensor cubicle Sherman called out: “Tom? The team's leaving. They're not landing directly on the main deck but, rather, are gonna fly down to the catwalks on Deck Two and move up from there. I'm in contact with Ronalda in the control room, and he'll have people meeting my group.”

“What about our singalong friends?”

“Baines and Honekker tell me the Haargolandars are as docile as sheep. That is, if sheep ever chanted. Actually it's sort of spooking everyone out down there.”

“It's spooking me out,” Tom replied, “and I'm not even there yet.”

Minutes later the enormous aircraft came to a rest upon the ocean surface, its wingtips lowered and flotation bags inflating from them, as well as from the nose and tail section. Several hundred feet away loomed the massive form of Island One.

Shutting the engines down fully, Tom began unbuckling from his seat. “We brought along a couple of attendants,” he explained to Phyllis. “I'll send one of them up here.”

“I don't need company,” Phyllis muttered.

Tom opened his mouth to argue, but noticed the determined set of Phyllis' body and decided that here and now was neither the time or place to hash things out. Such things were better left for better surroundings.

Nonetheless he felt obliged to offer something of an olive branch and leaned over to plant a kiss on top of her head. “I'll be okay,” he promised, “and I'll be back as soon as possible.”

“Right.”

Swallowing what he felt would have been an unfortunate remark, Tom left the flight deck. Behind him, Phyllis quietly amused herself by watching lights start to appear throughout Island One. She felt she could make out people moving on the upperworks of the mammoth construction.

A beeping came from the communications panel and she turned to touch the response plate. “Yes?”

“Phyllis?”

“Yes, Uncle Tom.”

“Is Tom about?” Tom Sr. asked.

“He's... left for Island One.” Phyllis was about to provide an update on the situation, but realized that, between the space station, monitoring by Enterprises security, and the readings which the *Sky Queen* sent, Tom Sr. was probably in the loop. “What do you need?”

“We've just received more information on the chanting.”

“Oh?”

“Yes. Phyllis... it's not just the Haargolandars on Island One. The FBI and related authorities have been receiving news from nearby states. There're other people chanting. In jails, in prisons, mental wards and similar locations. Everyone like the Haargolandars... chanting the letter 'Z' in unison.”

Chapter Eight: Tom Begins Developing a Theory

The *Sky Queen* had Werewasp suits in its inventory, but Tom climbed up to the aircraft's dorsal hatch and made use of the gangway which had been swung over from Island One.

Stepping into the foyer on D Deck he heard a mild beeping from his pocket and, reaching into it, removed his Snooper: a device of his own design. Among its numerous functions it served as a communicator, and Tom twisted the barrel to that particular channel. "Yes?"

No answer except a faint hiss of static. At first Tom wondered if the Snooper was having trouble receiving through the metallic bulk of the platform (a contingency he had consciously worked to avoid when designing the device). Giving the Snooper a mild shake produced nothing in the way of results and he looked closely at a tiny light emitting diode embedded near the tip. This confirmed the second possibility and Tom sighed.

"Growing senile in my old age," he muttered. "Rushing out with a low battery in my Snooper."

Reasoning that he could go to the control room and get in touch with whoever was trying to contact him, Tom started for the elevators, taking one of them up to B Deck.

Coming out he was met with what he first thought was the sound of distant regular surf washing onto a shore. His hearing then sorted everything out and he realized what he was actually hearing was the sound of chanting. The letter "Z", over and over again.

"That is just too weird," he said.

"Oh, Mr. Swift."

Turning, Tom saw a man wearing an Island One jumpsuit strolling towards him. His memory clicked into gear. "Mr. Baines."

"That's right." The two men shook hands. "I'm glad you're here at last."

"I'm just glad the situation seems to be resolving itself. Somehow." Tom looked around. "Where're the Security people?"

“They're still examining the gas containers on the flight deck,” Baines replied. “Working to try and fully disarm them.”

“Leaving nobody down here to look after the Haargolandiers?”

“We've got their weapons,” Baines said, and shrugged. “Besides... right now a bowl of goldfish would be more threatening.”

“Take me to them,” Tom asked. “I want to see this.”

Motioning for Tom to follow, Baines turned and headed back down the corridor. The sound of the chanting gradually intensified, moving up from surf to making Tom think of an engine chugging away. Then he could hear the differences in some of the voices.

Turning a corner, Tom entered one of the mess halls of the platform and found himself suddenly facing them. Standing with their backs against the far wall of the room were men... at first glance Tom gave himself a ballpark estimate of fifty... staring blindly at the opposite wall of the room.

“Z... z... z... z...”

Several men, some of them in Enterprises uniforms, were wandering around the room, carefully watching the Haargolandiers while holding onto machine guns.

“We've got the rest of them in an adjacent mess hall,” Baines said, having to raise his voice a bit to be heard above the chanting. “But you can take any of them by the hand and lead them around.”

Tom was still staring at the Haargolandiers. “How long can they keep that up before their voices give out?” he wondered aloud.

“A good question,” Baines agreed. “We've got some of our doctors advocating trying to knock them out with drugs.”

“And why is it affecting only them?” Tom went on. He tilted his head slightly, listening more closely to the chanting. There seemed to be something about it. Something more...

And then, as sudden as the throwing of a light switch, the chanting stopped. Tom, Baines and the men who were serving as guards found themselves in one of those odd

moments defined by what was called a “deafening silence”. A quiet almost too loud to accept.

Many of the Haargolandiers began to collapse against the floor.

“Make sure they're all covered,” Tom ordered. “Get some of the Security people down here... WHOA!”

One of the nearer Haargolandiers hadn't collapsed. Instead he had grabbed a knife from a mess room table and was lunging directly at Tom.

“Tom Swift moet sterven!” he shrieked.

Tom was already moving into a defensive stance when he heard an odd sound from just behind his right ear. A sort of electronic cough. This was immediately followed by the attacker appearing as if he had run directly into a stone wall, falling backwards onto the floor unconscious.

Whirling around, Tom saw Phyllis calmly standing in the doorway, Sherman just behind her. In her right hand Phyllis was holding what seemed to be a black flashlight with a pistol grip.

“Yell at me later,” she told Tom.

* * * * *

The attack brought the attention of several of the Security people who, with assistance from the Island One staff, rapidly used plastic binders on the Haargolandiers. For the most part the captives still seemed to be under the effect of whatever had started them off chanting, and more than a few of them asked for water.

“You weren't answering your phone,” Phyllis pointed out to Tom, “and Sherman and I were naturally worried.”

Sherman was shaking his head at Tom. “You of all people. Running out with a dead Snooper. Sandy'll never let you hear the end of it.”

“Well,” Tom remarked, “Sandy really doesn't have to know.” He reached out to take Phyllis' gun, examining it. “What the—”

“One of the prototype blackout pistols,” Phyllis said. “Based on the same principle used by the guys you were up against when you were developing your jetmarine. Your father had been tinkering with it.”

Tom gave Phyllis a wide-eyed look. “Dad did this? The patron saint of unarmed response?”

“I didn't even know about this,” Sherman said.

“Well,” Phyllis said, “Bud knew about it, and he sneaked it over to me before we took off. Actually the gun's also based on some of your Dad's electric rifle technology. Basically it's a wireless Taser that affects the...” here she scrunched up her face in recollection, “somatic motor neurons. Whatever, the result is that it renders the target colder than a mackerel.” She nodded at the prone attacker. “He should be up and around in a few minutes.”

Sherman bent down and drew his own pistol... a Swift “Spinner”... and fired a minimum yield shot which covered the man's wrists in adhesive foam. He repeated the action on the man's ankles.

“I... appreciate you doing this,” Tom told Phyllis. “But I can't believe Dad let you loose with a prototype. And I know about the work being done on the larger blackout gun. The results on people still haven't been fully researched. You could've done more than knock him out.”

“Huh! Would you rather I just stood still and let him stab you?”

“Point of fact,” Sherman commented, “but our friend here is still breathing.”

Phyllis smirked. “See?”

There were, of course, limits to Tom's sense of resentment and he moved to take Phyllis into his arms. Sherman discreetly paid attention to the proceedings going on throughout the room.

When the kiss ended, Sherman straightened up. “I'd better go make certain the gas tanks on the main deck aren't going to blow up all around us.” He gave the Haargolandians in the room another glance. “Everything seems to be going well here.”

He left the room and Tom remembered something. “You were trying to call me?” he asked Phyllis.

“Oh. Yeah.” Phyllis explained to Tom how his father had reported cases of other people chanting.

Hearing the news, Tom frowned. “Huh.”

“I pretty much said the same thing.”

Tom stared off at nothing in particular while his mind juggled thoughts. “But why...” he murmured.

Phyllis, accustomed by now to Tom's moods, patiently stood and waited.

“I'd better go on up to the control room and talk to Dad,” Tom said half to himself. “I can also use the computer access up there to work some of this out.”

“It's just gotten weirder, hasn't it?”

“Considerably. Come on.”

* * * * *

“Here you are.”

Looking up from his work, Tom saw Bud standing in the control room doorway. “Ah! The better late than never Mr. Barclay.”

Bud shrugged, entering the room and coming closer. “So sue me. You needed Phyllis with you and you know it.”

“Well,” Tom admitted, “actually you're right. I can't put a finger on the reason, but it's occurred to me that having Phyllis around kept me pretty calm in spite of the situation.”

“Whereas you're a screaming wreck when I'm with you?” Bud asked, smiling.

“Not quite that. It's just that Phyllis is... well...”

“I'm sure the answer'll occur to you eventually.” Bud looked around. “Where is your brunette sidekick, anyway?”

“She wanted to rustle up some drinks and'll be along in a moment.” Tom was standing before what Bud realized was the central navigation display for Island One, studying a large computer-generated map of the north Atlantic. The map included the eastern seaboard for the United States and Canada, as well as the western seaboard of Europe, and Bud could see a sprinkling of red dots on both land masses.

Tom had briefly frowned at the Tiny Idiot he was holding in one hand. He then tapped on the keyboard for the navigation display, causing another red dot to appear.

“I talked with your Dad just before arriving,” Bud said. “The United States, EU and Hemispak are sending ships here to offload the natural gas. The FBI, EUROPOL and

MBV are also tracking down and arresting the people who were involved in getting the gas to the Haargolandiers.”

“Ummhmm.”

Bud gave it five seconds. “And that's not why you're using this dingus, is it?”

Tom slowly shook his head, his eyes still on the Tiny Idiot. “Nope. I've also been talking with Dad. Also with some of the medical people who've been examining what I'm calling the 'Chanters'.”

“Yeah. I mean, I can understand the Haargolandiers being affected.” Bud suddenly caught himself and blinked. “Well, actually I don't understand it. But what the hell's happened, and why?”

“First off,” Tom said, “the chanting has stopped everywhere, and it did so at exactly the same time it stopped here on Island One.

“Second: examinations are still being performed. But, according to the doctors and other people I've spoken with, it looks as if the Chanters all experienced a sort of catatonia. How and why obviously isn't known yet. One symptom has been a lingering stupor afterwards; but you'd feel pretty much the same if you'd spent several hours standing against a wall and chanting your head off.”

Bud considered it. “True.”

“I'm also hearing of another common symptom. Decreased levels of cortisol.”

“I should know what cortisol is—”

“A steroid hormone associated with stress. Increased stress correlates with increased cortisol levels. Reduced cortisol levels means you're mellow. This would explain why practically all of the Haargolandiers collapsed after the chanting was switched off.”

“Huh. What about the guy who tried to shish kebab you?”

“Not all the effects were uniform,” Tom admitted. “I've picked up news of some guards and attendants elsewhere who'd been attacked after the chanting stopped.

“Now look here,” Tom went on. With a hand he indicated the map. “I asked both Dad and the State Department to provide me with information on where all the cases of

chanting took place.”

“Yeah. According to Phyllis and your Dad, the chanters were all mental cases. Violent criminals. People suffering from some sort of disorder which made them uncontrollable. Things like that.”

Tom nodded. “Prisons. Mental hospitals. Places like that. I've been using this map to track all the locations. Look.” Once again he nodded at the map. “In North America there's been chanting reported in Boston, Providence, Albany, Montreal... pretty much that area. Nothing further west. To the east there's been chanting reported only in western Ireland. Limerick, Cork, Tralee, Galway... but nothing further east. Bermuda also reported a few incidents of chanting.”

An uncomfortable look was beginning to form on Bud's face. “I'm not going to like where this is going, am I?”

“Probably not. I'm still pulling in facts, but what I'm beginning to come up is with this. Imagine a giant circle with a diameter of... oh... three thousand or so miles. Maybe a total circumference of, say, sixteen or seventeen thousand miles. All the cases of chanting taking place within that circle.”

“Tom...”

“And at the center...” With a fist Tom struck the map. “Island One.”

Bud was staring at the map. He then turned to meet the intense gaze of his friend. “Tom... that's just too wild. There's absolutely nothing on Earth that'd explain any of that.”

“True,” Tom agreed. “And I'm beginning to believe that's where we'll find our answer.”

“Huh?”

“Nowhere on Earth.”

Chapter Nine: Tom Consults an Authority

As the sun broke over the eastern ocean the first wave of support vessels began appearing from the opposite horizon. This included the original wave of jetmarines which had been sent from Fearing Island. With that in mind Tom decided to make more room for the new arrivals and take the *Sky Queen* back to Enterprises. The decision was made easier by the arrival of both a company of Marines from the 2nd Division at Camp Lejeune, and Tom's father who flew an ultrasonic cycloplane out from Shopton.

"Besides," Tom Sr. explained as he met with Tom on the main deck of Island One, "I built the silly thing, I ought to make sure everything's put back in place." Hands on hips he looked around. "I really should spend more time out here."

"I'm leaving Sherman with you," Tom told his father. "The Marines will be useful, but I don't want them walking all over us."

"It'll be okay," Tom Sr. said absently. "They should've used the transport version of the Flying Lab we sold them."

Tom shrugged. "They only sent two hundred men. I think they wanted to hold the *Peleliu Angel* in reserve in case heavier forces were needed. Oh, and that reminds me. I'm also leaving the jetmarines with you."

"Oh?"

"We really haven't had a chance to give Island One's propulsion and anchor systems a thorough going-over. The jetmarines can provide tug service if needed, at least until the platform's safely back in place."

Tom Sr. nodded. "I already told your mother I wouldn't be home for a few days."

"She might decide to come out here," Tom said with a smile. "Nice bit of ocean holiday."

"Would be at that," Tom Sr. agreed. He then glanced at his son. "The talking drums tell me you're working on a potentially nasty theory."

The smile left Tom's face. "Maybe not nasty," he admitted. "But potentially troublesome. It's one of the reasons I want to get back home. I want my own laboratory to thoroughly work things out."

“Um. And the other reason?”

Tom was gazing towards the west. “There's an expert I need to talk to.”

* * * * *

“Mom said you wanted to talk to me.”

Tom looked up and smiled at the newcomer. “C'mon in.”

Sandra Helene Swift Barclay returned her brother's smile and entered his private office, moving to roll a chair near where he was sitting before his worktable.

“Make yourself comfortable,” Tom added. He gave her tummy... currently showing the slightest evidence of a bulge... a contemplative look. “And how's my nephew coming along?”

“The baby's doing fine,” Sandy said, sitting down. “Y'know I *could* be growing you a niece in here.”

“You wouldn't do that to me or Bud,” Tom declared. “It's going to be a strapping baby Barclay. Mean and muscular, like his father.”

“Um.”

“You know either Dr. Emerson or Dr. Bizzart would be more than willing to determine if it's gonna be a boy or a girl.”

“You're worse than Mom,” Sandy replied, tossing her blonde hair back over her shoulder. “And, like I keep telling her, Bud and I have decided that we want it to be a surprise.”

“A Barclay/Swift baby?” Tom snorted. “I think 'surprise' will be the mildest way of putting it.”

“I know.” Sandy idly petted the current location of her offspring. “Bud and I have already opened up a savings account to pay for its bail. And you didn't call me over just to discuss the Barclay Version 2.0.”

“Actually... no.” Tom idly rubbed at his cheek. “I'm working on something and I specifically need to bounce some notions off of you.”

“Off of me? The senior test pilot for Swift Enterprises.” Sandy made a face. “Or at least I was until two doctors, Mom and Bud yelled at me.” She shook her head. “I swear. You marry a man and think you know him...”

Her voice faded as she saw the look on Tom's face. “Yeah, I thought that's what it was. You're needing to talk to Sister

Sandy the Astro Angel. I sort of had a feeling.”

Tom sharply looked at her. “You've had a feeling.”

“Not *that* sort of feeling,” Sandy assured him. “And Bud's already quietly quizzed me on the subject. I honestly haven't had any twinge of the old Space Friend vibes since I returned from the Sun. Course,” she added, glancing down, “I've been kind of busy.”

“I've noticed. But you're right. Have Bud or Phyl explained my theory to you?”

Sandy pursed her lips together. “Sort of. I've got the general gist of it. You not only think that Akari's inhabited by intelligent life, but that whoever's there has a connection with the Space Friends.”

“I don't know for certain,” Tom told her. “But listen to what I've got and tell me what you think. According to what the Space Friends told us there's a civilization of over six thousand intelligent races in our part of the galaxy alone. Regardless of whatever differences might exist... physical, ethical, social, intellectual... all of these races are more or less policed by the Space Friends. Am I on solid ground so far?”

Sandy slowly nodded. “Although keep in mind that, since we managed to broadcast our method for driving off the Space Friends, at least some of those worlds might be in revolt.”

“Granted,” Tom agreed. “But we haven't heard anything since what happened on the Sun. The Green Orb, or the 'Senders', to use your term, had promised to stay in occasional touch. So far, though, nothing.” He held up both his hands, palms outward. “All right, admittedly that's not too bad. What with everything that happened here the last thing we needed was more contact with aliens. And yeah, you heard it from me.”

Sandy didn't smile, remembering how the final incident involving the Space Friends had truly demoralized Tom. “But you think Akari might have something to do with the Space Friends?”

“It might. Consider: the situation with the Haargolandars breaks out. We all scramble to respond and, for a while, things look really messy. Then, as we're mounting a reconnaissance mission, the crisis is suddenly over. The Haargolandars are subdued by some form of weirdness which renders them more or less docile.”

Sandy remembered what Phyllis had told her about the man who had tried to knife Tom. "More or less," she echoed dully.

"I know," Tom replied. "That's why I gave myself a qualifier. But listen: at the moment the Haargolandians are put under their spell, the section of the Earth which includes the north Atlantic is turned away from the Sun. Facing outward into space. Only two planets are currently in position from that direction. Jupiter and... Akari."

Sandy's eyes narrowed. "But why put any suspicion at all on Akari?"

Tom sighed. "Years ago I wouldn't have. But then you came into contact with the Space Friends. You found out how one of their abilities was a form of electronic telepathy."

"Ohhhhhh—"

"If... Akari could've radiated some sort of... oh, I don't know. I guess call it a 'catatonia ray' or something... then the beam could've clearly struck an area covering most of the north Atlantic, with Island One at the center."

Sandy mused it over. "Then the other cases of chanting ..."

"Similar cases who were caught in the outer fringes of the transmission," Tom explained.

Sandy slightly rocked back and forth. "Okay. Here's my problem. You've got to convince me that, for whatever reason, Akari was interested in our problem with the Haargolandians and decided to intervene."

"But can you deny that the catatonia ray is beyond the capabilities of the Space Friends?"

"I... can't," Sandy slowly admitted. "Not with a clear conscience. But why now? You're not saying that the Space Friends sent Akari to our solar system simply to throw a monkey wrench into the Haargolandians plan?"

Tom shook his head. "No. I'm not even saying... Akari was sent by the Space Friends, and why are you staring at me funny?"

"Three times now you've paused just before saying 'Akari'."

"Have I?" Tom frowned, then squeezed his eyes shut, rubbing at the bridge of his nose. "I guess I've been on the

run a lot the past few days. But getting back to my argument. Akari might have been sent by the Space Friends, or it might've been sent by another race possessing similar technology. If I had to bet some serious money I'd go with someone at least slightly connected with the Space Friends. The Senders, maybe."

"Okay. Why?"

"Maybe the Space Friends want to study what's happened here since we sent them packing." Tom nodded at the expression on Sandy's face. "Yeah, yeah I know. If that was the intention of the Space Friends then they could've been way the heck more subtle about it. But who else do we know who can move planets around?"

"Also, the Space Friends certainly know about the things that went on here after they threatened all of Earth. After all, they precipitated the situation. So Akari arrives and scans the Earth. They learn of the Haargolander attack on Island One and, once again for reasons I don't yet know, decide to step in and sabotage their efforts." Tom gazed at his sister. "I'm not selling you on any of this, am I?"

"It's tasty," Sandy reluctantly admitted. "But it's carrying way too many suppositions." She frowned. "I think that's the word I want. God, I miss having Bingo around."

"I'd be the first to agree with you," Tom said. "And I also mean about having Bingo around. But the underlying problem to all of this is if aliens aren't involved, then how do I explain what happened with the Haargolanders?"

"Yeah. There's that."

"And consider this. It's another reason I wanted to talk things over with you privately."

Sandy waited.

"Let's say, for the sake of argument, that Akari is the reason for what's been going on. You and I both know how crazy it got when the Space Friends made their threat."

"Whew! No kidding!"

Tom nodded. "There's already some tension about Akari being in the solar system. The Haargolanders certainly didn't help matters any. Imagine now what happens if people start believing that Akari can control minds here on Earth."

Sandy opened her mouth. Closed it. Opened it again. "Ouch."

“In spades. I'm crossing my fingers here hoping that I'm the only one so far who's making this sort of connection. If I could find a terrestrial reason for what happened to the Haargolandians I'd jump on it.”

Sandy sat back. “Well I'm fresh out of ideas, or else I'd hand one to you on a plate.” She then gave her brother a penetrating look. “If that's the only reason you're looking into all of this.”

Tom frowned at her. “What do you mean?”

“I mean I'm hoping this isn't about you trying to find some excuse to fly out to Akari.”

“Sandy—”

“The truth, Tom.”

“I just mentioned the overall mood of the world,” Tom told her. “And our family was just accused of being the reason behind Akari's appearance. All right,” he went on, “it was an accusation given by bat-crazy terrorists. But it's an accusation the wrong sort of people would latch onto. What do you think would happen if I took off into space to travel to Akari?”

“I know.” Sandy had caught a strand of hair and was twisting it about. “The thing is, you're just the sort of person who needs to go out to Akari and find out what's going on. And no, I don't feel good about any of that.”

“Worry from you?” Tom smiled. “That makes a war horse like me feel old.”

Sandy chuckled. “Yeah. What I really want is for you to honestly exhaust any and all possible terrestrial reasons for how the Haargolandians got zapped before you go ahead and zoom off into space. Which I know is what you're really wanting.” Once again her eyes narrowed a bit. “Understand I'm not really worried about you flying to Akari. Much. But you have a rather disconcerting habit of taking Bud along with you on your expeditions.”

“I don't think I could easily pry Bud away from you. Not now anyway.”

“Well, let's try not to put it to the test.”

“Yes'm.”

Chapter Ten: Thoughts From Space

True to Tom's prediction his mother had packed an overnight bag and scooted out to Island One to be with her husband. Her departure provided a perfect excuse for Phyllis to spend an evening with Tom enjoying a meal composed of Armenian delicacies courtesy of Sestina. They dined on *satsivi* (roast chicken in walnut sauce), cracked wheat salad, *katnapour* (sweetened rice soup) and *lavash* (Armenian flatbread). For dessert Sestina provided dried peaches stuffed with sugared ground walnuts.

"It's been getting harder to tell," Tom said to Phyllis, "whether Sestina's learned more about cooking from Mom, or vice-versa. We've noticed that Mom's been using more dill and cumin ever since Sestina joined the family. And come sit with us," Tom said over his shoulder to the giant girl. "We're doing fine here at the table. Come eat something."

Nodding briskly Sestina bustled over to the table, taking her place in a chair which had been reinforced to accept her mass. Keeping an eye on the others she tucked a napkin on her blouse and began working on a bowl of soup.

Phyllis watched her. "Doesn't Sestina ever go out anywhere and have fun?" she asked Tom. "See movies or anything?"

Tom shrugged. "She visits Bud and Sandy, or sometimes drops in on Sherman and Freida. She's also managed to type out messages to Ken and Bingo on the space station. You've got to remember she's still sort of shy."

"Oh I know that. I was just struck with the notion that maybe she was told to stay here and be a," here Phyllis' voice dropped, "c-h-a-p-e-r-o-n-e."

Sestina paused in her eating, lifting her eyes to stare at Phyllis.

"Sestina may not be a Rhodes scholar," Tom gently pointed out to Phyllis, "but she can spell."

"Oh I didn't mean anything bad," Phyllis said to Sestina. "I just meant... oh... well, maybe I don't know what I meant." Mumbling to herself she reached for another piece of flatbread.

Putting her spoon down, Sestina began carefully

motioning with her hands; among other things pointing at the clock and using her fingers to mime walking.

Tom and Phyllis watched the performance. “Okay,” Tom finally said. “Mom and Sandy are better at reading her than I am, but I think Sestina’s saying she’s arranged to take a walk after we’ve eaten and... uh... leave us alone a bit.”

“Either that,” Phyllis countered, “or we’re supposed to take the walk while she stays here.”

Sestina pointed at Tom.

“Oh,” Tom said. “Thanks. But you don’t really have to go out on our account.”

Phyllis and Sestina both stared wide-eyed at Tom.

“You... need me to leave early?” Phyllis asked him.

Not for the first time Tom wondered if his father had the same trouble keeping his mouth shut. “Oh not immediately,” he said in perhaps too quick a voice, “but there’s this problem I’ve been working on—”

“Sandy told me.” Phyllis’ eyes now frowned at Tom. “And now I’m suddenly reminded of something. Have you gotten any sort of sleep since the Haargolandians made their attempt on Island One?”

“Ah-hhhh... sort of.”

Phyllis looked at Sestina who shook her head.

Great, Tom’s mind growled. *A mute tattletale*. “I’ve been busy,” he declared to his dinner companions.

“And you’re going to get at least eight hours sleep tonight,” Phyllis declared, her face firmly set into decisive lines. “Understand I’d like nothing more than to spend a considerable bit of the evening cuddling with you. But I know you, Tom Swift. When you get tired you make mistakes. And the sort of mistakes you make usually result in me visiting you in the hospital later on.”

“Phyl...”

“Bed,” Phyllis said. “At least eight hours. Tonight.”

Tom sighed, poking at the remains of his salad with a fork. “It’s just... it’s just this situation...”

Phyllis reached over to cover one of his hands with hers. “Sweetest, I understand. I’m the last person in the world you

need to apologize to.”

Sestina, picking up on some quiet internal cue, began gathering up the dishes.

“I'm close to some sort of answer,” Tom said, his hand clasping hers. “There's a piece of information I've overlooked.” He looked into her eyes. “I'm sorry that I keep having to sacrifice time with you for things like this—”

“Shhhhh.” Phyllis gave his hand a squeeze. “Tom, you're a wonderful and compassionate man. Sweet... very sweet and attentive when the moments arrive. And, on those rare occasions when I get you out on a dance floor, you're absolutely divine. But I'm not an idiot. I knew what I was getting into with you and I accept it.” She let out a sigh. “Admittedly some times are harder than others. But your Mom's been coaching me, and it can't be denied that she and your father have managed rather well.”

Tom considered it. “True.”

“Would it surprise you to learn that I've also been thinking of Akari since we came back from Island One?”

“Not too much,” Tom said with a smile. “After all this time I hope I've managed to rub off on you a bit.”

“Well... something like that anyway. But I told you Sandy and I had been talking, and we sort of compared notes. Which brings me to my next and very reluctant question. When were you going to tell me about your plan to fly to Akari?”

Tom seemed surprised. “Oh. Nothing's been decided—”

Phyllis wasn't buying any of it. “The reason you've never developed a weather machine,” she said, “is because you have absolutely no talent for making snow.”

“Huh?”

“I *know* you, Tom. And I bet that, if I also knew your computer access codes, I could find the preliminary notes you've already made for an expedition.”

“Phyl—”

“What about it, kid? Money on the table.”

Tom was silent for a few moments.

Then: “How's the news situation been today?”

Oops, Phyllis thought. *An oblique attack*. Then she remembered that the business of her knowing Tom also ran both ways.

She also reminded herself that one of the hats she wore was ramrod for the Swift Enterprises press room. “We’ve received some inquiries,” she admitted. “I’ve been able to honestly say you haven’t yet made any sort of formal announcement.” A glance towards the living room, and especially at the large curtained windows at the far end. “I’m sort of surprised there aren’t people already camping out front.”

“That could come later,” Tom said, growing a bit more serious. “You saw the *Bulletin* this morning?”

Phyllis did. “At least they’re playing up the unreasonable nature of the Haargoland’s theory about you being involved with Akari in some sort of plot against the Earth.”

Tom nodded. “And some of the other news services have picked it up. But not enough.” His eyes became brooding. “Not nearly enough.”

“Tom—”

“You know it’d be all too easy to get the whacko fringe up in arms over me and Enterprises,” he said. “That’s even after all of the work Sandy went into on my behalf after she got back from the Sun.” His eyes now bored steadily into Phyllis’. “Whatever move I make... no matter what move it turns out to be... I’ve got to be as quiet and as secretive as possible.”

“I understand,” Phyllis told him. “It’s already a given, but I’ll definitely clear any press release on the subject through you.”

“I know.” Tom thought it over. “Go ahead and feel free to announce that Enterprises is providing technical assistance to the government in its efforts concerning Akari. That should be safe enough and should serve as a sort of weather vane to watch public opinion.”

“Oh certainly! I mean, it’s not as if Akari’s gonna be a problem forever anyway.”

Tom looked at her quizzically. “Oh?”

Phyllis shrugged. “According to you and the other astronomers, Akari’s barreling through the solar system and

will soon be on its way out.”

“Yeah. That's true. But that still won't stop some people from automatically associating it with some sort of sinister intent, not to mention associating it with me. And one other thing.”

“What?”

“What happens if Akari decides to slam on the brakes and remain in our system?”

“Oh, Tom! Could it do that?”

“Nestria did.”

Phyllis didn't quite know how to answer, or even if she should. Nestria had been the name given to the moonlet which the Space Friends placed in Earth's orbit. Shortly after its arrival, Tom had established a scientific research station there. It had been the first of a handful of similar stations set up by the scientific interests of other nations. Later on, when the Space Friends had threatened Earth, they recalled Nestria. Quick efforts by Tom had managed to evacuate most of the people on the tiny world. Sixteen, however, failed to leave in time.

Better than perhaps anyone else in the immediate Swift circle, Phyllis knew that Nestria was still a raw nerve with Tom and she mentally shifted her personality into Caution.

But Tom was beating her to it. “Maybe sleep wouldn't be such a bad idea after all.”

“That's the ticket. Things'll probably make much more sense in the morning.”

“Um. Come tuck me into bed?”

Phyllis' smile was lopsided. “Tucking you into bed is many things, darling. But getting you immediately off to sleep is hardly one of them.”

“Awww...”

“I know I'm probably going to regret this,” Phyllis said, standing up, “but now'd be a good time for me to say goodnight and leave you to your slumber.”

Tom was also rising to his feet. “I'm sorry—”

“Yes, but we'd both be a lot sorrier if you spent tomorrow bouncing in exhaustion off of everything and everybody.”

“You're probably right, but... can I discuss something with you before you leave?”

“Sure.”

“Ah-hhh, not here. Out on the back porch?”

Sestina was not privy to whatever conversation occurred between Tom and Phyllis out on the porch, but she noticed it was just over ten minutes before Tom came back in. Seeing the smile on his face Sestina concluded that the talk went well.

* * * * *

Between the exhaustion, Sestina's cooking or the talk he had with Phyllis, Tom couldn't put a finger on the one item which caused him to almost immediately drop off to sleep.

But it was half past two in the morning when he suddenly sat up in bed, wide awake.

“Oh!” he murmured. Reaching over to the console at his bedside he touched the buttons which would establish contact with with the space station.

The screen soon lit up to show the upper part of a female wearing the uniform of a SwiftSpace technician. “*Space station communications,*” she announced, then peered closer. “*Oh! Mr. Swift!*”

It dawned on Tom that not only had he established two-way video contact, but he was still in bed. Fortunately he was mostly covered by a sheet. “Ah-hhhh, hi. You're...”

“*Ginny Pierrin: space station communications. I can connect you to Commander Horton.*”

“Don't do that, Ginny. You might be able to help me with my question.”

Eyes wide with curiosity, Pierrin waited.

“Ginny do you have records of a conversation I had with Commander Horton some time back? Something about untraceable signals in the three to twelve Hertz range?”

The technician turned her head slightly, consulting something offscreen. “*Yes, here we are. The Commander wanted both the Communications Section and the Physics Lab to try and make some sort of sense out of the signals. I've got a standing order on file.*”

“Have there been any new signals?”

“*Ummm, nothing more has appeared, although we've continued monitoring.*”

“Ginny, do me a favor. Transmit everything the station's picked up down to this terminal. If you've got 'em on file send down the notes from your section and the Physics Lab.”

“Yes.” On the screen the girl was immediately busy. “*You should be receiving everything in a few seconds.*”

“Ginny, you're a peach. Leave a note for Ken that I called.”

“Yes sir!”

“Out here.” Ending the call, Tom left the bed to enter the bathroom and splash some water on his face. Coming back he settled himself once again in front of the console, switching on the computer function. Meanwhile a download icon was blinking on the screen. A few more moments, and then the screen began filling with data.

It took less than five minutes of study which included pulling up several other online records. Then Tom nodded.

“Got you.”

* * * * *

“Staring me right in the face all the time,” Tom said, “and I didn't even see it.”

Bud crossed his arms. “Well you had a pretty full plate the last day or so.”

“True.”

They were in Tom's office and laboratory, with Phyllis and Sandy also included in the audience as Tom held court. “The thing is, neither Ken or I are neurophysiologists, nor are we experts in electroencephaly, or we might've twigged on it sooner.”

Sandy suddenly found all eyes looking at her.

“Yeah,” she admitted. I guess I'm sort of the local expert.”

“We'll know in a moment,” Tom told her, reaching to switch on his worktable. Above the flat surface a telejector lobe formed. “I've managed to convert the rough data from the space station into its nearest equivalent.”

Within the field of the telejector lobe floated a series of colored lines. Some were gently curved while others were jagged.

Tom turned to his sister. “Well?”

Sandy was nodding. “Yeah. Those are rhythmic frequency

activity bands, like the kind you get from an EEG.”

“Exactly,” Tom said. He pointed at the bands. “These cover different frequencies in the alpha, theta and delta ranges but not, interestingly enough, in the beta range.”

Bud looked from Tom to his wife and then back to Tom. “Okay. So, for the benefit of us poor ignorant types, what’re you saying?”

Tom looked at his sister. “Sandy? You want the floor?”

“You seem to be doing good enough on your own. Take it.”

“All right. The transmissions which the space station were intercepting were intermittent bursts of signals resembling human brain wave patterns. All except beta waves.

“Now all of us... chipper and wide awake... are producing healthy beta waves in the fourteen to thirty Hertz range. But these waves here,” Tom waved a hand at the lines, “are found in the lesser ranges. We have alpha waves which signal physical calm. Then theta waves which, more to the point I’m wanting to make, are the result of deep relaxation.”

Phyllis’ mouth was slowly drifting open. “Oh...”

“At the lowest end,” Tom continued, “not quite fully there but just barely, we find indications of delta waves.” He turned back to the others. “Deep sleep.”

Bud was staring at the lines. “So you’re saying—”

“The Haargolandars were exposed to some sort of influence or force which rendered them pretty much docile. At the same time this is happening we’ve got the space station picking up traces of what turns out to be human brain wave patterns. Coincidence? I don’t think so.”

Sandy had been leaning against Tom’s desk and she now straightened up. “I suspect this is where I came in,” she said. “And yes, Tom, I’ve seen this sort of thing before. The same sort of patterns appeared as evidence that the Space Friends were controlling certain people through telepathy.”

“Then the Haargolandars—” Phyllis began.

“Were zapped from space,” Tom finished. “From Akari.”

Chapter Eleven: Several Meetings

“I'm not sure I like this,” Senator Tobey remarked.

“You think I do?” Tom replied.

It was later in the day and, after some time spent in video conferencing with his father, Tom had taken an atomic car and flew south to make a hastily scheduled appointment in Washington, D.C. He wanted to meet with Senator Tobey and Dr. Morrow and bring them up to date on the most recent discoveries. At Tobey's suggestion the group also included Deborah MacKenzie from the State Department, an addition which Tom readily agreed to.

Keeping in mind a desire to have things appear casual (and, by extension, as much under wraps as possible), it was decided to hold the meeting at Central Michel Richard on 1001 Pennsylvania Avenue NW. It was one of the more popular eateries in D.C., but Tom couldn't help but wonder if some imp in him was responsible for choosing an eatery located a block away from Ford's Theatre?

“I can think of worse places to hold a situation meeting,” MacKenzie had commented upon arrival.

If Mary Swift had drilled anything into Tom it was an admonition to try and keep from spoiling a meal with bad news, and so Tom kept the conversation on little more than the most recent data concerning Akari which the various observatories had collected. The situation involving the defused Haargolander plot also entered the mix, but Tom's guests knew that something much more significant was in the offing.

“If... Akari was going to collide with us,” MacKenzie ventured, “you wouldn't delay the news until after dessert, would you?”

“It's not that bad,” Tom told her. “At least I hope.”

She had paused, a portion of banana split halfway to her mouth. Tom gave her what he hoped was a reassuring smile and she resumed eating.

Coffee and espresso followed, and Tom decided it was time to pull out the big guns and inform the others about his most recent discovery. If he felt any regret it was in not having a camera so that he could have recorded the

expressions of his guests for posterity.

“Affecting minds across space,” MacKenzie breathed in wonderment (and, Tom noted, a small touch of concern). “They can do that?”

“I remember back when your sister and Commander Barclay found the Brungarian children on the Moon,” Morrow said to Tom. “Two of the children turned out to be alien overseers, but their identities were wiped from everyone’s mind. Sandy had explained that the Space Friends possessed a sort of telepathy.”

Tom nodded. “Keep in mind,” he said to Morrow and the others, “that I have no proof that Akari was sent by the Space Friends. But I think it’s reasonable to assume that the technology for long distance thought control might be common among the more advanced races out in the galaxy.”

Tobey was winning the contest for most distressed look. “People are already worked up about Akari,” he pointed out. “This news won’t sit well at all. That’s why you wanted to tell just us at the onset.”

“Yes,” Tom said. “Akari becomes more and more mysterious with every bit we learn about it. I’m becoming increasingly convinced that the planet is passing through our solar system with some sort of purpose in mind. Pun not intended. I don’t know the reason why, but I’m going to do my darnedest to find out.”

“But it wasn’t just to upset the Haargolandians,” Tobey said. It was not a question.

“I don’t think so. Rather, I think whoever... or whatever... is living on Akari has had Earth under observation ever since it entered our system. It learned of the Island One takeover and, once again for reasons I can’t presently explain, decided to intervene on our behalf.”

“Still,” Tobey went on, “if the general public learns of this —”

“I know,” Tom was nodding. “I know.”

“The litigation potential alone would be a nightmare. What if people in court start claiming that their actions or decisions were a result of mental tampering from space?” Tobey’s face was becoming increasingly morose.

Morrow was frowning over the problem. “The thing is

that the news of the aliens being able to affect minds should already be common knowledge.”

“Should be,” Tom agreed. “I’m no psychologist or sociologist... although, given what happened over the last few years I guess I should be... but public attention in this day and age has something of an attention span problem. The public knows that the Space Friends tried to kill us. They remember what happened to Paris and what my sister did. By comparison the aliens mind control power is a minor thing. If the Space Friends had tried to turn the world’s population into zombies then it’d be more fixed in our point of view. Otherwise?” Tom shrugged.

“Could the aliens conceivably affect the entire world?” MacKenzie asked.

Tom sighed. “I wish Sandy was here with me. She’d be able to answer that question better than I can. The impression I got from her was that there are limits to the amount of control which the telepathy can produce, The Space Friends could induce suggestions and moods on a global basis, but they got better results by affecting only a few select minds.” Tom’s tone became darker. “They tried to mentally direct my father to trigger the solartron effect that would’ve devastated this planet.”

“I remember,” Morrow murmured.

Tom didn’t want to mention how the problem went much deeper, and much more personal. When Sandy was contacted by an agent of the Space Friends she had been told how, as part of their program to try and divert humanity from a potentially disastrous course of development, Tom’s own mind had been mildly “scrambled” by remote control. He had spent... wasted, rather... a few years working on inventions and schemes which ultimately turned out to be unpractical.

The scrambling had been discontinued, but Tom had never been able to totally forgive the aliens for their interference. It was something which had personally hurt him almost as much as Nestria.

And Morrow was speaking again. “Is your space station still monitoring for signals?”

Tom nodded. “Now that we know what to look for I’ve left instructions for around the clock monitoring to take place.

Some of our sensors need to be refined, but we can do it. If you're looking for a bright spot then I can report that, so far, there been no further evidence of a widespread transmission hitting us.”

Tobey caught something in Tom's voice. “And the bad news?”

“Yeah,” Tom admitted. “The bad news is that it'd be difficult to detect any short duration or narrow beam transmissions. And we don't know how much of a transmission is necessary to get results.”

“Huh. You almost make me want to start wearing an aluminum hat.”

Tom was grateful for the smile the remark produced. “If it makes you feel any better, I've instructed our biomedical research department to try and come up with some sort of personal defense. Which brings me to another topic I wanted to discuss. Enterprises isn't really one of the big names when it comes to medicine or neuroscience. I can get in touch with people throughout the world who'd be better equipped to come up with some sort of defense, but then I'd have to explain why we need it.”

Tobey, Morrow and MacKenzie stared at each other for several moments.

“It's a problem of letting more people in on the secret,” Tom said. “Which, of course, means a greater risk of widespread public panic.”

Tobey was the first to speak. “The Office of Naval Research has a Bioengineering Systems Division,” he slowly said.

“Yes,” Tom said. “They've worked with us on the Werewasp Program, as well as contributed to our medical nanobot development.”

“They could be expected to work with the sort of security you think we might need.”

“What about the Air Force's Medical Research Laboratory?” Tom asked.

Tobey nodded. “I can get in touch with them. Also MEDCOM down in San Antonio. Did you want me to put out feelers and see what sort of help I can arrange?”

“That, or give me a list of people I can securely contact.

What I really need is government permission to set up arrangements.”

His guests nodded among themselves. “We’ll discuss the situation and get back to you,” Morrow promised.

“One more thing,” MacKenzie said to Tom. “What about your own plans for flying to Akari?”

Tom wondered how composed his face was. “A lot of people seem to be assuming,” he said, “that I’m on the verge of blasting off for Akari. I’ll go ahead and confess that I’d very much like to. But there are overriding issues to consider. Thanks to the Haargolandians I’m already suspected as being responsible for Akari’s appearance. The last thing we want is to get people worked up more than they already are.”

MacKenzie and Morrow glanced at each other. “Debby and I have been talking,” Morrow said to Tom. “Whereas we sympathize with your assessment of the situation, we also agree that you might be the best possible person to learn all that can be learned about Akari. And that might very well require a direct visit.”

“I agree with them,” Tobey chimed in. “We might be in the minority, but I’m pretty certain we can drum up more official backing for such a move.”

Tom found he was lightly drumming the fingers of one hand on the table and he stopped himself. “Like I said, I very much want to go. But it wouldn’t be easy.” His eyes steadily met those of his guests. “I never had to watch my back before when it came to heading into space. But it’s been different since the Space Friends affair. I haven’t even been up to the space station.”

“We appreciate your caution,” Morrow said. “Once again let me emphasize that we appreciate your position. But it might come down to a higher need.”

Tom mulled it over. “I’m going to be spending the night here in Washington,” he said. “I’ve got a room at the George. Tomorrow I’d like to meet with all of you again and talk some more. Mostly about establishing connections with secured medical research facilities. But we can pick up this topic again.”

“That’d be acceptable,” Tobey said. “We’re grateful that you came to us with this news about Akari possibly affecting

minds here on Earth, and we want to be equally forthcoming with whatever assistance you might need.”

“In that case,” Tom said, standing up, “I promise you I'll keep you informed of any plans I develop in regards to the situation.”

* * * * *

After leaving the restaurant, Tom entered a taxi. His hotel was only twelve blocks away, but Tom had a different location in mind and instructed the driver to take him to an address on Massachusetts Avenue.

The taxi eventually let him out at the entrance to a rather utilitarian building made of gray stone. Paying and thanking the driver, Tom didn't hesitate but went immediately inside to where a young woman told him he was expected. She then led him to the rear of the building and into a spacious room furnished with excellent examples of medieval samurai armor and framed 17th century artwork by Sanraku, all of which surrounded a carefully maintained indoor rock garden.

Two men were waiting for him in the room. One was dressed in the standard business attire adopted by most people severely involved in work within D.C. His companion, on the other hand, was casually and simply dressed in a gray and black *yukata*.

Tom bowed to them. “*Konnichi-wa.*”

His Excellency Yoshio Amami... Japanese Ambassador to the United States... returned the bow. His action was copied by Hideko Ichikawa, only recently arrived from the Japanese moonbase.

“*Konnichi-wa*, Swift-san,” Amami said, straightening up. “I am glad you were able to come on such short notice.”

“And I'm glad you and Dr. Ichikawa agreed to meet with me like this. Especially since it seems we may have to step up our timetable.”

Chapter Twelve: Travel Plans (Some of Them, Anyway)

The next morning Tom was back in his office, going over the latest images and information concerning Akari, adding notes and posing problems to the computer.

So absorbed was he into his work that it was quite a while before he glanced up from the screen.

“You know,” he said casually, returning his attention to his work, “you've been developing an interesting habit of lounging in doorways and quietly staring at me.”

Bud shrugged. “What can I say?” he asked, entering the room. “You're interesting.”

“Thanks.”

Pulling up a chair, Bud moved it to where he could see what Tom was doing. “So how's our problem child?”

“Still there,” Tom said. “Still barreling through the system at top speed.”

“Still transmitting?”

“Mmmm, if she is no one's picked up anything yet.” He leaned back in his chair, his eyes still fixed to the screen. “Everyone still seems to agree that the surface temperature of Akari approximates that of Earth.”

Bud's lower lip pressed out a bit. “Given its greater distance from the Sun that would mean a greater core temperature, wouldn't it?”

“Possibly,” Tom murmured. He tapped lightly at the image on the screen. “We won't be able to determine if,” a small frown skipped across his face, “Akari's core is molten until we actually get there.”

Bud heard the “we actually get there” but decided not to rise to the bait just yet. “Could the rings be somehow heating the planet's surface?”

Tom slowly nodded and, tapping the screen again, zoomed in on a section of the rings. “False color, ultraviolet imaging and similar scan techniques tell us that the rings aren't solid artifacts. On the other hand we're got getting the usual readings associated with rings made up of separate particles, such as those around Saturn. More and more I'm

finding myself in agreement with Zeldovich's notion that the rings are some sort of plasma formation held in place by magnetic control.”

“Definitely artificial.”

“Well think about it. A natural ring system wouldn't survive at the speed in which Akari is traveling. A natural ring system would've long since eroded away.”

“So everything is telling us that Akari is geared to support life. Closer to the point: human life.”

“It would seem so.” Still looking at the screen, Tom idly rocked back and forth. “And now tell me why you're really here.”

To his credit, Bud didn't automatically react from surprise. “I don't understand. I've babysat hundreds of projects with you before. Sometimes it's better than television.”

Tom almost smiled. “It's just that you were supposed to be running an errand for me.”

“True,” Bud agreed. “You told me that JAXA is considering a manned mission to Akari, and you wanted me to help out with work on some course figures for them.”

Silence for a while. Then Tom asked, “And?”

Bud sighed. “Yeah. Well... JAXA's been developing a top of the line manned vehicle for deep space exploration. The *Chigiri*. It's a good design. One of the best I've seen. But even if the Japanese launched it right now I don't think it could reach Akari before the planet moves out of range.”

Tom slowly turned to look at his friend.

Bud was staring steadily at him. “On the other hand,” he said, “*Challenger* could reach it easily using the mission parameters you gave me,”

Tom remained silent.

“I'm not an idiot, Tom.”

“I never claimed you were.”

“So I'm going to go ahead and presume the reason you gave me the job was because you're working on something so secret it's known only to you and perhaps some people within the JAXA organization.”

Tom looked away slightly.

“And you're not gonna let me in on it, are you?”

“It's still... up in the air.” Tom let out a small chuckle. “Heh. Literally. And I don't mean to be mysterious about this, but you're right. I can't expand the circle of people in the know until I get things nailed down.”

“Huh. Then you'd better take a few more precautions. The space station's noticed the increased communications traffic between Enterprises and Japan. Especially the calls to JAXA headquarters in Chofu, and the main facility at Tanegashima.”

“Ummm, OK. I'll try to watch out for that.” Tom rubbed at the back of his head. “And that was a good try, but I'm still waiting for you to tell me why you're here.”

“Tom...”

“And I'm going to guess it's because you feel I've become more cynical in recent years, and you're uncomfortable about it.”

This time the surprise genuinely appeared on Bud's face. “So. It's not just a-Akari that's reading minds.”

“Reading minds has nothing to do with it. I know you're uncomfortable because *I'm* uncomfortable.”

Bud waited quietly, watching his friend struggle.

Then: “I know I shouldn't let it happen, but the world's really sort of gone sour for me,” Tom admitted. “This country's increasing illiteracy. Almost consciously turning its back on science. I know that science doesn't cure everything, but...”

Bud remained quiet, knowing Tom was holding court on one of his more prevalent bugbears.

“I may live long enough to see reading become a voluntary subject in schools,” Tom declared. “Voluntary. I know I preach a lot these days, but it used to be everyone bent over backwards to try and improve themselves. Now it seems as if we're spending more time on ways to avoid education. Audio books to eliminate the need for reading. Software so that people can compose documents without learning keyboard skills.” He raised a hand slightly. “I'm being trivial—”

“And I understand your position,” Bud softly said. “I’ve seen this situation eat at you more and more. But I’m talking about the something that’s been eating at you even more.”

Tom had been about to continue his sermon, but the tracks suddenly dropped away from his train. “All right,” he told Bud. “Go ahead.”

Bud spent a moment collecting his thoughts. “We’ve been friends for... how long?”

Tom thought back. “Fifteen... no. It’s been sixteen years now. Wow.”

Bud nodded. “Sixteen years. Some of the guys I know back home still haven’t figured out what they’re gonna do with their lives. Or, if they have, they’re bagging groceries, or selling insurance or used cars. Me? I’m senior astronaut at a major scientific research center.”

“And a good one,” Tom replied, producing a brief small smile.

“A lot of my success came because you were always open with me.” Bud let a finger point at Tom’s forehead. “There was always a part of you I could reach whenever I was in trouble, or had a very serious question. But now?” His head gave a mild shake. “Over the last few years you’ve closed yourself off. Maybe not a great deal, but I’ve noticed it. So has Sandy and Phyllis.”

“Bud—”

“We’ve noticed it, Tom.”

Both men gazed at each other for several moments.

Tom was the one who finally blinked. “You could reach into me, that’s right. So could Phyllis and Sandy and the folks. So could practically anyone else I trusted and worked with.” Reaching up with a hand he lightly patted the side of his head. “But no matter how open I was, there was always a place I had in *here* that I could keep to myself. My own little private space.”

Bud nodded. “The Space Friends.”

“They got into my private space,” Tom replied, his voice hot and his eyes bright. “They tore up my thoughts. They went into the one place I wouldn’t let anyone into no matter what. They raped the thing which was *me*.”

Bud said nothing but thought of the few times Sandy had privately confessed to him just how disturbed she occasionally became during her involvement with the aliens. He was seeing the same reaction now in Tom.

Tom was now sitting forward, his head between his hands, staring down at the floor.

“I have loved the stars too fondly,” he murmured, “to be fearful of the night’.”

Bud blinked. “Huh?”

“A poem by Sarah Williams,” Tom said, sitting back up. “Dad taught it to me. It's titled 'The Old Astronomer to His Pupil'. The last lines go: 'Though my soul may set in darkness, it will rise in perfect light. I have loved the stars too fondly to be fearful of the night'. I've loved the stars, Bud. I think I've loved them longer than I've loved anything or anyone else. And the stars slapped me down.” Sitting back in his chair he rubbed at his forehead, his eyes closing.

“If I suggested that you don't let it get you down,” Bud slowly started, “would I be wasting my time?”

Another small smile briefly touched Tom's face.

“You know the Space Friends weren't the entire universe. They aren't.”

“They're still a major player in our part of the galaxy,” Tom replied. “Maybe Sandy managed to cut them off at the knees. Maybe not. If any other races out there have managed to throw off the Space Friends' influence then they haven't told us about it.” He became thoughtful. “Or perhaps they have.” His eyes moved back to Bud.

Bud recognized the look and he nodded. “Akari.”

Tom returned the nod. “Like you mentioned, I've closed myself off. I'm looking for something, Bud. Not too sure what it is. Maybe hope, for want of a better term. All these years I've been reaching for the stars. And, in return, I got my hands burned. So now what happens? Something comes out of the stars. Something practically hand made for people. Is it hope, Bud? Or am I gonna get burned again?”

Bud was trying his best to look behind the blue eyes of his friend. “You're gonna find out, aren't you?”

It was amazing how something shielded suddenly seemed to drop behind Tom's expression. “The Japanese are

planning to find out,” he said briskly. “Professor Ichikawa's the ramrod behind a program to reach Akari.”

“Uh huh. Using course computations better suited for *Challenger* than for anything JAXA will be able to get into space.”

“Yeah, well...” Tom idly rubbed his hands together. “I've promised to offer as much support as I can. That's why we're going to monitor the mission from the space station.”

“Oh?”

“Ummhmm. Going to make a big party of it. Full court coverage. All of us on the station. You, me, Dad... Phyllis.”

An eyebrow lifted on Bud's face. “Phyllis?”

“Why not? After all, you'll be taking Sandy.”

Chapter Thirteen: Respect The Syllables

Of course there were some concerns raised.

“No!” Mary Swift exclaimed. Firmly.

Tom tried to placate her. “Mom—”

“You. Are. *Not*. Taking. Your. Pregnant. Sister. Into. Space!” Each word bitten off with its own exclamation. The Law had been brought down from Mount Mother.

“It's just up to the space station...”

And then Tom had to take a step back as he saw the inferno raging behind his mother's eyes. From where he was standing even Bud could feel the heat.

Even more so when Mary turned her gaze on him. “I cannot believe you of all people would agree to this.”

Bud almost wilted. “I haven't quite—”

“I am so tempted to call your parents. What would Joanna say to all this?”

Bud had a fairly good idea. His mother was almost as petite as his mother-in-law and, if such a thing was possible, even more shy and feminine. He also knew she'd part his hair with a 48” pipe wrench if she thought the health of her first grandchild was threatened.

“Tom and I are still discussing—”

Mary clapped her hands over her ears. “I'm not listening. La la la, I'm not listening.”

Tom helplessly looked past his mother to his father. “Dad —”

Tom Sr. quickly raised his hands, although a smile was on his face. “Don't drag me into this. Your mother might have a point.”

Sighing, Tom took his mother's wrists and, with as much firmness as he dared, pulled her hands away from her ears. “Listen to me, Mom. Please!”

Mary really had no choice, but her expression put Tom in mind of an angry badger he once saw.

Taking a breath, he went on. “Obviously we'd take precautions with Sandy. She wouldn't be using any of the

standard seats but would, instead, ride out the launch in one of the liquid-filled 'crisis cocoons' that AstroDynamics developed for taking extreme medical cases up to their orbiting medical facility at Lifestar. People who've suffered from serious burns, as well as similar cases, have handled the trip in complete comfort. The cocoons are not only cushioned, but carry three times the normal level of radiation shielding including, I might add, a layer of Tomasite."

Mary tried not to let her mind be changed. She was, after all, fiercely loyal to her son, and his famous lightweight radiation-proof plastic had been one of his earliest inventions.

But there were principles at stake. "Why are you wanting to take her to the space station at all?"

Both Tom Sr. and Bud were steadily staring at Tom now, as if looking for something.

Tom's attention remained on his mother. "Several reasons. Swift Enterprises is sponsoring the Japanese expedition to," his mind suddenly felt as if it were being side-swiped, "Akari. The space station is going to act as mission control for the duration of the expedition, and that means Bud and myself will be up there for quite some time." He shrugged. "Call me foolish... call me romantic.. "

"Foolish," said Bud.

"Romantic," said Tom Sr.

"... but it occurred to me that Bud just might want to be with his wife on occasion."

Bud considered it. "Sandy would come under the heading of necessary supercargo."

Mary's eyes narrowed. "And this is why you've also invited Phyllis?"

No one could escape noticing the slight tinge of red in Tom's cheeks. "I'll have occasional down time during the expedition."

"Uh huh."

"And Phyllis is handling media coverage for the mission."

"Uh huh. Has she run this development past her parents?"

Tom nodded. "Aunt Helen said 'sure'."

Looking away for a bit, Mary muttered something involving rolling apples.

"*Plus*," Tom went on, "Sandy hasn't been into space since she became pregnant. And it's been quite a while since Ken and Bingo brought the baby down from orbit. I think Sandy'd enjoy a chance for some personal time with her godson."

Tom Sr. considered it. "She could use the practice."

His wife threw him a fiery look. "Don't *you* start."

"And you'd probably like to see Charlie as well," Tom said.

That hit Mary from left field, her anger quickly being replaced by surprise. "Huh?"

"Sure. Didn't Dad tell you? You're both coming up to the space station with us."

Mary Swift's eyes had never grown so wide before in her life. "*Me?*"

Tom nodded.

"In a rocket ship? Into *space?*"

"Aunt Helen and Uncle Ned are also coming. We're making it a family affair."

Turning her head, Mary glanced at her husband. "And you were going to tell me about this... when?"

"Thank you, Tom," Tom Sr. muttered.

"I'm... certainly interested," Mary admitted, turning back to her son. "But I mean, I'm nowhere near an astronaut. I wouldn't know a retro-rocket from a pencil sharpener."

"You're smarter than you give yourself credit for," Tom said, smiling. "Besides, here's your big chance to expand the frontiers of meat loaf. Plant the Swift flag firmly in the space station's mess hall."

"Tom—"

"And the space station has medical facilities only just less extensive than those on Lifestar. Ken and Bingo saw to that personally when they set up housekeeping."

Mary seemed to deflate, her breathing steadying.

Watching her, Bud thought: *she's going down for the count, folks.*

Tom moved in for the knockout. "It'll be a few weeks before we leave," he said. "That'll give you plenty of time to find new problems to beat me over the head with."

Mary considered it. "Sandy would be all right in the cocoon? Perfectly safe?"

"Mom, if Bud wasn't okay with the idea he'd let me know. I'll personally check out the cocoon. Both of them."

Mary frowned. "Both of them?"

"Uhhhh, yeah. The standard size for Sandy and the bigger one we're taking along."

"Uh huh. Okay, I'll go ahead and ask. Why are you taking a big cocoon along? It's not for me because, if you convince me to go into space, I'll want a window seat."

"You never mentioned wanting a larger cocoon," Bud said to Tom.

Tom nodded. "Yeah, well, the notion just occurred to me while I was noticing Sestina. She's been fidgeting about for the past five minutes, which tells me she either needs to go to the potty, or she wants to go into space as well."

Everyone looked over to where the giantess was anxiously bobbing from one foot to the other, a pleading look on her face. She was also making one of the few sounds she was capable of in spite of her muteness: a whimpering usually associated with lost puppies.

It was on the tip of Bud's tongue to point out the liabilities in hauling Sestina's formidable mass into orbit. But he quickly swallowed the objection out of the affection he felt for the oversized cook.

Besides that, he and Sandy would be in the market for a babysitter in the near future, and Bud could think of no one better suited to the job than Sestina. And, if one had to face matters objectively, Bud couldn't privately deny that Sandy's tonnage was currently in a state of expansion.

The subject of the debate chose that moment to enter the living room. "Hi."

Sandy then noticed the looks on all the faces. "Oh. So all of you know."

Mary gave her daughter a placating look. "It's all right, honey. You don't have to worry about anything. We're discussing precautions and alternatives. It's really not set in stone yet and, for all we know, you won't even have to—"

"Mom, I'm sorry to break in, but can you tell me where your extra overnight bag is? I know we've still got weeks before blast-off, but I want to get packed as early as possible in case the balloon goes up. Or something." She noticed the expressions on everyone's faces. "What?"

* * * * *

In the middle of the night Tom woke up, grimacing. Sitting up he held his hands to his throbbing head. "Dammit."

Hoping that his mother hadn't heard the outburst (as justified as he felt it was), Tom slipped out of bed and staggered to his bathroom, wincing as he switched on the light. Stumbling about he began rummaging through his medicine cabinet for aspirin. Normally not the sort of person who suffered nocturnal headaches, Tom could only speculate that he had been spending too much time worrying over the Z—

"The Akari problem," he said out loud. His hands were gripping the sink as he worked to steady his breathing. "The Akari problem... the Akari problem... the *Akari* problem..."

Dry swallowing two aspirin he spent a few moments trying to collect his thoughts, wondering why there was a buzzing in his head along with the pain.

He then realized that the buzzing was actually his console signaling for attention. Hastily slipping into a robe he sat on the bed and switched the device on.

Phyllis' face appeared on the screen, and the pounding in Tom's head eased considerably. "Oh. Hi, honey."

"Are you all right?" Phyllis asked, her voice concerned.

Tom frowned. "I... just woke up with a headache. That's all."

"I couldn't sleep," Phyllis admitted, "and then I had a sudden notion you weren't feeling well."

In spite of his head, Tom smiled. "That's rather sweet. But why couldn't you sleep?"

Phyllis shrugged. “Don't quite know, but I'm sort of glad I couldn't. I've been doing some work here and found something I think you ought to know.”

“Go ahead.”

“The Chanters. The Haargolanders and all the others. The thing they were saying.”

Tom nodded. “The letter Z. Over and over again. And you're shaking your head.”

“We weren't listening close enough, Tom. I've been going over recordings of not only the Haargolanders but some of the other Chanters as well. I kept hearing something else and washed the audio a bit. They weren't just chanting the letter Z. There was an extra syllable which was getting sort of lost in the group noise. They were chanting—”

“Zea.”

Phyllis paused, her face moving back a bit from her video pickup. “Tom, what—”

“Zea. That's what everyone's been chanting. Zee-ah. Two syllables.” Tom blinked as something occurred to him. “And I heard Senator Tobey use that word just before the Haargolanders grabbed Island One.”

“Tom, I've been thinking back, and I know I've been hearing that word muttered and whispered here and there. And you haven't been the only one who's been occasionally having trouble saying 'Akari'.” Phyllis suddenly blinked. “And you just used the word now. Even before I told you about it.”

“Zea,” Tom murmured, the sound and shape of the word in his mouth somehow making his headache rapidly recede. “But what the hell does it... what?”

An icon was blinking in the lower corner of his screen, indicating an emergency call from the space station.

“I've got it too,” Phyllis said.

Touching the icon opened a smaller window on the screen, and Tom found himself staring at Ken Horton. “What's wrong?”

“Tom there's something weird going on up here.”

“Zea.”

Ken had been about to say more, but instead his mouth

hung open in silence.

Then: *“Yeah. The scientists in the Astronomy and Astrophysics Section. They keep saying 'Zea' when they try to say 'Akari'. No one else seems to be affected.—”*

Another icon was blinking on the screen. “Hold that thought, Ken,” Tom instructed and touched it. This resulted in the appearance of Sherman Ames, only recently returned to Enterprises from the Island One recovery effort.

“Tom, have you heard from the State Department just now? Or the FBI?”

Tom shook his head. “I just got up myself. What's happening?”

“My late shift just got me out of bed as well. Apparently something odd is happening. Not quite another case of chanting, but something similar. Certain people throughout the country seem to be fixed on a particular thought. Scientists... mainly involved with space research.”

“What—”

“They're somehow fixed on a single word.” Sherman raised a white piece of paper for Tom to see. On it was the single word ZEA.

Chapter Fourteen: The Far Cry

“The planet's name is Zea,” Tom declared.

And there we have it, Phyllis mused. The biggest anticlimactic statement Tom's ever made.

It was indeed obvious that, if Tom had been expecting exclamations of shock from his audience, he was going to be sorely surprised. Dr. Morrow, Senator Tobey and Deborah MacKenzie... a trio Phyllis had privately labeled the “Alien Planet Mafia”... accepted the announcement with patient stares from where they were sitting in the conference room adjacent to Tom's office.

For his part, Tom glanced back at Phyllis, his father and Bud with the look of someone who'd forgotten a line in a play.

“They've sort of figured it out,” she whispered to him.

Tom had the grace to look sheepish. “Yeah,” he said to himself. “I guess.”

“It's just nice to have it confirmed,” Tobey said to him. “I mean, I thought I was losing my mind. An occupational hazard for a Congressman—”

Phyllis wished she could live in Tobey's district long enough to vote for him.

“But I've been seeing the word scratched on bathroom walls and park benches. And, the night before last, I thought I heard my wife murmur it in her sleep.”

“We've all been encountering the word,” MacKenzie admitted. “Maybe I should be concerned, but I'm actually relieved to know it's not just me.”

Morrow had been frowning it over. “So the Haargolandians weren't just stopped by what we've been calling a 'catatonia ray'? They, like apparently everyone else, have become fixated on the actual name of the planet.” He gave his head a brief shake. “I just tried to say 'Akari', but can't.”

“It's not quite that simple,” Tom replied. “What I've been calling the 'Zea Signal' isn't reaching everyone. As near as I've been able to determine... and it's still early days yet... the signal's only being received by individuals who in some way

possess a connection to actually contacting the planet.” He nodded across the broad circular table at his guests. “You three because you’ve been my liaisons regarding all efforts involving Zea. Space scientists... astronomical engineers... people like that.”

A soft beeping came from the inlaid console next to Tom Sr.’s chair. He automatically reached for the button which was blinking.

“Wait a moment, please Dad,” Tom asked his father. “As for the Haargolandiers and the other Chanters,” he went on, “the only explanation I can come up with at the moment is that these people were in such a dramatically heightened mental state that the Zea Signal produced brief but intense episodes of what we’ve been calling catatonia.”

“And my wife?” Tobey asked. “Lucy’s brilliant, but she’s no space scientist.”

“But she is rather close to you,” Tom told him, choosing as diplomatic a reply as he could muster. “I’d bet the same would be true for those people who’ve been writing the word as graffiti, or finding it slipping into casual conversation. We’re talking, after all, about a signal being sent to us from over three hundred and forty-five million miles out in space. A transmission that powerful’s bound to have some leakage.” He nodded at his father. “Okay. I’ve asked Professor Ichikawa to join us via a videophone link,” he added to the others. “I think it’s necessary to get his thoughts on the situation.”

Everyone watched as Ichikawa’s image formed on the large screen. The old man nodded. “Tom.”

Tom returned the nod. “Ichikawa-sama.” He addressed the people in the conference room. “The Professor arrived at the same conclusion concerning Zea which I did although,” and here he glanced back at the screen, “the realization was a bit more personal.”

Ichikawa smiled ruefully. “It is always an astronomer’s dream to discover a new planet,” he said. “But I am also a father and a grandfather, and I understand when a child becomes petulant about a name.”

“You’re showing more grace than I would’ve,” Tom assured him. He indicated the three visitors at the table. “I explained to you about Dr. Morrow and the others.”

“Indeed,” Ichikawa said. “I believe I've already met Dr. Morrow.”

Morrow was trying to remember. “Was it at the Pacific Technology Conference four years ago?”

“Indeed yes.”

“Since Professor Ichikawa is in charge of the proposed Japanese expedition to Zea,” Tom explained (in a voice which, to Phyllis' ears, seemed a tone too loud and a pace too fast), “I felt his contributions to the discussion would be important.”

Morrow looked at the screen. “When are you planning to launch, Professor?”

“We are coordinating our efforts with Swift Enterprises,” Ichikawa said. “The *Chigiri* spacecraft is being prepared. We had already been modifying it for a proposed manned expedition to Ceres, so it has not taken too much additional effort to have it ready for a voyage to Zea. Our countdown is already underway and, with luck, we shall be launching in sixteen days. The *Chigiri* will then be rendezvousing with the Swift's space station.”

“We would've already launched several rockets from our base on Loonau,” Tom added, referring to the launch facility Enterprises maintained in the Pacific. “The ships will be carrying additional supplies and propellant for *Chigiri*, as well as bringing myself and the rest of the mission support staff to the station. Once *Chigiri* arrives it'll be promptly outfitted, refueled and then sent on its way to Zea.”

“How long will the trip to Zea take?” MacKenzie asked.

Ichikawa opened his mouth to answer, but Tom broke in. “*Chigiri* uses a form of electromagnetic thrust which is similar in some ways to the propulsion system I use on Challenger. We're still working the figures out, but it's estimated that *Chigiri* will reach Zea in about forty-eight days.”

Tobey was frowning. “Okay. Understand I'm no astrophysicist, but won't that be cutting it close? Zea is, after all, on a course that'll take it out of the solar system.”

“We're trying to take whatever steps possible to reach Zea as quickly as we can,” Tom said, looking not at Tobey but at Ichikawa. “In the best of all possible worlds... no pun

intended... a week's worth of exploration on Zea would be optimum. As long as *Chigiri* is able to leave Zea within a certain time there'd be no problem. At the worst I can take *Challenger* and recover the ship."

"How many people are going to Zea?"

"The final details concerning the crew are still being worked out," Ichikawa said simply. "As to our needs, we are currently estimating eight people: a mission commander, a navigator, a communications officer, an engineer, a geologist, a biologist, an anthropologist and a medical doctor." A shrug. "Of course, if we can combine several of the disciplines..."

The three members of the "Alien Planet Mafia" exchanged looks, and Tobey took the ball as spokesperson. "Given this latest development," he slowly said, "what with the Zea Signal and all, we might see mounting international pressure for moving up the launch as quickly as possible."

"Understandable," Tom said.

"I mean, what's the purpose of the signal? Certainly not to clarify the planet's name?"

Tom shrugged. "If I had an answer I'd sell it to you."

"In the past," Ichikawa offered, "we have beamed signals out into space in an attempt to contact other civilizations. We sent progressions of prime numbers as well as modulated radio waves depicting images. This signal from Zea may be a similar effort being employed by a race whose technology includes the ability to contact minds directly. The fact that the signal is being consciously aimed at the scientific community makes this theory potentially attractive."

Tobey nodded. "Yeah, well a lot more people are going to wonder about aliens that can target specific minds from space. And yes, Tom, that was a deliberate use of the word 'target'. As the truth about the Zea Signal spreads... and it'll spread... it's going to generate a lot more fear and concern than it is interest in an alien race."

Tom had stood up and was looking down towards the floor. "I know," he said softly.

"I might be telling tales out of school," Morrow spoke up, "but I've heard some talk from the National Security Council

concerning possibly modifying ICBMs to carry nuclear warheads to Zea.”

Tom's face came up, his eyes stormy.

“If necessary,” Morrow hastily added.

“Let's see how that idea goes over in, say, France,” Tom declared. “There's still something of a smoking crater where Paris used to be... and *that* was the result of people thinking about weapons first, and common sense much later.”

“Tom...” his father began.

“If you run into any of your colleagues from the Council,” Tom went on, “you might remind them that we're dealing with a race, or races, which are already familiar with telepathy, teleportation, matter conversion, interstellar travel... the list goes on. Any weapon which is thrown at Zea would be less than a pinprick compared to what Zea could possibly throw back at us.”

Morrow was trying to defuse the situation. “I'm not advocating—”

“If anything,” Tom said, “your Security Council friends might work towards employing an idea Sandy brought back from the Sun. A concentrated mental effort by a collection of people directed at Zea.”

Tom Sr. now stood up. His voice was weighted with emphasis. “I *think* we're all in danger of overreacting here.” His eyes were on his son.

“I'm... sorry,” Tom muttered, looking away slightly. Touching a hand to his forehead he actually produced something of a smile. “It's funny, though. Back when the planet was still known as Akari my head kept getting more and more tangled up. Now all I have to do is think of the name Zea and everything straightens out.”

“Me too,” MacKenzie said. “It's been calming me down.”

“Perhaps that was the intention of the beings who've been sending the signal,” Ichikawa remarked.

A few moments while everyone was looking at everyone else. “Okay, so I guess that's it for the time being,” Tom said. He looked at Tobey. “If any committees want my Dad and I to testify concerning the situation then we'll be available.”

“They may want to do just that,” Tobey admitted. “I don't

want this to be taken the wrong way, but you're something of a delicate subject around Washington these days.”

“I don't try to be,” Tom replied. “Point of fact I'm working to be as accommodating as possible. Speaking of committees, would you still like to go to the observatory to see the latest images of Zea?”

“I can take them over,” Tom Sr. said.

Tom nodded. “And I'll be following over a bit later.” He delivered a small bow to the screen. “*Ki o tsukete, Ichikawa-sama.*”

The man smiled back. “Until later, Tom.”

His image vanished from the screen and everyone began filing out of the conference room. The exception was Phyllis, who kept her seat and was gazing at nothing in particular.

“Bud.”

At the doorway Bud paused. “Yeah?”

Phyllis slowly turned towards him, making certain it was just the two of them. “What's Tom up to?”

“Up to?”

A sigh. “Bud—”

“Phyl, I honestly don't know.” His face settled into determined lines as he looked in the direction Tom had gone. “But I intend to find out.”

* * * * *

Tom had gone to his office to upload some documents into his Tiny Idiot before going to join his father and the others at the observatory. But he glanced up as Bud entered. “Yeah, I know. I lost my top back there. Again.”

“Tom.”

“Ummmm?”

Bud crossed his arms before his chest. “Since when did the *Chigiri* spacecraft acquire an electromagnetic thrust system?”

Tom slowed in his efforts.

“The last time I looked, *Chigiri* employed a nuclear plasma drive similar, if maybe even better, to what we use on our Titans. It also had a generation-III 'Taka' chemical thruster system.”

Tom turned to face him, his expression neutral.

Bud's expression didn't change. "Maybe your Dad knows, I'm not sure. But Phyllis suspects something. And Morrow will probably figure it out before too long because I'm betting he'll be researching *Chigiri* when he returns to Washington. Whatever you've got in mind is gonna come out pretty soon and so, if there's something you want to share with me, now might be a good time to do so."

Tom silently stared at his best friend for several moments.

Then: "Close the door."

Chapter Fifteen: To Loonau and Beyond

The next two weeks were among the busiest Tom could recall ever having experienced. Up until then he had always felt that nothing could be more personally time consuming than preparing for one of his own space missions. But getting *Chigiri* ready for launch, along with the constant liaising between Enterprises and JAXA (with frequent kibitzing courtesy of both the State Department and the Japanese Ministry of Foreign Relations) was turning into an Olympic-level act of juggling.

Of course he privately reflected that *Chigiri's* mission wasn't entirely in the hands of the Japanese. But he felt there was little incentive to go spreading that tidbit of knowledge around. Not immediately anyways. The fewer people who knew of what in his mind he called THE PLAN (capital letters included) the better.

The only real problem with such a course of action (or at least the only problem to Tom's way of thinking) was in running the risk of alienating Phyllis. Outwardly she was still attentive and affectionate, but Tom began noticing something of a sharpened edge in her personality ever since the conference where the "Zea Signal" had been discussed. Tom initially put it all down to the extra work Phyllis had taken on helping to promote the mission to Zea, but he now wondered if Phyllis knew more than she was letting on.

"You're still coming up to the space station with us?" Tom asked her at one point.

To which she turned her sweet brown eyes on him and replied, "Why of course, darling. I wouldn't miss it for the world." All very nice and warm and honey-laden, but Tom was left with the feeling that someone's fur had been rubbed the wrong way. He suspected that a lot of mystery could be swept aside if he simply opened himself up to Phyllis the way he had with his father and Bud. Phyllis wasn't stupid, and past experience had taught Tom that she could handle quite a bit of items thrown on her plate. Tom was actually surprised to find himself beginning to feel guilty about keeping Phyllis out of the very exclusive loop he had built around the Zea mission.. He trusted Phyllis. Respected her. He...

And Tom wearily admitted to himself that there was also the old adage about sleeping dogs.

One dog which wouldn't lie still was the world at large as news of the Zea Signal gradually leaked out. As expected there was a measurable amount of panic and anger, with numerous groups clamoring that some sort of action be taken. Tom was privately and perversely amused to find that some of the loudest protests came from various heads of state (whom, he suspected, were uncomfortable with the notion of their positions, not to mention their minds, possibly being affected by signals beamed from space).

Unlike last time, however, when the Space Friends had directly threatened Earth, some pockets of sustainable calm managed to appear. Tom even found himself blessed with an unexpected ally in the global psychotherapeutic community. Many of its members were attributing the Zea Signal to an overall reduction in manic depression cases, as well as a significant drop in both attention deficit hyperactivity disorders, Tourette's syndrome and reports of chronic migraines.

One noted therapist even went so far as to go on record stating: "If this is an alien invasion, then I say bring it on."

Tom and his father found themselves making three trips to Washington where it was privately discussed that, all outspoken suspicions against the Swifts aside, it was felt that Tom should perhaps consider a more "outgoing" profile in regards to the mission to Zea. In all instances Tom's reply was a placid variation on "I'll consider it."

The two weeks finally passed, and then a Pigeon Special "Icarus" long range jet left the Enterprises airfield to begin its six hour flight to the other side of the world. Tom Sr. and Bud were at the controls while Tom was in the rear compartment of the plane, busy with a video press conference. Between them were the rest of the Swift "Zea Expedition" contingent: Phyllis, Sandy, Mary, Sestina and Phyllis' parents. Ned Newton was not only Tom Sr.'s close friend, but the CEO of the Swift Construction Company which was responsible for turning many of the ideas coming out of Enterprises into reality. A solid six-footer he was now smiling broadly at his fellow passengers. "Haven't had a crowd like this since we took the House on Wheels II to Chesterport."

“Hopefully the results won't be as dramatic,” Helen Newton replied, pensively gazing out of her window. With the lithe build of a dancer it was easy to see where the majority of Phyllis' looks had come from.

Ned gave her knee a pat. “Nervous about the trip into space?” he asked.

“Not so much nervous as I am annoyed over how calm Mary is about this whole thing,” Helen replied, turning an indignant look to her old school chum.

Mary had been peacefully reading a book on a Tiny Idiot, but she smiled at Helen's remark. “Oh I'm boiling over,” she admitted, her eyes still on the screen. “I'll probably be a gibbering wreck by the time we blast off. But if the kids and Sestina can be so blasé about it then I see no reason why I should be screaming my head off.”

“Yeah, well, you can help push me into the rocket when the time comes. Personally I think Sandy's got the right idea, riding into space inside a liquid filled balloon.”

“M'glad you think so,” Sandy replied, accepting a drink from Phyllis. “If I had my druthers I'd rather be at the controls with Bud—”

Mary produced a rather noticeable cough.

“—but I'm bowing to popular opinion and will go into space like a good little canned sardine.”

Tom came forward, taking a seat next to Phyllis. “There's already a considerable press presence on Loonau,” he explained to her in particular and the others in general. “And a lot of national news services are playing up how *Chigiri's* mission represents Mankind's greatest hope.”

“Gee,” Sandy said. “That used to be your job.”

“This is another reason I'm glad we're handling Mission Control from the space station,” Tom told Phyllis. “Less of a crowd getting underfoot, and you're in total control of the news flow.”

Phyllis smiled. “Making you Mankind's greatest hope?”

“Wouldn't hurt,” Tom said half to himself.

Phyllis' expression became serious. “You know, though, you haven't been raked over the coals as much as you think you have.”

Tom looked away slightly.

“People are upset about Zea, yes.” Phyllis leaned a bit closer. “And it's true there are some... unpleasant people... who're wanting to tie you to a stake. But even your most strident opponents recognize you as the leading authority on the aliens out there.”

“Maybe with some competition,” Tom replied, giving his sister a small smile.

“Granted,” Phyllis agreed. “But I was peeking at the conference you just finished. To me the prevailing mood seems to be a desire to find all the answers regarding Zea. And you're the best candidate for doing so.”

“Hear hear,” chimed Mary.

“Keep in mind,” Tom said, “that a lot of the positive feeling could be due to the transmissions from Zea.”

Phyllis sighed. “Gift horses.”

“Yes, well, as Mom and Sandy have said, a horse is better when the rider is firmly in control.”

Mary gave her daughter a quizzical look. “I never said anything like that.”

“Neither have I,” added Sandy.

“And you said that you were absolutely not flying *Chigiri* to Zea,” Phyllis continued to Tom, her eyes narrowing, her voice almost accusing.

“Absolutely correct,” Tom told her. “And I intend to stand by my word.”

Phyllis stared at him for a few moments, then shook her head before turning to gaze out the window. On the other side of the compartment the Newtons and Mary exchanged unreadable looks... or at least looks which could only be read by the parents of two young people trying to make a relationship work.

* * * * *

“Loonau,” Bud announced hours later.

Everyone crowded to the windows to look out. With the exception of Sestina the remote Pacific island was a familiar sight to the people in the plane (even Mary had witnessed several launches from the spaceport), but this time it seemed

different. Everyone knew that they'd be leaving the island in a manner different from their arrival.

The spaceport itself occupied the eastern half of the island, and a great deal of activity seemed to be centered around a huge rocket which was currently resting in one of the launching pits.

Sandy pointed it out to Sestina. "See, sweetie? That's the *Mnemosyne*. We're gonna fly into space inside that."

To Tom's eyes Sestina seemed to lose some of her enthusiasm.

The giant's mood was slightly contagious. "That's one of your 'Titans' isn't it, Tom?" Mary asked.

"Sure is, Mom."

"The reason I asked is because it seems a little... small."

Tom laughed. "Wait until we've landed and are a bit closer."

"Big rockets blow up just as much as small ones," Tom Sr. assured his wife from the flight deck.

"Well just thank *you* all to heck and back, Pollyanna," Mary muttered.

The concerns of Mary and Sestina were indeed abated (or at least Mary's were) when the plane landed close enough to the launching pit for its passengers to fully appreciate the actual dimensions of *Mnemosyne*. One of Tom's heavy-lift "Titans", the rocket stood six hundred feet high, with a diameter of ninety feet. Its bulk was made even more apparent by the sight of the launch crew busy at work: the figures appearing the size of insects as they put the spaceship through its final preparations.

Tom Sr. and Bud maneuvered the plane against a terminal accessway, whereupon it was the center of attention for a crowd of SwiftSpace employees who proceeded to unload the luggage and assist the passengers out.

Spotting one of the senior Operations people, Tom went to him. "Niles?"

"We're in constant touch with Tanegashima," Niles Blessingame quietly told him. "Both Director Kobata and Professor Ichikawa report that their countdown is still going

well, and they estimate *Chigiri* will arrive at the space station thirty-six hours after you do.”

Tom nodded, taking it in.

“Commander Horton reports that all preparations are ready on the space station. *Theia* arrived three hours ago with its shipment of support gear. We've completed loading the last few items onto *Mnemosyne* and all that remains,” here Blessingame smiled, “are the passengers.”

Tom nodded again. “Good... good... ah!”

The last was directed at someone who was strolling across the terminal towards them, wearing the pearl-gray jumpsuit of a SwiftSpace employee, and an overnight bag slung over one shoulder.

“All ready?” Tom asked the new arrival.

Dr. Susan Flonate nodded, buttery-blond ringlets of hair bouncing upon her head. “I've been going over some final details with the programmers at Tanegashima and am ready to go.”

“Great.” Tom rubbed his hands together, staring around. “Ah-hhhh...”

“A final pre-flight physical,” Blessingame said with a glance at Sestina's solid bulk. “Nothing extensive. Then we can begin boarding. Commander Barclay? Mr. Swift? Did either of you want to stop off at Mission Control?”

Bud shook his head. “Your people don't need us pestering them.”

“Fine. In that case I'll let all of you go on to Medical. We'll be loading your luggage in the meantime.”

Tom and Bud began herding the Swift party into line following the pair of white-suited SwiftSpace medical personnel who started the walk towards the pre-flight infirmary.

Phyllis fell into step alongside Tom. “Why is Susan Flonate here?”

“We've decided to add an astrophysicist to *Chigiri's* crew, and Sue was the logical choice.”

“Oh.” A pause. “So she'll be flying off into space? Going to Zea?”

“Mmmhmm.”

Phyllis seemed cheered by the information.

* * * * *

No one anticipated any trouble with the pre-flight examinations. But there was a large detail which needed to be taken care of.

Tom ended up helplessly turning to his sister. “Sandy?”

Sandy went over to where Sestina had backed herself against a wall of the infirmary, looking as if she was planning to become a permanent fixture.

Reaching out, Sandy took one of the giant's hands. “It's okay, pudding,” she said calmly. “You know that you and I will have to go into space inside a special cocoon. We're going to get into them and be taken out to the spaceship.”

Sestina produced a small whine.

“This way we'll be comfortable,” Sandy assured her. “I'll be in my cocoon right next to you and, when we get out, we'll be up on the space station safe and sound. You can then look out a window and see the Earth far below and try to find home.”

Sestina looked doubtful.

One of the medical technicians moved closer. “I can dose her—”

Sandy sharply waved him off. “No! Sestina's a big girl—”

Tom kept his mouth shut.

“—and she can do this. Isn't that right, sweetie?”

Sestina looked back and forth from Sandy over to where the jumbo-sized AstroDynamics “crisis cocoon” waited. As everyone else watched she finally pushed out her lower lip and began taking steps towards the object.

“That's it,” Sandy said, trying not to shriek as Sestina's grip threatened to break her hand. She nodded at a technician who approached. “Now you just put this breathing helmet on and then we can get in. You'll like it. It'll feel like swimming in Jell-O.”

Sestina kept her eyes on Sandy, looking all of three years old as the technician carefully fitted a helmet snugly over the giant's head. Along with sound-activated communication

gear the helmet was also attached to a combination air supply/recycler.

“There we are,” Sandy said. “Feeling okay?”

Sestina shook her head, but reached out to gently touch a hand to Sandy's forehead: the signal that the giant was accepting the situation.

“Making a final adjustment here,” a technician said, turning a small knob on the helmet.

“All of this might be making you feel a little sleepy,” Sandy told Sestina, not wanting to go into details about the electronarcotic current which the contacts in the helmet were now sending into the giant's brain. “Although,” Sandy added to the technician, “we might want to get her into the cocoon now. Unless you want to bring in a forklift.”

The technician agreed and, with help from a few others, guided an increasingly drowsy Sestina into the cocoon, gently pressing her into the nanocellulose gel which filled the flexible container. The gel would work to absorb the shock of launch, as well as the acceleration which Mnemosyne would produce as it flew into orbit. Watching the technicians, Tom knew the cocoon performed much of the same functions as his anti-G neutralator. But the cocoon was better for transporting medical patients between Earth and space.

Patients and the occasional giant.

The cocoon was sealed and one of the technicians studied a Tiny Idiot. “Getting good telemetry on the vitals,” he announced. “She's asleep.”

Sandy sighed in relief. And then she noticed how some technicians were standing alongside a regular-sized cocoon, one end open and waiting.

“Oh, come *on*—”

“You told Sestina you'd also be getting into your cocoon,” Tom pointed out.

“Yeah, but—”

Mary stood nearby, her hands on her hips and one foot tapping the floor.

“Mom!”

Bud came over and embraced Sandy. “Tom and I gotta go

to the ship,” he murmured to her. “Be a good girl and I’ll see you on the station.”

“But—”

“Sandra.”

For a moment it looked as if a storm was about to break loose from Sandy. But then she sighed irritably and reached out to take the helmet from a technician. “I’m *not* using the sleep circuit,” she declared. “And I want a Tiny Idiot.”

“Wait,” Bud said, moving into a rather close kiss with his wife. “That should be better than the sleep circuit,” he said when the kiss ended.

Sandy’s eyes fluttered dreamily. “Well... yes.”

Phyllis sidled up to Tom. “What about me?”

“But you’re not traveling in a cocoon,” Tom pointed out, his arms moving around Phyllis’ waist.

“Humor me,” Phyllis replied, her lips parting.

* * * * *

It was a hallmark of SwiftSpace flights that most passengers were boarded as close as possible to the actual time of liftoff. The reasoning was that passengers didn’t become either fidgety or tense from being cooped up in a spaceship for hours.

The practice was, however, not one hundred per-cent effective.

“Oh that’s a big spaceship,” Mary said as she and the others left the transport car and stepped out onto the accessway to *Mnemosyne*. Her eyes moved up, taking in the enormity of the vehicle.

“Isn’t that what you wanted?” Tom Sr. asked.

“Just... hold my hand. Please.”

Her husband was happy to do so, patiently escorting her towards the hatch leading to the passenger compartment. Behind her, Helen Newton was quietly working her way through a rosary as she kept close to Ned.

In front of them Tom and Bud suddenly paused at a side door. “Bud and I gotta go up to the control room so we can fly the ship,” he explained to his mother. “It’ll be all right.”

Mary did her best to look comfortable and brave. “Just remember that everyone you love is riding on this thing.”

“That’s why we made sure all the holes were patched.”

“Tom!”

Chuckling, Tom went to deliver a hug to his mother and a final kiss to Phyllis before stepping through the door and entering the lift. Bud followed after delivering a final reassuring pat to the smaller of the two cocoons which were being transported by electric cart.

“This stinks,” Sandy’s voice declared from Bud’s Tiny Idiot as he and Tom rode the lift up to the flight deck. *“At least you guys could’ve taken me with you. Tuck me away in a corner or something.”*

“Yes,” Bud replied, “and then I would’ve been distracted between helping Tom fly the ship and watching your cocoon float about.”

Sandy answered with a low growl and Bud smiled.

Reaching the top of the gantry, Tom and Bud stepped across the narrow connecting passage and slid into the side-by-side seats in the pilot’s compartment.

Tom paused for a bit. “Oh yeah,” he breathed. “Here we go.”

Bud smiled over at him. “Back in the saddle again.”

“This is definitely what I’ve been missing,” Tom said, locking his helmet into place and beginning to secure himself within the straps of his seat. “No matter what happens, this is what I’ve been needing to do.”

“You’re definitely sounding more like your old self.”

“Feeling more like it.” Reaching to the control console, Tom pressed a switch which caused the main hatch to close, sealing both him and Bud within the flight deck.

He then touched another switch. *“Mnemosyne to Mission Control. Pilot and Co-Pilot in position.”*

“Roger Mnemosyne,” a voice from a speaker replied. *“Terminal control passed over to you. T minus twelve minutes, thirty seconds.”*

With practiced ease, both Tom and Bud began working through the remaining items on the checklist, carefully

making certain that Mission Control had taken care of matters prior to their arrival. Both men had complete faith in the professionalism of SwiftSpace's Mission Control, but space forgave little in the way of error.

At T minus three minutes a blue glow could be seen outside the viewport. This was the repelatron launch system preparing to hurl *Mnemosyne* along an energy corridor, allowing it to reach a safe altitude for the nuclear drive to be engaged.

Tom opened an intercom channel to the passenger compartment. "Three minutes until launch. Everything peaceful back there?"

"Your mother and your Aunt Helen are complaining that there are no windows," Tom Sr. reported. *"Sandy and I have tried to explain—"*

"There wouldn't be much to see until final stage separation," Tom said. "That's when the viewports in your section will be uncovered."

"We've got the external camera view on the monitors. That'll do."

"Everything else okay?"

"Sestina's snoozing away. Your Aunt Helen's clinging so close to Ned that it's a good thing they're married. Take care of business, son."

"Will do." Tom switched off the intercom.

"I thought Miz Newton was made of sterner stuff," Bud remarked.

"Don't let her fool you," Tom said. "She never passes up a chance to manhandle Uncle Ned." Tom's voice changed tone. "Co-pilot..."

"Got it," Bud replied. "Repelatron launch corridor is go. Escape systems armed."

"I copy. Flight reactor on standby. Post repelatron boost course laid in."

Mnemosyne was now floating at the bottom of a corridor of blue light while, beneath it in the launch pit, enormous force engines steadily whined louder as they prepared to react against the metallic aft end of the spaceship.

"Anti-g neutralators on," Tom announced. "Fifteen

seconds left.”

“Mission Control to Mnemosyne. Have a pleasant flight.”

“Yeah.” Reaching out, Tom rested his hands on the main control grips. He could feel his heart racing, the blood roaring in his ears. All the little demons inside him were running away. The large demons were remaining behind, but Tom privately felt the odds were improving in his favor. “Let's do this, Co-pilot.”

“All the way,” Bud agreed.

Far beneath them a starburst of raw blue power burst into life at the bottom of the launch pit... and *Mnemosyne* found itself hurled far into the sky.

Chapter Sixteen: The Not-So-Lone Stars

Even without the intercom, Tom and Bud swore they could hear the “Oooooos” from Mary and Helen and Susan Flonate as *Mnemosyne* made its approach to the space station. Bud privately thought he heard a faintly similar sound from Tom, and he gently smiled.

In Tom's case the sentiment was wholly excusable. The Swift space station had always been a source of personal pride, and especially more than ever. An outer ring, five hundred and ninety feet in diameter, linking twelve spokes which were, in turn, connected to a spherical hub. The spokes held docking facilities, laboratories, workshops and orbital offices for the various companies which were doing business in Earth's orbit and beyond.

That had been the original station. Some years back had seen the Phase Two expansion: a similar construction connected to the original structure by a central tube. Even with orbital satellites taking up a great deal of the workload in space, the gradually growing space-based industrial infrastructure had necessitated the need for the new addition.

But it hadn't ended there. Sandwiched between the original and Phase Two sections of the station was the Phase Three expansion: a circular disk five hundred and seventy-five feet in diameter. Unlike the older sections, the Phase Three unit slowly rotated around the central hub. This was necessary for providing artificial gravity to benefit the unit's main function: providing long-term living quarters for families who not only chose to work in space, but also attempt to make it their home. Along with living quarters, the section held extensive hydroponic garden facilities which augmented not only the station's supply of air, but provided an additional source of food.

Bud found he was also staring at the station, and he couldn't keep an admiring tone out of his voice. “You cast a long shadow, my friend,” he said to Tom.

Tom nodded. “Things like this make getting out of bed worthwhile.”

“*I show that we're about to dock,*” Sandy's voice remarked from the Tiny Idiot at Bud's waist.

“Yeah,” Tom said.

“Then I want out of this cocoon, and I want out now!”

“We're almost there,” Bud assured his wife.

“I'm safely in weightless space and I want to be taken out of the cocoon,” Sandy insisted. A pause, and then: *“Or would either of you like for me to comment to the others in a Very Loud Voice on why Challenger is currently parked so close to the station?”*

Tom winced.

So did Bud. “This is what I get for marrying a Swift.”

“I heard that, Barclay.”

With a sigh, Tom reached out and touched the intercom. “Okay, back there,” he said. “You can start letting Sandy out of the cocoon now.”

“Are you sure it's safe?” Mary asked.

“Mom, believe me. Right now it's the safest thing in the world.”

“All right. Oh, and Tom?”

“Yeah, Mom?”

“Forgive my prying, but don't you usually park Challenger further away in orbit?”

“Ah-hhhh... 'scuse me, Mom, but my hands are full right now with docking.” Switching off the intercom he sat back in his seat, exhaling noisily. “Even Mom is on to me.”

Bud's eyes were on the instruments. “Yeah, well, keep in mind she's had years of experience from being married to your Dad.”

Nodding, Tom reached for the controls as he and Bud concentrated on bringing *Mnemosyne* into safe contact with one of the docking ports.

“*Mnemosyne this is Space Station Traffic Control,*” a voice said from the speaker. *“We show you as cleared for Spoke Eight.”*

“Thank you, Traffic Control,” Tom remarked, his eyes fixed to the indicators.

Bud touched a switch. “Docking collar extended.”

Tom gave a mild nod. “Showing guidance repelatron

capture.”

Ahead of them the open docking port slowly grew larger as the distance closed. Watching it, Tom gave the maneuvering thruster control a slight tap. The outer edge of the docking port came closer, blocking the view from the flight deck. There was a briefest hint of a scraping sensation, and then the central display on the flight deck announced DOCKING SYSTEM ENGAGED. SECURE DOCKING IN T MINUS NINETY SECONDS.

“The winnah and still champeen,” Tom declared.

“Locking down the controls,” Bud said. “Shutting down the main engine.”

Tom touched the intercom. “Okay, people, we're here. The docking tunnel will connect shortly so you can all start unbuckling. I take it my darling and oh-so-cooperative sister is free of her gelatinous restraint.”

“*Why of course, Tom,*” Sandy's voice cooed. “*I'm the very soul of cooperation.*”

“She was like this when we were younger,” Tom explained to Bud as he began unbuckling himself.

“What makes you think she outgrew it?” Bud replied.

“Ummm... touché.”

Finally opening the hatch, Tom and Bud were able to drift out of *Mnemosyne* and join the others as they moved themselves along the docking tunnel and into the station proper. Per safety regulations everyone was in spacesuits, with a station technician carefully guiding Sestina's cocoon.

“Oh this is fun,” Helen remarked.

“Wait until you try the float bubble,” Ned replied.

“Doing okay, Mom?” Tom asked.

Mary was guiding herself along the handholds, but Tom could make out a smile inside her helmet. “This is working out,” she said. “I feel rather nymphlike.”

Tom Sr., following directly behind Mary, found his attention fixed on the way his wife's bottom lightly drifted about in zero-gravity and diplomatically kept all remarks to himself.

Ahead of them the docking tunnel entrance to Spoke Eight slid open. This was followed by a loud

“EEEEEEEEEEEE” and a small spacesuited figure launched itself at the group. The figure's aim was letter perfect, and both Sandy and Phyllis found themselves in the tight embrace of Belinda-Glory “Bingo” Winkler-Horton.

“Oof,” Sandy remarked. “We're glad to see you too.”

“Miz Swift, Mr. Swift, Miz Newton, Mr. Newton, Bud, Tom, ah-hhhh... whoever the blonde in the spacesuit is. Welcome, welcome, welcome!” Bingo enthusiastically spun both Sandy and Phyllis about in a private orbit. “So great to see you guys.”

“You'd think she never got company,” another voice remarked. This was from the dark haired man who was smiling at the others from the doorway. He was Ken Horton: commander of the space station and Bingo's husband. Both of them from Texas, and the first among the families living on the station, they were unofficially referred to as the “Not-So-Lone Stars”.

“Let's get y'all in so we can get shuck of these suits,” Bingo declared, her arms still locked around Sandy and Phyllis.

“Yeah,” Phyllis said. “We can get strangled a lot easier that way.”

Drifting closer, Tom shook hands with Ken. “Everything's still on schedule, Skipper,” Ken told him.

“Good. We'll talk more later. Right now, though,” Tom glanced around, “I think celebration is the order of the moment.”

Ken nodded, his eyes flicking over Tom's shoulder at Sestina's cocoon. “Do we need to get the big girl up to Medical?”

“I'd... rather revive her in one of the gravity sections,” Tom said. “Less of a trauma that way.”

“Good idea. We'll get the housing details worked out shortly. In the meantime... Miz Swift? Miz Newton?”

Mary and Helen had been in the process of removing their spacesuits and they paused.

“In honor of the space station being visited by the two fairest flowers on Earth...” Ken beckoned to a technician who now drifted closer. The technician was holding two bouquets of roses which were dutifully passed to the two

women. “A special hybrid, courtesy of the Hydroponics Section,” Ken explained. “The species is named *Rosa maryhelen*.”

“Ohhhh,” Mary said, gathering the bouquet to her. “Thank you, Ken dear.”

“Texas men,” remarked Helen.

“Tell me about it,” Bingo replied with a grin.

At that moment a diminutive object shot through the air. Reaching out with a hand, Sandy snagged the newcomer by a heel. “Got me a scooter-poo,” she declared, hugging her catch closely. The bundle... twenty month old Charles Kenneth Horton... responded by giggling and squirming about.

“No I'm *not* letting you go,” Sandy said to her godson. “Came all the way up here to see you, you brown-eyed handsome man.”

“We don't often let him this far into the docking area,” Ken said. “But he's been excited over you guys coming up and he's been behavin' himself—”

“Amazingly enough,” Bingo added.

“And besides,” Ken went on, “Chuckles likes to travel in the weightless sections.”

“Flying rather than walking,” Tom said with a smile. “Sounds like a typical Horton to me.”

“I know numbers,” the child was telling Sandy, all seriousness now. “N I know letters—”

“Definitely command material,” Bud observed.

Young Master Horton found himself rapidly becoming the center of attention among the females in the group.

Mary was especially studying the child with a critical eye. “He looks good, Bingo.”

“Overall mass and bone development well within normal ranges,” Bingo replied, her usual Texas accent fading and a clear glint of pride in her eyes. “Along with red blood cell production and muscle tone. Several pediatricians, as well as astromedical scientists from Teague, have been monitoring his progress. A lot of the other marrieds on the station have also been interested, for obvious reasons. He's been the best possible advertisement for the gravity section.”

“Definitely one of your better ideas, Tom,” Ken said, one

arm slipping around his wife's waist.

"Glad it's working out," Tom said. Looking around he rubbed his hands together. "Okay. Now. Ah-hhh... housing?"

"Right," Ken replied, consulting a Tiny Idiot. "Bud and Sandy, Mr. and Miz Swift, Mr. and Miz Horton... we've got all of you assigned to suites in the zero-g section."

"Oh," said Mary.

"Oh," said Helen.

"For some reason it seems to be a preference for married couples on their first visit to the station," Ken said, his face a study in innocence. "Tom, Phyllis and Dr. Flonate? All of you have BOQ rooms in the gravity section. We can find out what Sestina wants when she awakens?"

Phyllis' jaw dropped open. "Hold it."

Everyone looked at her.

"Everyone else in this safari gets to float around in zero-g," Phyllis said, "and Tom and I—"

"And Sue Flonate," Tom added.

"—have to make do in the gravity section?"

"In separate rooms," her father pointed out.

"Is there a problem?" her mother added.

Phyllis' mouth closed, then opened, then closed again... and then she looked away, muttering under her breath.

"It'll be okay," Ken said. "We can shuffle things about later on."

Ned and Helen stared at him.

"Or not," Ken murmured. Then, in a louder voice: "Why don't we all get situated and unpacked and then we can have a big get-together? Before I dig myself into a deeper hole, which would be a neat trick out in space?" Turning he began leading the way deeper into the station.

Bingo drifted close alongside Phyllis. "Spoke Fifteen," she murmured. "Section 15G."

Phyllis blinked. "Huh?"

"It's a zero-g area," Bingo quietly explained. "Communications hub, mostly unoccupied, and has a hatch which can be locked from inside."

"God, Bingo, it's good being with you again."

Chapter Seventeen: Tom Introduces Himself

In spite of all the work which needed to be done, the next few days were rather pleasant for the arrivals from Earth. There was hardly a section on the space station where Mary and Helen weren't greeted with special banners and such.

"Bingo's sort of been talking you guys up," Ken explained.

A fully organized official get-together of all parties involved didn't take place until two days after *Mnemosyne* had arrived at the station. The delay was dictated by a few reasons, with the first being the whirlwind surrounding the final preparations for the mission to Zea.

The other reason was in waiting for the rest of the expedition to arrive.

But everyone was now gathered in one of the zero-g lounges on board the station, working to master the ins and outs of weightless partying. The only hold-out was Sestina.

"We may have to use a lasso to get her out of the float bubble," Phyllis remarked. "I've never seen her have so much fun before."

"If she's gonna be up here for the duration of the mission," Ken pointed out, "then we've got to make sure she spends considerable time in the gravity section, or there's gonna be..." he noticed Mary out of the corner of one eye, "... heck to pay when she gets back to Earth."

Tom was also in the lounge, but it could be argued that he was currently as distant as Sestina. He was drifting before the wide viewport (another of the reasons for choosing that particular lounge for the party), his hands clasped behind his back as he gazed outwards.

Surveying my empire, he thought, then pushed the notion aside. But he found himself going back to it, wondering if the idea was all that vainglorious. Space, after all, wasn't a stroll around a mill pond. Meeting it required large ideas.

Imperial attitudes.

From his vantage point Tom could see one of the four solar battery "farms" which floated in orbit near the space station, and which were one of the original reasons for the

station's existence. Carefully expanded over the years, each farm now measured six miles long by three point two three miles wide, making the entire facility capable of meeting the steadily growing demand for Swift solar batteries.

Much nearer to the station was something of more immediate importance to Tom. It was *Challenger* II: his fastest and most advanced spacecraft. A gleaming white sphere eighty-five feet in diameter, surrounded by three metal bands; each band in a different axis and capable of being repositioned by means of a system of universal joints. The bands helped in producing and focusing the intense magnetic fields which provided thrust for the ship.

Usually "parked" in an orbital position removed from that of the station, *Challenger* had been moved closer so as to partake in a dance which was currently taking place. As Tom watched he could see astronauts in one-man EVA pods at work carefully maneuvering an object into position within *Challenger's* ventral docking port. It was *Chigiri*: recently arrived from the Tanegashima spaceport in Japan. A blunt cone sixty feet long, it was the pride of the Japanese space program.

Only a third of *Chigiri* would easily fit into the docking bay, and Tom unhooked his Tiny Idiot from his belt, keying in the channel which would connect him to the crew already on board *Challenger*. "Double check and make certain the C-ring can be expanded to accommodate *Chigiri's* presence," he said. "And I want to see the results of the revised magnetic field geometry simulations as soon as possible."

Behind him he heard his father's voice. "Ken, if you and Bingo want to bring your folks up to the station for a visit, I'm certain we can spot them passage to Loonau and berths on one of the scheduled flights."

"That'd be a help, sir. Thanks."

Bud now drifted alongside Tom. His eyes were also on the gradually connecting spaceships.

"I think even the densest among us have a pretty good idea as to what's going on," he murmured to Tom.

Tom sighed. "Yeah. I guess there's no sense putting it off any longer." He keyed another channel on his Tiny Idiot. "Russell?"

“Everything's ready here, Tom.”

“Great.”

Putting what he hoped was a fully confident look on his face he drifted around to smile at the assembled group. “Well—”

“Tom,” Phyllis warned, “*please* don't say 'I suppose you're wondering why I called all of you here'.”

“I wasn't,” Tom insisted, smiling at the laugh which Phyllis' remarked caused to spread around the room. “Everyone comfortable? Everyone getting enough to eat and drink?”

A murmured current of assent answered the question.

Mindful of the weightless condition, Tom bent at the waist in lieu of a formal bow. “I would especially like to extend the warmest possible greeting to Professor Hideko Ichikawa and his companions from both JAXA and the Japanese scientific community. They will be a major element in the upcoming exploration of Zea, which is only proper as it was Ichikawa-*sama* who first discovered the planet when it entered our solar system.”

Ichikawa returned Tom's bow. “We are, of course, honored to be here and are privileged by the assistance Swift Enterprises is providing.”

“Which,” Tom said, “is as good an opening as any to explain just what the heck is going on. As you can all see,” and here he glanced back over his shoulder at the scene taking place beyond the viewport, “*Chigiri*, the Japanese spaceship, is being mated to *Challenger*. Obviously,” he went on emphatically, “something other than what has formally been announced is in the works.”

He briefly met Phyllis' eyes, then went on. “I have been reluctant to become directly involved in the exploration of Zea due to what I felt was widespread global sentiment surrounding my involvement with aliens.”

“Tom—” Tom Sr. began.

“Please, Dad.” Tom raised a hand. “Let me move through this. Whether or not I've been right or wrong, this is the way I felt. My family, and others that I love, were put through a great deal of grief because of what the Space Friends did a few years ago. As such I felt justified in holding myself back.

“Three things, however, have worked to change the situation. First: in spite of the very real opposition to my involvement, there has been a steadily growing pressure from various official circles to bring me more into the situation concerning Zea.

“Second: the recent discovery that Zea is capable of affecting human minds. This has been considered to be of sufficient critical importance for many world leaders to at least quietly suggest that the finest scientific minds on Earth make a direct effort to study Zea. Not that I'm fishing for compliments, but my name was the one most mentioned.

“*Third...* and this involves a factor which cannot be ignored or avoided. Zea is rapidly moving through the solar system. Soon it will be too far for any Earth ship to reach within a reasonable amount of time.”

Tom turned towards the Japanese contingent. “The spaceship *Chigiri* is an excellent vehicle,” he said. “I'd be proud to be able to claim I designed it. But, as sophisticated and as advanced as it is, it will not be able to reach Zea in time.

“On the other hand, however, *Challenger* is eminently capable. As such, both JAXA and Enterprises have come up with the following plan.”

Turning slightly, Tom pointed his Tiny Idiot at the enormous screen which dominated one wall of the lounge. “Here is the mission profile,” he said, bringing the screen to life. On it was an animation which Tom proceeded to narrate. “Tomorrow *Challenger* will leave orbit, carrying *Chigiri* along with it. It will arrive at Zea eight days later. *Chigiri* will then separate from *Challenger* and land upon the surface of Zea for a period of exploration lasting no longer than a week. At the end of that week *Chigiri* will then leave Zea and return to *Challenger* for the trip home.” He turned back to the group, noting the severe look on Phyllis' face.

“The next obvious question,” Tom slowly went on, “involves the crew for the mission.”

Phyllis sighed. “You're bound and determined to stretch this out, aren't you?”

Tom tried to look innocent. “Dr. Yoshiharu Uchida, from

Japan's National Institute for Basic Biology, will take on the role of mission biologist and medical officer." Tom nodded in the direction of the young man who nodded back. Professor Taeko Terajima," and here Tom indicated a slight woman in her early forties, "from Hokkaido University, will be our anthropologist.

"For mission geologist, JAXA has selected Dr. Georg Rehkopf, who comes to us courtesy of both the Professional Association of German Geoscientists and the Colorado School of Mines." Tom now nodded at a man who seemed very much out of place among the JAXA group, but who had been engaged in conversation with Professor Terajima. The man responded with a quiet smile at the others.

"Astrophysicist will be Enterprises very own and eminently qualified Dr. Susan Flonate."

A polite patter of applause caused Dr. Flonate to duck her head shyly.

"The mission engineer will be Koichi Tono."

A young man with a build that matched Bud's delivered a formal nod to the group.

"Dr. Tono, I might add, holds a degree in both electronics and aerospace engineering from the University of Tokyo," Tom pointed out. "Not only is he a fully qualified JAXA astronaut, but he has been very much a part of the development of *Chigiri* and, as such, he would appreciate it if we didn't break his spaceship."

The remark resulted in a broad smile from Tono.

"Navigator and communications officer for the mission," Tom went on. He paused, not really looking at anything.

At the other side of the room Sandy inhaled sharply.

"Commander Bud Barclay."

Sandy immediately drifted over to Bud, embracing him, pressing her face against his chest.

"Mission commander." Tom slowly looked over the group, seeing the silent waiting in the eyes of both his father and Professor Ichikawa, and the tragic expectation on the faces of his mother and Phyllis.

"Well," he said simply. "As Phyllis observed: I'm bound and determined to stretch it out."

“I shouldn't be surprised,” Mary said. “Not after all these years.”

“And I'm keeping a promise,” Tom said, looking directly at Phyllis. “I'm not flying *Chigiri* to Zea. Rather, I'm flying *Challenger*.”

“I should slap you,” Phyllis said. “But, along with Aunt Mary, I shouldn't be surprised.”

“And yes I'm still concerned over the reaction some parts of the world will have regarding my decision. I'm very much concerned. I don't mind putting myself at risk—”

I do, Phyllis silently mouthed at him.

“—but I want to do my durnedest to protect those who're close to me. That's one reason I moved Mission Control up to the space station. I'm not going to broadcast the fact that I'm going to Zea and, as far as most of the world will be concerned, I'll be here coordinating support.”

Phyllis' eyes narrowed. “That might not entirely work, Tom. Even if I'm handling the media coverage, there's still a big chance the truth will get out. What happens, for instance, when someone requests a personal statement from you? In real time?”

“Ah!” Tom's face broke out into a sunny smile. “So glad you asked that.” He raised his Tiny Idiot to his mouth. “Russell? Go ahead.”

Everyone turned as the door to the lounge opened, then several gasps were produced as a gleaming metal figure smoothly drifted in. It was obviously a variation of one of Tom's humanoid robots. But, unlike the other models, this one was smooth... sleek... featureless. Its polished metal skin glittered with multicolored highlights.

Phyllis looked in confusion from the robot to Tom. “Tom?”

Tom's smile grew. “Ladies and gentlemen, allow me to introduce... Tom Swift Jr.”

Chapter Eighteen: Promises Made (and Broken)

Very dead silence in the room. Which was eventually broken by Mary.

“Ah, Tom? You've been working rather hard the last few days, what with getting us up here and all—”

“It's all right,” Tom assured her. “Russell and the other robotics people on the station helped me out with this little idea. What we have here will be my media stand-in while I'm flying to Zea. And yes, the illusion may not work as long as I'd like. But I'll take whatever breathing room it provides.”

“I kind of hate to shoot you down,” Phyllis said, “but the illusion isn't really working now.”

“Ah!” Tom replied. “But how many face-to-face interviews will there be when I'm supposedly up here at the station? Which brings me to the demonstration. Ladies and gentlemen... attend.”

Once again he pointed his computer at the wall screen. When it came on it was showing the entire lounge, but with a significant difference. Where the robot would've been was a mirror-perfect image of Tom.

Everyone was looking back and forth from the screen to the robot.

Bud's jaw fell open. “I will be—”

“More than likely,” Tom agreed. “The skin of the robot is composed of a computer-guided photo-mimetic transmission surface which will broadcast an illusion along all video channels. Whereas you will see the robot in its original form, anyone who sees the robot on a video screen will see an image of me in its place.”

Ned had drifted close to the robot and was carefully waving a hand back and forth in front of it, looking at the screen to see if the action had any effect. It didn't. “Tom? Wouldn't it have been simpler to just use CGI or something similar to fool the videos?”

“I thought about it,” Tom replied, “but I didn't want to take the risk of a breakdown in a video-based illusion

system. The robot, on the other hand, is completely self-contained. Not only that, but..." He raised the Tiny Idiot to his lips and murmured.

The robot slightly shifted about and, on the screen, everyone saw the "Tom" image begin to speak. "We've been considering the possibility that Zea's estimated density is due to gravitational compression." All in Tom's voice.

"Oh that's just too spooky for words," Sandy said.

"In the weeks before coming up here I've had my body movements and motion characteristics scanned by computer, with Russell feeding the results into the robot. It'll not only look and sound like me, but it'll have all my little physical quirks and habits."

"Bad taste in t-shirts?" Bud asked.

Tom ignored him. "And, to answer the question Phyllis hasn't asked yet, I also took one of the more advanced AI programs from SECFAR, with Freida Ames' secret help, and programmed the robot to be able to construct responses to questions. It'll be able to target key words in questions and produce what will hopefully sound like a reasonable reply."

He saw the looks a lot of the others were giving him. "Okay, so admittedly it won't be a perfect solution—"

"Have it throw in a few five-syllable words and no one would know the difference," Helen remarked.

"Don't laugh, Aunt Helen, but that's sort of what I'm counting on. That and the fact that Phyllis will be handling most of the questions in any interview, while my robot double is visible in the background. I call it the Tom-Tom."

Phyllis looked pained. "Tom, you promised you wouldn't name another one of your inventions without consulting me first."

"Sorry," Tom said, although his face indicated otherwise. "This had to be a rush job, and I was wanting to keep it as secret as possible. I got the inspiration from Ithaca Fogger."

"Oho," Sandy said. "Back when she was impersonating you."

Tom nodded. "Exactly."

Phyllis now drifted to Tom-Tom, peering closely at its

blank metallic head. “You say you programmed this with all your physical characteristics and an artificial intelligence approximating your mind?” she asked Tom.

“As close as I could make it.”

The expression on Phyllis' face was best described as “uncomfortable”. “It's... not gonna ask me out on dates, is it?”

“It's not that well equipped.”

Ned and Helen both looked over at him.

“So to speak,” Tom added.

“Tom...” Phyllis had closed her eyes and she was pinching the bridge of her nose. “I love you dearly. That's dearly, dearly, dearly. I respect your genius and will always do so. But this...”

“Bad idea?”

“Does the phrase 'train wreck' register at all?”

“Okay,” Tom said. “I understand that this has to be one of my more *outré* notions—”

“You *think*?”

“But all I'm asking is that you just work with Tom-Tom.” Tom folded his hands together. “Please. You don't have to have it in sight all the time. Maybe work it into a shot or two, showing it studying mission progress reports or something. I'll be sending you updates, and Freida's left instructions on how to add specific information to Tom-Tom's vocabulary... and I'm not convincing you at all, am I?”

“This will end in tears,” Phyllis concluded.

* * * * *

The next day found *Challenger* docked to Spoke Twelve as the countdown edged towards its conclusion... with a last minute addition being made to the crew.

“I really don't know,” Professor Ichikawa was saying as everyone gathered in the docking port lounge.

“It makes perfect sense,” Tom insisted. “Right now we've got seven people planned for *Chigiri*, and it's been outfitted for a crew of eight. Zea's your discovery. You have every right to be one of the people going to it.”

Koichi Tono gently rested a hand on Ichikawa's arm. "Please, Professor."

"I won't deny I'm tempted," Ichikawa admitted. "But there's the matter of my age."

Tom Sr. was standing nearby and he snorted. "Nonsense, Hideko. I've got more gray hair than you, and look where we all are now. And you make regular trips back and forth from Earth to the Moon. On points alone you'd almost be more qualified than Tom."

Ichikawa let out a single breath. "All right! I shouldn't yield to impulse like this but, at my age, I can afford a bad habit or two."

"Great," Tom said, "and I think you'll find that your decision will have the full backing of both JAXA and the Japanese government." Looking over, Tom noticed Phyllis quietly watching him from near the entrance to the docking port. "And, if you'll excuse me, I've got some last-minute business to attend to."

Meanwhile, Bud and Sandy were also near the docking port, their hands locked together and the two of them lost in their private little world.

"You promised," Sandy was telling Bud, a soft touch of accusation in her voice.

"I know," sighed Bud.

"Everywhere! Anywhere! Forever!'. Back when we got married." Sandy's eyes were glistening wetly. "You *promised!*"

"Sweetheart, I know—"

"And we've got the entire All-Girl Ninja Team together again on the station," Sandy pointed out. "Even the auxiliaries, like Mom and Aunt Helen. You could sneak us on board." Sandy's hands squeezed his. "You *need* me."

"I very probably do," Bud agreed. "But, right now, there's someone who's needing you more." His eyes still on Sandy's he let a hand drop to drift across her bulging stomach. "I hate having to play the Mean Husband Card, but there it is."

Sandy bit her lip.

"Besides," Bud went on, "I'm probably still in the

doghouse with your Mom for bringing you up to the station. I sneak you off to Zea and she'll use a bazooka on me.”

Sandy didn't smile.

“I know you're hating me right now—”

“I *don't* hate you,” Sandy insisted. “I love you. I...”

And further argument was interrupted for just over a minute.

When they could once again talk, Sandy was staring at Bud's chest. “I just want you to understand something, Bud Barclay.” Her face rose and her eyes were hard. “I'm *not* raising this baby all by myself.”

“I know,” Bud agreed softly.

“You come back to me, Bud. You hear me?”

“I'll be back,” Bud assured her. “Besides, deep down you know I gotta go.”

Sandy had returned to staring closely at Bud's chest. “I know.”

“If I stayed here... and something happened to Tom out on Zea... I'd never be able to look you in the face again.”

“I *know*.” Sandy let a fingertip gently rub up and down the front of Bud's suit. “Just be careful.”

“Hey! You know me.”

“I sure do, which is why I'm asking you to be careful.”

* * * * *

Meanwhile, in a relatively quiet and secluded corner of the lounge, Tom was once again experiencing one of the main rewards of being a scientist. Namely: the way Phyllis grew so deliciously clingy whenever he was about to embark on an expedition.

“I'm a scientist, too,” Phyllis murmured when their lips finally parted just a fraction.

“Ummmm,” Tom replied, his arms very close around her. “Really?”

“Uh huh. This is part of an ongoing experiment.”

“I rather like the approach, but what's the premise?”

“I'm seeing how much seduction it'd take to keep you here.”

“I've got to admit,” Tom slowly said, “that you're methods are exceptionally interesting.”

“But you're still going,” Phyllis observed, her voice losing some of its warmth.

Tom sighed. “I... have to.”

Phyllis found herself recalling something she'd read somewhere a long time ago. A line that went: *men must plan and women must weep*. At the time she laughed.

She wasn't laughing now.

Tom was gazing steadily into her eyes, and Phyllis could feel something working behind his expression.

“Yeah,” he murmured in a voice which said he had reached a decision.

Phyllis looked at him quizzically. “What?”

Tom paused, then spoke. “While I'm gone there's something you could do for me. Besides the media work, I mean.”

“Hmph! Make work to keep my mind from worrying.”

Tom shrugged. “Maybe. You don't have to do it if you don't want to.”

“And maybe I'd want to. What is it?”

“Nothing really difficult. Just that, while I'm gone, get in touch with Reverend Gordon at the Union Church. Set up a date.” Tom shrugged again. “Sometime on a Saturday would be nice.”

Phyllis suddenly became aware of her heartbeat. “Tom—”

“Shop around for a gown. Something in white that you'd look pretty in.”

“Oh!”

“We'll shop for rings when I get back. Okay?”

Even given the weightless condition of the lounge, Phyllis was feeling her legs weakening. “Tom, are you—”

“I've made it this far, Phyllis,” Tom said to her, his voice insistent. “I'm back in space. And I'll be going further. If I

can go all the way out to Zea then I can go as far as I want. I can go to you.” With a hand he caressed her cheek. “I can go to you,” he repeated softly.

“Tom... darling...”

“Marry me when I get back.”

Tom spent the next few minutes holding onto Phyllis who was a rather interesting combination of happiness and crying. The embrace came to an end, however, when a speaker announced: “*Launch minus sixty minutes and counting. All crewmembers should now board.*”

“No,” Phyllis argued. “I just got engaged. You can't go.”

“*Challenger's fast,*” Tom assured her. “Eight days to Zea, a week on the surface, then another eight or ten days back. Twenty-five days at the most. You'll see.”

“But—”

“That'll also give you enough time to look up honeymoon spots,” Tom said. “Nothing spectacular. Just someplace quiet for the two of us.”

“Oooo...”

“Oh, and while it's on my mind, check out the houses in Shopton. I'll trust you to find something. Unless, of course, you'd want me to build a house for us.”

“Oh, Tom!”

It was at that point that a markedly reluctant Bud came over (a red-eyed Sandy in tow), and he rested a hand on Tom's shoulder. “Skipper? They're calling our flight.”

Tom's eyes were still on Phyllis. A final kiss... something quietly whispered which he meant for her ears alone... and then he turned and, not looking back, drifted for the docking port, leading the others while, at the same time, passing the support crew who were leaving *Challenger* after completing their preflight work.

Once inside *Challenger*, Tono drifted over to Tom. “I'd like to go down to *Chigiri* and do a final check on the connections.”

Tom nodded. “Good idea.”

“I'll come along,” Professor Ichikawa said, and the two men headed down to the ventral docking bay. In the

meantime, Tom and Bud led the others up one level to *Challenger's* flight deck.

“Feel free to make use of the foot stirrups and handholds,” Tom instructed everyone as he took his place behind the free-standing control console, Bud sliding into the adjacent seat. “Once we're underway there'll be enough acceleration to provide gravity.”

Professor Terajima drifted over to peer out the large curving main viewport which, at the moment, was staring directly at the end of Spoke Twelve. “Will you want us in our quarters for launch?” she asked.

“That'll probably be best,” Tom said, looking over the controls. “Once we're underway we'll get everything shipshape. You remember the orientation? All of you know how to get to your quarters?”

Murmurs of assent from all around.

“Ah-hhh, Dr. Uchida? I know this is rather sudden, but you'd know better than anyone else about Ichikawa-*sama's* medical needs if any—”

Uchida snorted. “He'll outlive us all.”

“Yeah, that's sort of what I thought. Nonetheless, I want him to take the room closest to the Sickbay.”

Uchida nodded. “I'm going down there anyway,” he said. “Running my final check on supplies.”

Tom nodded, becoming more and more absorbed in his work as everyone began drifting off to attend to pre-launch duties.

“Maneuvering thrusters online,” Bud reported. “Undergoing diagnostics.”

“I won't even try expanding the C-ring until we're fully clear of the station,” Tom replied. “I figure we'll engage the main drive when we've drifted... five miles away.”

“Sounds good,” Bud agreed. He glanced up from his console, then took a closer look. “Uh oh.”

“What's wrong?”

“Skipper, whatever you do don't look out.”

“Why?”

“I can see Sandy and Phyllis looking at us from the station. They've got their faces pressed against the lounge viewport, and both of them have big puppy dog eyes.”

Which, of course, caused Tom to look up... and continue looking for a few moments. “Bud?”

“Skipper?”

“Refresh my memory. Why are we doing this?”

Tom was expecting Bud to reply with one of his usual quips, but when he looked over at his friend he was surprised to see him wearing a stonily serious expression. “Bud?”

“I'll give you an answer,” Bud said, his attention firmly fixed on the data which was appearing on a display screen. “I've got a kid coming. And, all of a sudden, the universe just doesn't seem safe enough.”

Tom quietly watched Bud at work for about a minute. Then *Challenger's* computer (in Phyllis' voice) reported: “Launch minus thirty minutes and counting. Space station beginning retraction of docking clamps and umbilicals. All systems nominal.”

“Bud?”

“Tom?”

“Let's go make the universe safe.”

“Works for me.”

Chapter Nineteen: Outward Bound

A day after launch found *Challenger* the forward point of a comet which was moving away from Earth at a steadily increasing velocity. The comet's "tail" was a stream of superheated plasma produced and focused by the rings which circled the body of the spaceship. To protect its rather important cargo of *Chigiri*, the thrust field was being focused at the furthest possible point from the ventral docking bay.

Inside, the crew was enjoying the benefit of gravity produced by the constant 1g acceleration. When the halfway point to Zea was reached, *Challenger* would be rotated so that its thrust could still provide gravity while, at the same time, beginning the process of deceleration. Tom and Bud could, if necessary, redirect the thrust simply by repositioning the rings around *Challenger*, but the unspoken agreement was that the orientation of the spaceship's internal decks was a source of comfort.

For one thing, it made the communal meals easier.

"Sandy could've reached the Sun faster," Tom was explaining to the others as he passed out trays of food. "But remember, she was wanting to establish contact with the Senders and needed the time."

Accepting a tray, Dr. Rehkopf nodded. "I remember reading about it in Victoria Applepound's book."

Tom smiled. "I... would keep that bit of information secret from Sandy. She likes Mrs. Applepound. Mrs. Applepound's fiction, on the other hand..."

"That reminds me," Susan Flonate said as she peeled away the covering from her salad. "It turns out that Dr. Terajima and I have something in common."

Tom was taking his place at the table. "Oh?"

Susan nodded. "We both have nieces who were born just after Sandy went to the Sun, and they're both named 'Sandra'."

"Or 'Sandara', in my case," Dr. Terajima explained to Tom.

“I can't help thinking that school role calls are going to be interesting in about three or so years,” Bud said. Looking up from his tray he began intoning: “Sandra... Sandra... Sandra... Sandra...”

“That's something I've been meaning to ask,” Susan said to Bud. “I take it 'Sandra' isn't a front-runner for names if the two of you have a girl.”

“Ah-hhhh, in regards to girl names the voting is currently leaning heavily towards 'Desdemona'.”

A forkful of baked potato paused halfway to Tom's mouth as he stared across the table at his friend. “Desdemona Barclay?”

Bud grinned at him. “Don't like it?”

“Pray hard for a boy.”

Later on, everyone occupied themselves with relaxing throughout the wardroom. Tom remained settled at the table and, with everyone else still within view, idly began tapping notes into his Tiny Idiot. His thoughts and impressions concerning his fellow crewmembers.

PROFESSOR HIDEKO ICHIKAWA.

Degrees in Physics and Mathematics from Keio University. Co-designer of the “I-guru” astronomical satellite system currently in use around the Moon. Joined the staff of Japan Prime after the death of his wife three years ago. Reservedly impulsive, or impulsively reserved. Take your pick. Possessed of an intense curiosity which reminds me somewhat of Dad. Was surprised to learn he had been a Grand Prix racer in his youth (must tell Bud).

DR. YOSHIHARU UCHIDA.

Although not openly known, he is Professor Ichikawa's personal physician, having also served on Japan Prime in both its Medical and Biological Research Station. Pioneer in the newborn field of xenopaleobotany, being one of three scientists given access to plant fossils found by explorers on Mars. Also wrote three papers dealing with Space Friend plant specimens, so might well be the expedition's leading expert on alien biology. Unmarried, but have noticed something of a possible interest growing between him and Sue Flonate. Scuba diver.

“Tom?”

Tom looked up from his work? “Yes?”

“Didn't mean to distract you,” Professor Terajima said apologetically. “And I very much enjoy being a part of this expedition. But doesn't Swift Enterprises already have spacecraft anywhere near Zea?”

Tom smiled and glanced over at his brother-in-law. “Want to field that one, Bud?”

“We're sort of at the mercy of celestial mechanics,” Bud explained to the anthropologist. “The only planet near Zea is Jupiter, and we don't have any ships out there. One of our Solar Sailers... *Hanno*... is nearing Mars, but Mars is on the wrong side of the solar system. Another Solar Sailer... is it *Nikitin*, Skipper?”

Tom nodded.

“*Nikitin's* on a mission in the Asteroid Belt but, like *Hanno*, it's on the other side of the solar system.”

Terajima went “Oh” and returned to her conversation with Georg Rehkopf.

PROFESSOR TAEKO TERAJIMA.

Along with Dr. Uchida, perhaps one of the more necessary members of the expedition. Made extensive study of the Space Friend symbolic language and has written more than I have on the subject. All of her books are required reading. Resides in Sapporo where she is on the faculty at Hokkaido University. Started out wanting to be a fashion model (and still looks rather nice), but became fascinated by the work of Chie Nakane while doing a paper in school. Thorough... not given to wild speculation. Divorced, no children. Pachinko and anime enthusiast. Never misses a Worldcon.

DR. GEORG REHKOPF.

Admittedly surprised to learn that Professor Ichikawa proposed a non-Japanese for the JAXA team, but Rehkopf had not only spent time on Japan Prime but had also been to Mars and Mercury, as well as Antarctica and the lava fields of Hawaii. Family comes from Hanover, but he hasn't put any roots down as of yet (although some of the looks he's been giving Taeko Terajima recently might suggest

thoughts possibly turning towards matters of a domestic nature). Chess player... will probably try him out before long... and has also studied samples of the iridium asteroid Sandy brought back from the Arctic (and she still hasn't told me where or how she found it). Between him and me we'll provide a hopefully useful geochemical team.

DR. SUSAN FLONATE.

No surprises or problems there.

* * * * *

Back at the space station, Phyllis suddenly looked up from her work. "Oh my God!"

"What's wrong?" Sandy asked.

"It just struck me. Tom's gone off into space—"

"Oh, big news, Phyl."

"With that Susan Flonate in tow." Phyllis glared out the nearest viewport. "That conniving little man-stealing—"

* * * * *

KOICHI TONO.

He and Bud have found a lot of common ground. Bud doesn't carry around the degrees (although he could if we sat down and applied existing work experience), but Koichi doesn't go around wearing his professional titles. There's a lot of Buck Rogers about him. He captained the Japanese expedition to Mercury, and was on the second Japanese Mars flight. Not married, and is rumored to play the field like a bandit. Holds a third kyu brown belt in judo and is also a practitioner of iajutsu. He looks it! When it comes to both piloting and martial arts he's all professional. Is rather possessive of Chigiri and, to be honest, I can't blame him.

Tom stared at what he had written so far. Then he continued.

BUD BARCLAY.

If he and Sandy have a girl and name her "Desdemona" then I'd advise the two of them to skip the country before their daughter is strong enough to handle sharp objects.

Tom filed his notes in a hidden folder within his

computer, then helped himself to some coffee before settling back down and beginning work on a long (and, he suspected, very personal) letter to Phyllis.

* * * * *

The time for bed soon drew near, but before that happened there was a signal from the space station.

Tom thought about some of the things he had told Phyllis in his letter, and quietly wondered if she was already sending a reply. But the wardroom display was indicating that it was an “all eyes” message, so Tom spiked that idea.

“Oh,” he said, reading the prefixes preceding the message. “It's the latest combined images from the various megascopes scanning Zea.”

Ichikawa nodded, turning his chair to face the screen. “Good. I was hoping for better definition images before we actually reached the planet.”

The screen came to life by the time everyone was in position to watch. What appeared was the sharpest and closest image of Zea to date.

Looking at it, Tom nodded. “So those have to be oceans,” he said, pointing to the blue areas. “But what are *those*?”

Those were nine dark circles which were clearly visible on the surface of Zea, with two of them being in the areas Tom speculated were bodies of water. Doing some rapid mental calculation, Tom estimated that, given the size of Zea, each circle was roughly the size of Texas or the United Kingdom. The circles were evenly spaced apart, and Tom wondered if they were scattered around the entire planet.

“Anybody?” he asked. “Best guess?”

Rehkopf had his hand at his chin. “One or two such circles and I'd almost say natural craters. But all of them? The same size? And evenly spaced apart?”

Bud let out a slow breath. “Cities.”

“Perhaps,” Ichikawa was saying. “We'll need to get closer to make certain.”

Tom began tapping out messages to his father and Ken Horton. He wanted to know if Zea was still transmitting to Earth and, if so, had there been any mention of *Challenger*.

He then noticed how Uchida's attention was very intent on the image. "Doctor?"

Uchida didn't look away from the screen. "Tom? I have a confession to make. This is actually the first time I've had a really good look at Zea."

Tom shrugged. "Okay. Granted."

"It might not be okay," Uchida said as he pulled his own Tiny Idiot from his belt and began tapping on it. "I'm going to throw something up on the screen here. All right?"

Tom's curiosity was definitely on the rise. "Sure."

A few more moments, and then Uchida looked up at the wardroom display. Everyone else did the same and, as they watched, the image of Zea was replaced by another picture. It showed a gray circular object which was evenly dotted with black pentagonal patches.

Bud blinked. "Huh! Is that supposed to be Zea?"

"No," sighed Uchida, "but one can be forgiven for seeing a clear resemblance. What all of you are looking at is a molecular scan of a rhinovirus. The black objects on the surface are protein spikes."

Tom frowned. "Rhinovirus. That..."

Uchida nodded. "The organism which causes the common cold."

Chapter Twenty: Zea Orbit

Bud won the “Make a Reply” race.

“You mean,” he asked Dr. Uchida, “Zea's really a giant cold virus?”

“Oh no,” Uchida quickly replied. “I'm sorry if that's the impression I gave. It's just that, when I saw the new image of the planet, that's what immediately came to mind.”

“M glad. For a moment I had this mental vision of Tom having to build a container of nasal spray the size of a battle cruiser and launching it at Zea.”

“Either that,” Rehkopf added, “or putting together a giant hanky to cover the Earth with.”

Bud opened his mouth then paused, glancing over at Tom.

Tom sighed. “Go ahead and say it. You know you won't be able to sleep until you do.”

“Thanks. I was just gonna say that'd be—”

“Nothing to sneeze at,” both he and Tom chimed.

It was Tono who laughed rather than groaned; an act Tom considered rather decent of the Japanese astronaut.

Uchida was fully facing the others. “I would be the most surprised person in the world if Zea turned out to be some sort of super-organism. What I wanted to explain at this point, however, is that this is an example of association which we may experience more and more as we explore Zea. Understand that I am not, by nature, a psychologist. I have had some psychological training, however, and have attended some of the seminars dealing with the psychology involving alien contact.” He looked over at Terajima. “*Taeko-senpai*, perhaps you'd be better qualified to handle the subject.”

“Actually you've been doing a good job so far,” Terajima replied, adjusting large glasses on her face. With a look she took in the others. “When we deal with something we know to be of alien or extremely foreign origin we have a natural tendency to try and associate it with things we consider familiar.” She gave Uchida a nod. “Uchida-*san* is a medical

authority, so when he sees Zea he automatically sees a virus. Bud? Tom told me that, when you first saw Zea, you immediately thought of a classic image of an atom: a nucleus surrounded by electron rings.”

Bud nodded. “Still do.”

“So do I,” Susan agreed, with Ichikawa nodding.

“Looking at Zea now,” Tono said, “I can't help thinking that it rather resembles a larger version of *Challenger*.”

“I'm glad someone besides me said that,” Tom remarked. “And I'm also glad both Yoshi and Taeko raised this issue, especially at this early time. Despite popular opinion, I'm hardly an authority on extraterrestrials. In fact I can immediately name someone much more qualified than I am, and we left her behind on the space station.”

“Pity,” Bud muttered.

“Yeah, well... the point I'm wanting to make is that, in all dealings with an alien race, the key word to remember is *alien*.” Touching his Tiny Idiot he re-established the picture of Zea on the large screen, nodding at it. “That planet isn't even native to our solar system. We like to think that there are universal constants at work which will make our job easier. What I want to warn against, however, is taking anything for granted. Despite what we know, we're heading for *Terra incognita*. Literally.”

“I agree with Tom,” Terajima said to the others. “In fact, given the nature of Zea's appearance in our solar system, it may even turn out that the planet was consciously designed to test our perceptions. We are going as explorers... but we could well turn out to be laboratory rats in a maze.”

The same idea had privately occurred to Tom some time ago, and he had hoped he'd been alone in his opinion.

* * * * *

All thoughts of sleep were put on temporary hold as the crew of *Challenger* spent a bit more time looking over the latest Zea image.

“By the way,” Tom said, after checking his Tiny Idiot, “I just received a message from the space station. As far as they can determine there's been no new transmissions from Zea.”

“I can't conclude whether or not that would be good

news,” Ichikawa slowly said.

“But that raises another point,” Tom went on. “If any of us even suspect we're receiving mental signals from Zea then the rest of us should definitely be told.”

The group tried to make sense out of the new circular dark areas seen on the surface of Zea.

“I don't recall having seen these in earlier scans of the planet,” Susan remarked.

Ichikawa agreed. “But keep in mind that the cloud cover... presuming those are regular clouds... has been rather extensive. This image is showing us the clearest sky we've ever seen on Zea, but I suppose that's due more to the fact that this image is a composite of scans from different megascopes than from anything taking place on the planet.”

Tom found himself recalling the old adage about whistling past a graveyard. “*Challenger* has an onboard megascope, by the way,” he told the others. “It lacks the power and range of a regular megascope but should be useful once we arrive in orbit.”

“Look at this,” Bud said, using his Tiny Idiot to enlarge a section of the image. “See? That circle practically on the horizon. If it was a city, or a structure, would it be so flat?”

“We wouldn't necessarily be making out such detail from that perspective,” Tom murmured, also concentrating on the image. “It's sort of like that old myth about the Great Wall of China being visible from the Moon. When we're closer then we'll probably be able to make out specific structures.” He rubbed at his chin. “I might try using *Challenger's* megascope at this range, but I think the real answers won't be found until we're actually there.”

He mentally crossed his fingers.

* * * * *

Days later found *Challenger's* main drive shutting down. Some final adjustments, courtesy of the maneuvering thrusters, and the spacecraft settled into a polar orbit some six hundred and twenty miles above the surface of Zea. Tom and Bud (with assistance from Koichi Tono) worked the orbit's design so that each pass of the planet took a hundred minutes, giving *Challenger's* instruments every opportunity to take a thorough look.

Tom and Bud were at the main console on the flight deck, with Tono nearby. Behind and to either side of them, the research consoles were occupied by the others. Beyond the main viewport the surface of Zea rolled by.

The rings had been the initial source of interest. "No indication of magnetic or gravitational influence upon *Challenger* from them," Ichikawa reported. "The Alpha Ring... the one aligned with Zea's equator... is forty-five hundred and twelve miles above the surface. The Beta and Gamma rings are only slightly further out, but none of the rings intersect."

Next to him, Susan was studying her own instruments. "The rings... *seem* to be tubes composed of magnetic energy, but please don't ask me how they're being generated or maintained."

Tom heard Bud murmur something which he thought sounded like: "They're alien."

"The magnetic composition of the tubes is throwing off some of my instruments," Susan went on, "but the material inside the tubes does look like plasma. I'm also getting readings of solid objects drifting within the plasma, but I can't get a clear look." She glanced over her shoulder at Tom. "The objects might be what's responsible for the rings."

Tom nodded, most of his attention focused on the planet surface spread out before him.

Uchida sighed, sitting back in his chair. "Atmospheric readings coming in. Composition: Nitrogen... well, let me cut to the chase and report that the air on Zea's close enough to that of Earth to make breathing possible." He looked around at the others. "I would not advise doing so, however, until extensive tests have been made. Atmospheric pressure tolerable. There seems to be definite signs of surface vegetation, but I can't as yet determine any signs of animal life."

"Thermal emissions and results from the reflection radiometer show clear evidence of silicon, iron, calcium, oxygen and aluminum within the surface," Rehkopf said. He turned to Tom. "There's also a substance in the crust I can't get a clear fix on. It seems to be a metal of some sort but, until I can actually study a sample..." he shrugged. "As for what we're calling the oceans: the haline scans and related

readings show it to be similar to terrestrial seawater. Composition is also roughly the same, but I'm seeing a higher spike in the magnesium level. Pardon me for sounding like a broken recording, but no one drinks the water or takes any moonlight swims until I've determined the water to be safe."

"No moonlight anyway," Bud said. "A ringlight swim sounds interesting, though."

Smiling, Rehkopf went on. "Tom, your Damonscope shows no harmful radiation emissions. I'm still processing the surface thermal data."

"Estimated surface gravitational attraction of Zea," Susan reported, "point eight two g. Meteorological activity doesn't show anything unusual... yet... but there seems to be what looks like a storm front of some sort in area 21-40."

Tom took it all in, nodding to himself. Motioning for Tono to take his place at *Challenger's* controls he went over to where Rehkopf sat (drifting as, with the drive off, *Challenger* was once again weightless).

"Speaking of cutting to the chase," he said, looking over the geologist's shoulder, "let's focus our instruments on one of the dark areas."

Nodding, Rehkopf worked the controls before him, and both men watched as *Challenger's* sensors were tuned upon the nearest of the mysterious circles.

"Oh," Rehkopf eventually said. "I was suspecting that."

"Me too," Tom breathed.

Everyone else was watching them, and Bud elected himself spokesperson. "Ah... guys?"

"If what we're seeing is typical," Tom said, turning to look at the others, "then each circular area is, in fact, six hundred and ninety-two miles in diameter. There are twenty-six of them scattered equidistantly over the surface of Zea." He took a breath, then went on. "They are not solid objects but are, rather, openings into the surface of Zea."

The others immediately turned to the viewport. One of the circles was currently in the process of moving out of view.

"Bud," Tom called to him. "Lock the radar into the

megascope and scan into one of the openings.”

Bud's hands rapidly moved over his controls.

“Even the ocean circles?” Terajima asked. “They're openings as well?”

“We'll scan a few,” Tom said, idly rubbing his face, “and I suspect we'll find that the ocean openings are actually elevated above the level of the water.”

From the command console Bud growled. “Skipper, I'm sorry. The scans are hitting the openings, but something's scattering the beams. They can't penetrate.”

“Um.” Tom's eyes were on Rehkopf's instruments, but it didn't take much for the others to see that his attention was somewhere distant and they tried to be patient.

After a minute Tom spoke. “Okay. We can use optical scopes and flares and such on the openings. Personally I was hoping there'd be some definite cities or buildings or something on the surface but, after all the orbits we've already taken, it looks as if we're gonna be disappointed in that regards. Unless anyone has an objection I would like to explore an area as close to as many features as possible. That means somewhere near the shore of one of the oceans, someplace with extensive vegetation and, of course, as close as possible to one of the openings.”

Bud could taste the excitement rising. “Then...”

Tom looked at Tono. “Prep *Chigiri* for landing. We're going in.”

Chapter Twenty-One: Zea

Six hours later Tom was spending time sending updated telemetry and reports along to the space station while everyone else drifted down to the docking bay where *Chigiri* waited. It took an average of twenty minutes for messages to travel from Zea to Earth, and now that they had an idea of where on the planet they would land, as well as a detailed orbital map of Zea, Tom wanted very much to make sure the people back on Earth knew exactly where the expedition was going to be.

He privately hoped the information wouldn't be desperately important.

Entering some last-minute instructions into *Challenger's* computer, Tom went down to the docking bay, entering *Chigiri* through its nose hatch. At the other end of the airlock he found Koichi and Bud seated at consoles in the circular flight deck. The others had gone further on and, Tom presumed, were settling themselves in the lower living area.

Bud confirmed Tom's thoughts. "Everyone's battened down, Skipper."

"Same with *Challenger*," Tom replied, sealing the airlock shut behind him. He then eased into the remaining seat upon the flight deck, reaching for the safety harness.

"Captain?" he said to Koichi, "the ship is yours."

Giving a nod to Bud, Koichi concentrated on his controls. "Taka' thruster system online," he announced. "APUs operational. Deorbit program loaded and modified with Zea data."

Bud was assisting as co-pilot, and his eyes moved over the displays before him. "I have return on all systems."

"Releasing docking clamps," Koichi said. "*Challenger* signaling separation."

Chigiri slowly drifted away from *Challenger*. Once it had completely cleared the docking bay it began turning, positioning itself for a deorbit burn.

Koichi's rested his hands on the twin controllers before

him. "Attitude direction indicator set to inertial. Maneuvering thrusters armed... executing burn in *san... ni... ichi... hasshin!*"

Everyone could feel the shiver running through *Chigiri* as its secondary drive came to life, working to slow the spacecraft down and allow Zea's gravitational influence to increase. For two and a half minutes the engines fired and *Chigiri* drifted closer to the planet below. At the same time *Challenger's* propulsion rings re-positioned themselves, beginning to glow as the larger spaceship started altering its orbit.

In *Chigiri*, Tom touched the intercom. "I hope everyone down there made a potty stop."

"Hey," Bud complained. "You're stealing my lines."

"Yeah," Tom agreed. "I don't think I do you very well."

"*We're doing fine,*" Ichikawa's voice came over the speaker. "*All of us, of course, are very excited.*"

"We're sort of hyped up here as well," Tom replied. "We'll be down on Zea in..."

"Thirteen minutes," Koichi announced, glancing at a display. He moved one of the controllers. "Deorbit burn complete. I'm showing us in proper atmospheric entry attitude. Shifting remaining propellant to adjust balance. Angling heat shield into position. Our velocity is currently sixteen thousand, five hundred and sixty-six kilometers per hour. In miles per hour—."

"Out of deference to the fact that you're doing the flying," Tom broke in, "metric will be sufficient."

"*We can't see much from our seats,*" Susan called out, "*but we can see one of the rings high above us.*"

Tom's eyes were on the image being relayed from one of Koichi's displays: a radar animation of the descent accompanied by an indicator which was tracking the steadily rising outer hull temperature. "Believe me," he said, "you're not missing much."

Chigiri was now plummeting tail-first through the atmosphere of Zea, the lower and thicker part of the spaceship glowing from friction.

"Aerodynamic vanes functioning on heat shield," Koichi

murmured, his hands making slight adjustments on the controllers. “Velocity decreasing. Tom I'm showing a good approach to the selected landing site.”

“Thank you, Captain,” Tom said. He realized his hands were gripping the arms of his chair and remembered something Sandy once told him: how he was a better pilot than a passenger.

“Flight instruments showing exterior air pressure of 479 pascals,” Koichi said. “I'm getting good velocity bleed and positive flight control and am beginning line-up to landing burn.”

“Well,” Bud said, “pretty soon now we'll know whether or not Zea's composed of antimatter.”

“I really don't know what I'd do without you, Bud. Honestly, I don't.”

“Thanks, Tom. You're aces in my book as well.”

But it's not made of antimatter, Tom's mind argued as *Chigiri* continued hurtling downwards. He knew that both the Space Friends and the Senders could transmute matter. It would've been so easy to turn Zea into an enormous antimatter bomb. *But there's no reason to*, his mind countered. *Whoever sent Zea didn't go to all this trouble just to kill us.*

Koichi's voice broke into his reveries. “Velocity now one point one kilometers per second. Extending aerovanes. Beginning descent thrust.”

The lower end of *Chigiri* blossomed with blunt winglike shapes. These were JAXA-designed derivatives of Tom's own Duratherm Wing, and they were allowing Koichi greater control over piloting the spaceship through Zea's atmosphere. At the same time *Chigiri's* engines once again came into play, the thrust building up and working to slow the spaceship even further.

“One minute, thirty seconds to landing,” Koichi said. “Altitude now five point eight kilometers. Velocity is now thirty-five meters per second.”

Tom wasn't certain, but it seemed as if someone was softly praying over the intercom. He personally empathized with the sentiment and thought of Phyllis back at the space station. She wouldn't know the results of the landing for

another twenty minutes.

“Landing now sixty seconds... landing now fifty seconds... landing now—”

“If it's all the same to you, Koichi,” Tom said, “just the highlights, please.”

Bud chuckled.

“Landing thirty seconds. Altitude one point four kilometers. Tom? Good imagery on the landing site. Coming down right on it.”

Tom nodded, his eyes on the display before him.

“Deploying landing legs... cutting in secondary landing thrusters.”

The roar around everyone increased.

“Ten seconds... five... I have contact light!”

Tom wondered if everyone on the ship was holding his or her breath. He found himself recalling landings on Nestria and the Moon...

“Landed.” Koichi's hands moved rapidly over his controls. “Engine stop... engine arm off.” He glanced over his shoulder. “We're here, Tom.”

“So I gather.” Tom began slowly loosening his harness. “I guess they'll be opening the champagne on the space station in a half-hour.”

“Yeah,” Bud agreed. “And, since we're not there, they'll be bringing out the good stuff.” He looked over at Koichi. “And by the way...”

Koichi glanced up from his work.

“Cool as a moose,” Bud declared.

“I'm inclined to agree,” Tom added. “Do you often land on unexplored alien planets, Koichi?”

The astronaut shrugged although he was smiling. “A landing's a landing.”

Bud touched the intercom. “Okay, people. Seeing as how we're not all strumming on harps and floating around, I guess that means we've arrived on Zea safely...”

The sounds of applause rose from below.

“I'm unlocking the main viewports, so go ahead and feel free to look.” Bud then took a glance in Tom's direction and suddenly paused. “Tom?”

“I'm all right,” Tom replied, returning his attention to the here and now. “I was just sort of listening for voices.” Seeing the looks on the faces of both Bud and Koichi he smiled a little sheepishly. “Sorry. I guess I was expecting some sort of communication once we landed.”

“Nothing so far?” Bud asked.

Tom shrugged. “Nothing I could specifically point at.”

“Toss a coin,” Bud said to Koichi. “Do we call that good news or bad news?”

Tom now touched the intercom. “Ah-hhh, Yoshi? Feel free to start work—”

“Already at my board, Tom,” Dr. Uchida announced. *“I'm deploying the air sampler and the biological collectors. Hopefully we'll have data coming in soon.”*

Bud looked at Tom. “So we're definitely staying?”

“I didn't come all this way just to eat and run,” Tom remarked. “Besides, I wouldn't mind a good look around myself.”

* * * * *

With *Chigiri* secured, Tom, Bud and Koichi climbed down to the next deck which contained the scientific research labs and control stations. It also contained three circular viewports evenly spaced around the area.

Most of the crew were peering out the viewports, but both Dr. Uchida and Ichikawa were at the Life Sciences console (which performed double duty as *Chigiri's* sickbay). Looking at them, Tom knew that, on *Chigiri's* outer hull, several sealed compartments had opened. These included the entrance to a gas chromatograph which could analyze both air samples and, through the aid of a mechanical arm, any soil or liquid samples delivered to it. Below it was the entrance to the latest model of Swift Spectroscope which Enterprises had arranged to have included among *Chigiri's* instruments. Another uncovered panel was nearby. On it were several discs coated with a wide variety of nutrients and growth media. These would help in analyzing any

microorganisms they came into contact with.

Looking over his shoulder, Ichikawa smiled. "Congratulations, gentlemen."

"Still just getting started here," Uchida remarked. "So far nothing's registered."

Dr. Rehkopf turned from one of the viewports. "Tom, I've deployed the meteorology boom." He nodded over at the Geosciences console. "No surprises to speak of. Air speed, temperature, barometric pressure, humidity..." he shrugged. "It's all like a late September day in Germany."

Strolling to one of the viewports, Tom peered over Rehkopf's shoulder. *Chigiri* had landed on the night side of Zea, and he thought back to what he had seen on the flight deck displays, calculating that sunrise was another four hours away. Not that the Sun would produce much light at the distance they were at, but it would help.

In any case the Sun wasn't entirely necessary. Zea was awash in a soft purple light from one of the rings which arced through the sky above. There was sufficient illumination to see that *Chigiri* had landed upon a broad stony plain. The edge of what looked to be grassland was visible at a distance and, squinting further, Tom thought he could just make out the shape of a mountain range on the horizon.

"Is that Jupiter?" Taeko Terajima asked.

Going over to the viewport the anthropologist was using, Susan Flonate looked out and up. "Yes it is. Wow!"

Interested, Tom went over to see for himself. "Looks rather bright and close. Not surprising, seeing as how it's only..." his mind worked quickly, "forty-six million miles away. In fact, if Zea was traveling any slower, I suspect she'd possibly be captured by Jupiter's gravitational pull and become another moon."

"So Skipper," Bud said, trying to play down the excitement in his voice (and not being very successful at it), "what say we stretch our legs some?"

"I know we're on a schedule," Tom replied, smiling. "But I want to wait until after sunrise, if only to see what the lighting condition will be." He glanced over at a wall chronometer. "Not only that, but I expect we'll be receiving

the first of many messages from Earth sometime in the next few minutes. We might want to take care of those first, as well as collect as much data as possible about outside--”

“Tom!”

It was Susan who called out, and Tom saw she was pointing at something through the viewport.

“There,” she said. “Just beyond the edge of the collapsed aerovanes.”

Rushing to the viewport, Tom was able to make out what she had spotted. *Chigiri's* aerovanes had collapsed upon landing, providing a protective circular surface around the spaceship.

At the edge of the aerovanes could be seen nine objects. A blunt pyramid the size of a man, flanked on either side by four smaller pyramids. Searching around, Tom located a pair of binoculars which also featured a built-in night vision system. Bringing them to his eyes he took a closer look.

“Oh... my!”

Each pyramid had a plaque on the side facing *Chigiri*. The larger central pyramid carried a single word on its plaque. It was written in *kanji* characters, and Tom had spent enough time around the Japanese language to know he was seeing the word for “*Chigiri*”.

The plaques on the flanking pyramids didn't carry words. Rather, each plaque held a bas-relief of a human face. The faces of each and every member of *Chigiri's* crew, and Tom tried to shake away the notion he was staring at tombstones.

Chapter Twenty-Two: Recognized

Among the equipment *Chigiri* carried on its hull was a full range of cameras capable of observing surroundings under a variety of conditions. As such it wasn't long before everyone could study the pyramids on the screens of their Tiny Idiots.

Tom, however, paused when the opportunity came to send information about the pyramids back to Earth.

Bud immediately noticed this. "Problem, Skipper?"

Tom idly chewed on his lower lip, his eyes on his Tiny Idiot. "I'd really like to get some solid data on the pyramids before sending this along to Earth. As it stands now, they're only creepy."

Variations of *no kidding* ran through the minds of the others.

Ichikawa was giving Tom a hooded look. "Does this qualify as one of your 'special conditions'?" he asked.

"To be honest, I'm not sure," Tom said, looking back out the viewport at where the pyramids stood. Throughout the mission planning phase... as well as during the trip to Zea... Tom had talked about certain events he lumped under the label "special conditions". If any sort of hostility or threatening situation took place, or if it seemed as if Zea was changing its flight path, *Chigiri* would then immediately blast off and return to *Challenger*.

"We just got here," Tom added, still gazing out the viewport. After thinking quietly for a moment he turned to Professor Terajima. "Taeko?"

The anthropologist toyed with her glasses, frowning thoughtfully. "I'm presuming," she slowly began, "and please correct me if I'm mistaken, Toma-san... but we didn't just coincidentally land near the pyramids, did we? They appeared after we landed."

Tom nodded. "That's what I'm going with. Keep in mind that, if Zea was sent by either the Space Friends or the Senders, then it could possibly employ the same matter transmutation technology enjoyed by those species. If there's some sort of active intelligence on Zea, then it wouldn't have taken much effort to make the pyramids

appear wherever we landed.”

Taeko finished polishing her glasses. “Right,” she said, putting them back on her face. “I know what a lot of us are thinking,” and here she took in the entire group with a look. “Those... objects out there could be construed as grave markers. But, and here I must emphasize as firmly as possible, we *cannot* make the mistake of ascribing human customs to aliens.”

Sue Flonate crossed her arms. “So, if only for the sake of keeping the conversation going, what are they?”

“They could simply be a way for the intelligence on Zea to acknowledge our arrival,” Taeko pointed out.

“There's a little something called 'radio',” Bud pointed out.

“And I'm certain the being... or beings... on Zea could use any or all of our methods of electronic communication,” Taeko replied. “But remember what we talked about while in orbit. Zea may be wanting to study us as closely as we want to study Zea.” She gave a nod towards the viewport which looked out over the pyramids. “We're probably under observation at this very moment, and how we respond in regards to the objects will doubtless be of interest to our hidden friends.”

Quiet for a few moments. Then Tom moved his hand away from where it had been resting on the communications console.

“We'll wait a while,” he said, “before informing Earth about this.”

* * * * *

Sunrise on Zea was hardly as imagination-grabbing as the pyramids, or the glowing ring arc which was visible overhead. At Zea's distance the Sun was a bright pinprick of incandescent light (rising from the West, much to Bud's amusement).

Much more surprising was the fact that, as the Sun appeared, the purple night of Zea was replaced by what looked like a normal level of sunlight as would be experienced on Earth.

“Blue sky and all,” Tom said, studying the instruments. “And I guess I shouldn't be surprised.”

“I think this is more a case of conscious engineering than a natural phenomenon,” Ichikawa offered.

Tom agreed. “The atmospheric gases present in Zea's atmosphere are close enough to what we have on Earth. Sky is blue on Earth because of the scattering of solar radiation on our atmosphere. Since we're nowhere near close enough to the Sun for its radiation to be effective—”

“The rings,” Bud said.

“Give the man the prize,” Tom replied. “The rings might be supplementing whatever we'd normally need from the Sun for an Earthlike sky. I suspect that, as things progress here, we'll find the rings assuming greater importance. Of course,” he added, “we won't actually know until we go outside.”

Which, of course, was the accepted opening for everyone to leave the lab deck and climb down, moving past the living quarters and on into *Chigiri's* airlock deck.

“Let's keep this first excursion to a minimum,” Dr. Uchida suggested. “We haven't had any sleep since leaving *Challenger* and shouldn't exert ourselves more than we have to.”

“Agreed,” Tom said. “Take available readings, collect what samples we can and, to paraphrase my partner-in-crime, stretch our legs a bit. Along with the ground experiments we can also unload the rover, the paraplane, the Video Vikings and the Foresight robots and have everything ready to go once we plan our larger travels. In the meantime...”

Having opened a locker, Tom removed an object resembling a slender overnight bag. Placing in on a central worktable he opened the container and began unfolding the contents.

“I know the mission was thrown together sort of rapidly,” Tom pointed out, “so we didn't have as many opportunities to train as I would've liked. But this spacesuit is so idiot-proof as to be the last word in ease of use.” *I hope*, he mentally added. “You might recognize it as a descendant of my electronic hydrolung. The main difference is that, instead of extracting air from the outside, it's all self-contained and, rather, recycles the air from the small chest container. With normal exertion you shouldn't have to worry

about needing to recharge your air canister for days.

“It's a one-piece transparent coverall composed of a special Tomasite/Durastress weave. Simply pull it on, seal it up and you're good to go. Attaching your Tiny Idiot *here*,” he indicated a marked section on the suit's waist, “will allow both the Tiny Idiot and *Chigiri's* computer to monitor the suit's systems. The head section contains voice-activated microphones as well as audio-pickups. Each head section also carries a pane of flexible SmartGlas which will display requested computer information. Ah, Yoshi-san? I'll give you a special channel for your Tiny Idiot. It'll enable you to monitor the medical telemetry from all the others.”

Dr. Uchida nodded.

“As you know, I had *Challenger* shift its position once we undocked, and it's now occupying a geosynchronous...” Tom blinked, “ or maybe I should say 'Zeasynchronous', orbit above our location. As such our telemetry readings and suit transmissions are not only recorded by *Chigiri*, but are routed up through *Challenger* and on back to Earth. *Challenger* will also act as a communications relay system for us during our more extensive surface explorations.”

Tom now turned the suit over so that everyone can see the flattened metal teardrop attached to the back. “This is special,” he pointed out. “In case of emergency or injury, all you would have to do is press the button on the waist seal. It activates this unit which is a modification of the Werewasp suit. When activated, this pod will cause twin ducted fan thrusters to unfold. The thrusters will then carry the suit, and you, into the air, automatically homing in on *Chigiri's* airlock.”

“Hopefully we can ignore it,” Tono murmured.

“From your lips to God's ears,” Tom replied. “Now, I'll start putting this one on, and the rest of you can watch as I do it to get an idea as to the workings.”

As everyone watched, Tom pulled the suit on over himself, his fingers moving to press the seals together. When finished he stood up, and a brief crinkling was heard as the breathing system produced air for the headpiece.

Smiling at his shipmates, Tom smiled. “See?” His voice not only came out through the headpiece's microphone, but also echoed out from a speaker in the room.

Turning back to the locker, Tom produced a few more items. "Each of you will also have a backpack like this," he said. "It's a collapsible tent which can be sealed from the inside. The tent also carries a spare air pack."

Putting on the backpack he then indicated an object resembling a thick ballpoint pen. "This would be recognizable to anyone who's spent time around my sister—"

Bud began softly whistling.

"It's a much simplified version of something called a 'Snooper'. This end has a miniature video camera which can also be used as a small telescope. Both have a night-viewing function. The other end is a single-use emergency medical injector. Press the tip firmly against yourself and you'll receive a dose of a specially-mixed cocktail containing antibiotics, anti-inflammatory agents and diagnostic nanobots which will enter your bloodstream and immediately begin working and transmitting to both Dr. Uchida and the ship computer."

"Wow," Sue murmured.

"Twist the Snooper once and it's an emergency transmitter/receiver," Tom went on. "Twist it twice and it begins emitting a tracking signal which *Challenger* can pick up."

Tom began producing more suits, backpacks and Snoopers from the locker, and the rest of *Chigiri's* crew began suiting up (everyone checking everyone else's seals). Once the suiting up was complete, Tom pressed a button which opened the inner airlock door and he entered the chamber, followed by Ichikawa, Yoshi Uchida, and Georg Rehkopf.

The inner door was closed and everyone waited while the chamber's air was gradually replaced with the air of Zea.

Tom found himself smiling at the expression on Rehkopf's face. "Nervous?"

"I know I shouldn't be," the geologist admitted. "The Moon, Mars and Mercury were pretty much known quantities. Zea, on the other hand..."

"No argument there," Tom agreed.

A beep was heard, then the outer airlock door opened and Tom led the group onto the wide "porch" which had been

extended from *Chigiri* after landing. Below them the ship was still surrounded by the collapsed remains of the aerovanes. Beyond that stretched the stony plain: a dull gray expanse in daylight. Several hundred feet away was the edge of a broad field of plant life, and Tom could sense Uchida fairly quivering beside him. Looking towards the horizon Tom saw that his earlier observation had been correct. There was indeed a line of mountain peaks far away.

“Anyone having trouble?” he asked.

Head shakes from all around.

Tom now smiled at Ichikawa. “Professor? It's your discovery, so you're first down.”

“Oh no,” Ichikawa quickly replied, although he looked rather pleased. “You and Commander Tono brought us here —”

“Ichikawa-sama.” With a nod, Tom indicated the ladder leading down to the surface. “We're burning daylight.”

The physicist apparently didn't need further convincing and began climbing down the ladder to step onto the aerovane. As his foot first touched the surface, Tom could hear the older man's gentle murmur: “*Chisa ma wadowazu... yusha wa osoresu.*”

The wise man does not lose his way, Tom mentally translated. The brave man knows no fear.

After a few moments, Ichikawa turned and grinned up at the others. “The reduced gravity certainly makes climbing easier.”

Going to the ladder, Tom began climbing down. The others waited their turn while, behind them, the airlock door once again opened to allow Bud and the remainder of the crew to step out onto the porch.

Tom knew that the first planned move for the initial surface excursion was to unseal the outer cargo bays and begin removing equipment. But there was something which took obvious precedence and he walked around the ship until he had reached the line of pyramids.

“Tom,” Bud cried out in his ears. “Wait.”

“I'm not going anywhere,” Tom murmured, staring at the objects. He had, of course, made as close as possible a study of them through the images taken by *Chigiri's* cameras, but

was privately of the opinion that nothing could improve on direct observation.

The pyramids seemed to be the same sort of material as the gray stone which made up the surrounding plain. The stone was smooth with the appearance of having been expertly worked. Silently studying the sight before him, Tom could sense the others approaching and he reached out to the closest pyramid. He suddenly paused as he realized he had been about to touch the one bearing Rehkopf's face.

Quietly he went over to face the stone bearing his image while the others gathered around.

Rehkopf was watching images appearing in his helmet. "No indication of radiation, Tom."

"Um." With a sudden movement, Tom reached out and rested his palm on his image. He could hear a few sharp breaths—

And something else.

"Recognize: Tom Swift Jr."

Chapter Twenty-Three: Examination

Dr. Uchida suddenly spoke. “Tom I'm getting a spike in your heart rate.”

“Yeah,” Tom said, his hand still touching his image on the surface of the stone. “Didn't you guys hear that?”

Silence, and Tom looked at the others. Seven slightly confused expressions stared back at him.

“Heard what?” Bud asked.

“The voice which said my name and said I was recognized.” Tom moved his hand off the stone.

“We heard nothing,” Sue said.

Bud was standing near the stone bearing Professor Ichikawa's image and he gingerly touched it with his hand. “Nothing happening here.”

Tom was idly rubbing his own hand. “Okay. Now, as part of this impromptu experiment, try touching the stone that carries your face.”

Bud wordlessly went over to the stone with his image and pressed his hand against it. He immediately stepped back as if burned. “Whoa!”

“And now a spike in your heart rate,” Uchida reported.

Bud was looking at everyone. “Someone said 'Recognize Bud Barclay'.”

“But we didn't hear it,” Ichikawa replied.

“Apparently some sort of connection occurs whenever we come into contact with the pyramid carrying our particular image,” Tom said.

Taeko blinked in mild confusion. “So... do we all touch our particular images?”

“I would definitely wait,” Yoshi Uchida firmly declared, “and I would very much like to take Tom and Bud back into the ship for a thorough examination.”

Tom had returned his attention to the pyramids. “This may surprise a great many people,” he said, “and especially me, but I'm actually in agreement with Yoshi. First, though, let's at least open up the cargo bays and get the unloading started.” Reaching down to his Tiny Idiot he entered a series

of commands, and everyone turned their attention to *Chigiri* as sections of the lower hull began opening like petals on an enormous flower, revealing compartments which contained a variety of exploration gear. Some of the items were automated experiments and laboratories which would be left behind on Zea. Other packages contained a variety of hand tools.

There were also two vehicles which would assist in getting the crew to and from certain areas near the landing site. One of them was a four-person all-terrain rover, powered by a Swift solar battery, which was assembled from four prefabricated parts.

The second vehicle was a Swift paraplane. Essentially an inflatable jet aircraft, the paraplane could also function as a dirigible, allowing its crew to drift or hover over the ground. As with the rover it could also carry a crew of four.

"I'll go quietly," Tom promised an increasingly fidgety Dr. Uchida. "Just let me get the Video Vikings up and running." As he talked he continued setting out four small metal cubes upon the ground. When finished he touched a button on each cube, causing it to unfold, becoming a humanoid form half the size of a man. Their faces were composed of a single large camera lens and they were programmed to automatically patrol around *Chigiri's* perimeter, transmitting images to the crew as well as to observers back on Earth. If necessary they could also be instructed to investigate specific items and, if possible, return samples to the ship. Larger or more problematical or distant samples could be gathered by one of the two Foresight robots which had also been brought to Zea. Developed by Freida Ames, the Foresights were remote-controlled (either from *Chigiri* or, if one didn't mind considerably slower responses, from operators back on Earth) and possessed a combination of legs, tracks and wheels which allowed them to handle any sort of terrain. Larger than the Video Vikings, they possessed greater versatility and a wider variety of sensors.

Tom finally sighed and, signaling to Bud, began heading back to *Chigiri*. "In fact," he called out, "the rest of you should start considering coming in once you've unloaded everything and buttoned the ship back up. We need to rest so we can make a fresh start later on."

Back inside the ship the threesome slipped out of their

spacesuits then climbed up to the science deck, and Uchida indicated that Tom should stretch out on the treatment table.

“Actually I’m rather put out,” Uchida murmured as he pattered about his instruments. “You of all people. Touching something like that without first carrying out some tests.”

Tom found himself wishing that Taeko had accompanied them. He felt he could’ve used the anthropologist’s support. “It seemed to be just a stone pyramid,” he replied, trying to sound contrite. “Admittedly one which had a rather nice picture of me on it. No reason to consider it harmful.”

“And Dr. Rehkopf’s instruments didn’t pick up any radiation,” Bud pointed out.

“Don’t you start,” Uchida replied, giving Bud a scowl. “You’re even worse than Tom. Touching the stone after what happened to him. A stone, which I happen to mention in passing, is on an alien world. There,” he finished, easing a headband into place on Tom. The band was connected to a brain activity analyzer which was a larger and much more sophisticated version of a portable machine which Sandy Swift had taken with her on her trip to the Sun years before.

“While I’m laying here and staring up at the ceiling,” Tom commented, “I should point out, in the hopes of speeding up this process, that my sister was affected by contact with an alien artifact. It also bears mentioning that, throughout several years of examination, no trace of her condition ever showed up on instruments.”

“You hush,” Uchida snapped, his eyes on various indicators.

After a few moments, though, his mood seemed to relent. “Tom? That first artifact. The one which crash landed at Enterprises all those years ago.”

“Gee,” Bud quipped. “How could we forget that?”

The doctor ignored him. “I’m guessing that more people than you came into contact with it.”

“Quite a number,” Tom replied. “And not just Enterprises people either. Scientists from outside institutions... representatives from the military... eventually some members of the press...”

“And no one heard or experienced anything.” Uchida

lightly tapped a fingertip against his lips, his attention still on his readouts. “And nothing happened with you or the team that accompanied you to the sample ship which was sent to the Moon.”

“Not a thing. We really don't get any recorded... weirdness... until Sandy encountered the artifact down in Ecuador.”

“And that,” Bud added, “started a whole different ball rolling.”

“My brother-in-law,” Tom said, “possesses a talent for timely understatement—”

Koichi Tono's voice called out from a speaker. “Tom!”

Tom lifted his head from the table. “Koichi?”

“The pyramids which you and Bud touched. They just disappeared.”

Bud had been casually leaning against a work table. He now rushed to the viewport which overlooked the pyramids.

Tom moved to sit up on the table. “I'm listening.”

“I just caught the last bit of it, but Ichikawa-sama saw it all.”

Reaching for his Tiny Idiot, Tom dialed access to the SmartGlas transmissions from Professor Ichikawa's spacesuit.

“Yeah,” Bud said from the viewport. “Our pyramids are so gone.”

Tom nodded, his eyes fixed on the computer screen. With Dr. Uchida peering over his shoulder, Tom was seeing the line of pyramids as Ichikawa had seen them moments before. As he watched he saw the pyramids which carried his and Bud's images rapidly dissolve downwards into the stony ground.

I wonder what the Japanese word for “yikes” is? Tom thought.

“Kuso,” Uchida slowly breathed.

And that's probably close enough. Touching the Tiny Idiot's phone function, Tom dialed in the “all frequencies” setting. “Okay people... everyone start getting out of the pool. Georg?”

“Tom?”

“I want you to get a sample of Zea's stone surface for examination. If you want, come inside and use the ship's mechanical arm to try and deliver a sample directly to the geology port. If you've got enough time, however, use the laser to acquire a sample and bring it in a container directly to your lab. Try and hurry.”

“On it.”

Returning the Tiny Idiot to his waist, Tom stared steadily over at Bud.

“Hey,” Bud said. “If this was easy to solve then you wouldn't have any fun.”

* * * * *

Dr. Uchida dutifully took blood specimens from each of the returning explorers as they filed in through the airlock (adding them to the samples he had taken from himself, Tom and Bud). Among his patients was Georg Rehkopf, who was clutching a sealed sample container to his chest as if it contained gold.

“I managed with the laser,” he said to Tom while, at the same time, making a beeline for his station on the science deck. “I didn't take a sample from anywhere near the pyramids but, instead, went a bit out onto the open ground nearer to the airlock.”

With Tom providing assistance, the geologist carefully inserted the container into the sample port where it could then be opened and the contents thoroughly examined. Only after the initial studies were set up did Tom and Rehkopf head down to the living quarters and join everyone else for a meal and discussion.

“I apologize, by the way, for the quality of the food,” Bud said as he passed out packaged meals. “There was a time when a talented cook was standard equipment on Swift expeditions. Unfortunately, all our cooks have recently started taking up literary careers, gotten married or tend to weigh about a ton.”

“Sestina does not weigh that much,” Tom said to Bud, smiling.

“You know I think Sestina's sweet as pie,” Bud replied. “But *you* try lifting her off the ground in a bear hug. Oof.”

Helping himself to some iced tea (reconstituted), Tom sat down with the others. "I imagine," he said, "we all have one thing on our minds to discuss."

"Breaking in here a moment, Tom," Uchida said, "but recent developments drive me to suggest we immediately pass on details concerning the pyramids... plus the disappearance of two of them... back to Earth."

Tom was staring off into space. "Um."

"That would mean, of course," Uchida went on, "quite possibly spilling the beans about your presence on Zea."

"Yeah," Tom breathed. "Well... spilled milk and all that." He sipped on his tea, lost in thought. "What we can do is send an edited version of events to Phyllis for general release. Any information which directly includes me will be included only in a secure packet to Dad. He'll know who to release it to."

"Aren't you rather being over-concerned at this point?" Ichikawa asked. "After all, what's done is done."

"Yeah, I'm paranoid," Tom said. "But let's play it this way for a while longer. At least until we have more data to work with; which brings us to the overall topic of discussion. Namely: what the heck happened out there?"

Silence for a few moments. Then Taeko Terajima sighed and stopped toying with a strawberry. "Everyone seems to be taking particular pains not to immediately call out my name," she said. "Not that I don't mind being considered indispensable—"

"We're just trying to be polite," Tom pointed out.

"And I thank you for it." Taeko gazed at her tray for a few moments. "Obviously the pyramids have been much on my mind." Laying her palms flat upon the table she looked at everyone. "Let us consider what we know. If we had doubts before, the pyramids definitely confirm that some sort of intelligence is present upon Zea. Monitoring us... responding to our arrival."

"You still maintain that the pyramids are some form of greeting," Tom said.

The anthropologist nodded. "Until someone gives me a better idea that's what I'm going with."

"The Zea intelligence," Sue said. "The... Zeans, I guess..."

knew who was on the ship.”

Taeko shrugged. “No enormous surprise there. Zea has already demonstrated a capability to telepathically scan Earth. It wouldn't have taken much to determine who was on the expedition. Not wanting to appear disturbing, but we've probably all been monitored since leaving Earth.”

Koichi and Bud snorted. “Thank you for not being disturbing,” Koichi said.

Tom's eyes glittered with fascination as he listened to Taeko. “And the business about the pyramids telling Bud and me that we were 'recognized'? And then disappearing? What're your thoughts on that?”

“This is where I work without a net,” Taeko admitted. “The intelligence here might want to make absolutely certain it... or 'they', or whatever... is dealing directly with the members of the expedition. The pyramids might be devices which are triggered whenever the proper person touches them.”

Georg Rehkopf had a hand in sort of an odd position near his face, and Tom remembered that the geologist was a pipe smoker when not flying through space. “Each pyramid is tuned to one of us?” Rehkopf asked Taeko.

Taeko shrugged. “We may find that whoever is living on this planet has set up certain systems or mechanisms which are individually designed for each of us. Now that Toma-san and Bud have made contact, the mechanisms designed for them will be in play.”

“What about the central pyramid?” Koichi asked. “The one bearing *Chigiri's* name?”

“I was afraid someone was going to bring that up,” Taeko said with a small wince. “I honestly don't know. I can't imagine it expects our ship to reach out and touch it. Perhaps it was put there to officially mark the landing site—”

“Phyllis' Point',” Tom suddenly said.

Everyone looked at him. “I've, ah... decided to name our landing site 'Phyllis' Point',” Tom explained, suspecting that his cheeks were red.

Several smiles all around, and Uchida lightly applauded. The doctor then turned his attention back to Taeko. “So are you suggesting the rest of us make contact with our

pyramids?”

Taeko was looking as if her teeth hurt. “I would... wait until later on. Let's observe Toma-*san* and Bud a bit longer.”

“Making certain Tom and I don't get up in the middle of the night and strangle all of you,” Bud pointed out.

“I don't think it'll come to that,” Tom said. “Professor Terajima raises some valid concerns, but personally I feel rather safe at the moment.”

* * * * *

In a hidden location on Earth a secret meeting was taking place.

“What have you learned?” a voice asked.

“That our suspicions may be correct,” another voice replied. “We're continuing to receive conflicting information. Our methods may be less than workable—”

“Which they are not.”

“Or we must accept the only possible conclusion: that Tom Swift Jr. is not on the Swift space station, but is actually on Zea.”

A pause. Then the first voice spoke: “If that is the case, then the agent we have placed on the expedition must make absolutely certain that Tom Swift Jr. does not leave Zea alive.”

Chapter Twenty-Four: Excursions

According to all observations and instruments, the Zean day was close enough to Earth's to where no one was surprised. Rather, they felt an elegant mixture of suspicion and interest.

There was still plenty of daylight left after the meal. But everyone was finding their energies sapped from the excitement generated by the landing, the setting foot on Zea, and especially from the incident with the pyramids. It was almost an unspoken agreement that, after some time spent on the science deck, as well as answering messages from Earth (and responding to same), the crew would settle down to sleep and face a full day of work tomorrow.

Bud chatted for a while with Yoshi Uchida and Sue Flonate at the wardroom table before excusing himself and deciding to go on to bed. His steps, however, took him to the closed door of the compartment next to his.

A light tap was answered by: "C'mon in, Bud."

Sliding the door open, Bud entered. "Now how did you know it was me?"

Stretched out on the narrow bed, Tom smiled. "You may live with my sister," he said, "but I still know more about you than she does. You've always had a distinctive knock."

The personal quarters on *Chigiri* were simple. Opposite the door was a single bed located beneath a small viewport. One side of the room featured a work table which hardly deserved the name, while the opposite side was a closet.

Glancing behind him, Bud closed the door and sat on the stool which was the room's only piece of loose furniture. "I was hoping you wouldn't be asleep yet."

Tom's eyes were closed and his fingertips were lightly massaging his temples. "I'll settle down soon. Still a lot to take in, and I'm betting you're in the same state."

"Yeah." Bud lightly toyed with Tom's Tiny Idiot on the work table. "This business about us becoming 'recognized'."

"Um?"

"This isn't gonna turn out to be one of those situations where we're all going to be put on personal trial or

something for being Earthmen, is it?”

Tom's smile grew a bit. “You've been watching too many *Star Trek* episodes.”

“Sure. Don't want to lose my job.”

Tom's eyes now opened and he looked over at Bud. “Huh?”

“C'mon. You've seen the employment applications at Enterprises. Every job description states that, among other things, an applicant must be able to quote portions of dialogue from at least three *Star Trek* episodes.”

Tom stared at him.

“Dody Ames can speak, read and write in Klingon.”

With a chuckle Tom closed his eyes again.

Then: “I don't think it's going to come to that. I think this 'recognized' business is part of something else. Taeko was right: Zea was prepared for our arrival, and the pyramids are just part of the welcome.”

“So why isn't anyone... or anything... coming out to greet us?”

A sigh. “Several theories—”

“Well I thought there would be.”

“Zea might very much be a product of the species which includes the Space Friends and the Senders,” Tom went on. “If so, then remember that they find human thoughts painful.”

“It's sort of stuck in my mind.”

Tom caught the mild sarcasm in the remark. “They'd want to keep their distance. Also: Zea's arrival, so soon after the Space Friend attack, might not be a coincidence. This might be part of an effort by the Space Friends to deal with us in a manner different from the way they had before. And then there's that other possibility that Taeko hinted at.”

“Zea's a giant laboratory maze, and we're the mice?”

Tom nodded. “Depending on what we do... and how we do it... Zea will react or respond in a certain way. Even if the Space Friends aren't involved we have to keep in mind that we've made a direct effort to contact other intelligent races in our part of the galaxy.”

“Wanting them to know how to keep the Space Friends at arm's length. Assuming, of course, that whoever we contact has arms to begin with.”

“True. These races might not know as much about us as the Space Friends did, and they could be curious about who and what we are.”

“So Zea is a sort of probe.”

“It's all theory.”

Bud rolled the notion over in his head. “If I was sending a probe,” he mused aloud, “I wouldn't have it barreling through the solar system. I'd park it in an orbit nearby and carry out a long term study.”

“I sort of agree with you,” Tom said. “But the time element might be part of the deal. Whoever sent Zea might be curious to see how we handle a situation within a specified period.”

“Mm. And the telepathic contact with Earth? The Catatonia Ray, and stuff like that?”

A shrug from the bed. “Zea might simply be scanning Earth for information. What we call the 'Catatonia Ray' could be just a side-effect.”

Bud's eyes narrowed. “You don't believe that.”

“No.” Tom opened his eyes and stared up at the ceiling. “I don't.”

Bud sensed the need to move matters away from deep waters. “You contacted Phyllis?”

As hoped, the frowns faded from Tom's face. “Oh yes.”

“You a gambling man, Tom?”

Tom looked at him quizzically. “Sometimes. Why?”

“What odds would you give me that Phyllis will have the wedding all planned out by the time we get back?”

Tom laughed. “Sucker bet.”

Bud smiled, enjoying his friend's mood. “Y'know, this is the first chance I've had since we left Earth to talk with you about Phyllis.”

“We've been pretty busy,” Tom agreed.

“So. What did it feel like? Actually coming out and

proposing marriage?”

Tom moved his hands behind his head. “Seriously? It felt like jumping over the highest hurdle on the track. Probably like the way you felt when you popped the question to Sandy.”

Bud nodded.

“I always knew,” Tom continued, “that Phyllis and I would get married. I accepted that as a given. But the actual act of committing to it... of finally starting to nail it all down...”

“A big difference between knowing something would happen, and actually making it happen.”

Tom nodded vigorously. “Oh yeah. And now, with Phyllis and me actually engaged, it feels like a whole big weight has been pushed aside. I've been sleeping better since we left Earth.”

A frown skipped onto Bud's face. “I didn't know you were having trouble sleeping.”

“Yeah, well...” Tom looked away slightly. “Don't tell Phyllis, or Sandy, and especially don't tell Mom. I've sort of been having trouble getting a good night's regular sleep ever since the Space Friends solartron business.”

Bud inwardly moaned. “Dammit, Tom—”

“But I'm better,” Tom quickly assured him. “Really. I got this mission going and, more important, I've got Phyllis. And yeah,” he went on, seeing Bud's look, “I know I've always had Phyllis. But you of all people should know there's a difference between being single and being married.”

“It's occurred to me.”

“Hm. I'm wondering if married life will improve my talent for cynicism the way it's improved yours.”

“I guess we'll soon find out.”

“One way or another,” Tom agreed. “After all, we've only got so much time to spend on Zea. And the clock's ticking.”

* * * * *

After breakfast everyone remained around the wardroom table to plan the day's activities. Professor Ichikawa and Sue

Flonate announced that they'd remain on board *Chigiri*.

"We have the scopes and other sensors set up," Ichikawa explained. "We want to start measuring plasma density, drift and acceleration, as well as get more of an idea as to Zea's magnetic field. We also want to make detailed observations of the rings. Tom? Is it too soon to have *Challenger* release the Swiftsats it brought along?"

"Not at all," Tom replied. "I'll send up the command."

Georg Rehkopf also voiced his desire to remain on the ship. "I want to focus on the samples I picked up yesterday," he said. "Of course, if any of you heading outside come across anything in the way of other geological bits of interest, then please fetch them back."

Koichi Tono nodded. "Taeko-*chan*, Yoshi and I are taking the rover out to the ocean coastline. It's only twelve kilometers away, and yes we'll be careful. I take it some seawater samples would be desired?"

"Most definitely," Georg agreed.

"The orbital scans from *Challenger* show a sort of river two kilometers north of us," Koichi went on, passing his Tiny Idiot over to the geologist. "We'll go there and follow it to the coast."

Georg nodded at the display, then passed the computer back to Koichi. "I'd like some separate samples of the river water."

"I'll be bringing back any plants we come across," Yoshi explained to the group. "Tom? The orbital scans show something like a forest some fifty-one kilometers away. But it's in the direction opposite the ocean..."

"We'll discuss it later on," Tom promised. "But I'd definitely like for you to get as wide a variety of samples as possible." He looked over at Taeko. "You're going along for the ride?"

The anthropologist nodded. "I'm going to be the one who first encounters the vicious alien life form, screams and then trips and falls over."

Everyone stared at her.

"I brought along a pair of high heels specifically for that purpose."

Tom muttered something which sounded like “Bud’s contagious”.

“Actually I’ll be helping with sample acquisition,” Taeko went on. “Plus I want to keep an eye open for any artifacts that might be out there.”

“Good idea,” Tom admitted. “As for Bud and myself, we’ll be taking the paraplane to the shaft opening which is fourteen mi... twenty-two kilometers to the east,” he said, mentally adjusting the measurement to metric. “We’ll land on the edge and make some observations. Depending on what we find—”

“Or don’t,” Bud added.

“We might swing towards that tree line, Yoshi.”

The doctor nodded. “I’ll make sure you have a sample kit.”

With everything settled, the five who were heading away from the ship went to the airlock and suited up, with Tom and Ichikawa maintaining a dialogue concerning safety and emergency protocols.

Once outside *Chigiri* the group followed Tom and Bud out to where the paraplane waited. Already inflated, the aircraft patiently floated within the grasp of the anchoring lines it used in lieu of landing gear. As Koichi, Taeko and Yoshi watched, Tom and Bud unzipped the canopy and climbed into the flexible bag which served as the cockpit.

Tom immediately began the pre-flight checklist, handling the console which, along with the engines and the folding light frame that formed the plane’s shape when inflated, were the only solid structures the vehicle featured. “Fuel pumps good... altimeter set... gyros set...”

“Preparing to retract anchor lines,” Bud reported. Glancing up he gave a cheery wave to the others. “We’ll float up a bit before engaging the jets,” he explained, “so you guys don’t have to back away.”

“Have a safe trip,” Tom called out to them.

“Don’t let anything bite,” Bud added.

Moments later, at the touch of a switch, the anchoring lines eased their adhesive grip upon the ground, spinning back into the plane’s body. The paraplane then began

drifting serenely into the air.

Bud kept his eyes on his instruments, especially watching the altimeter as the plane rose. "We're reaching seventy feet, Skipper."

Tom nodded. "Engaging engines."

Behind them the twin turbofan engines roared to life and the paraplane began moving forward, picking up speed as it headed east.

"On the road again..." Tom sang.

"Air again," Bud corrected, also in singsong.

Given the relatively short distance between Phyllis' Point and the shaft opening, the paraplane reached its destination in practically no time. Tom and Bud watched as they flew closer to the gently curving edge of the enormous dark opening.

"To coin a phrase," Bud murmured, "wow!"

Tom was inclined to agree. "Let's set down just a little ways from the edge. That looks like soil down there instead of stone." Moving the control yoke he sent the paraplane into a gradual spiral descent.

When the plane was low enough Tom called out: "Applying braking thrust."

"Firing anchors," Bud replied.

Slowing to a point only twenty feet above the ground, the paraplane fired its anchor cables downwards. Bud had selected the pointed anchor tips, rather than the adhesive ends, and the cables buried themselves into the ground. The cables then began reeling in, bringing the plane to where it hovered only a few feet in the air.

Bud relayed the landing information back to *Chigiri* while Tom climbed out of the cockpit, unzipping the opening to a storage bay in the plane and removing the backpack of exploration gear they'd brought along. Joined by Bud, the two men walked the fifty feet over to the lip of the shaft opening.

For the first few moments they simply stood there, staring down into the darkness. To either side of them the edge of the shaft stretched out into the distance, and the

opening yawned before them as far as the eye could see.

“Okay,” Bud finally said. “At the risk of sounding overly technical: that's a big hole.”

“Is that,” Tom agreed. Taking his Snooper he used its telescope function to peer down into the shaft, but soon sighed. “Nothing.”

Bud quietly won a bet with himself.

Slipping off the backpack, Tom opened it and removed a hand-sized object which he then aimed into the darkness, pressing a button. Bud recognized the device as a laser rangefinder and he waited.

It only took a few seconds for Tom to growl. “Yeah. I can't get a reading. And I don't think it's because the shaft is so deep. The indicator's bouncing all over the place. I think it's like the megascope and something's bollixing the beam.”

His hands on his knees, Bud peered down into the shaft. “You think the Zeans might be down there?”

Tom sighed, attaching the rangefinder to his belt. “Maybe.”

“Okay, Genius Boy. Best guess. How far down do you think this hole goes?”

“Good question,” Tom said, rummaging about in the backpack. He removed an Eye-Spy: a metal sphere which served as a flying drone, able to send back images. “And it's one I intend to find an answer to.”

Straightening up he switched the Eye-Spy on, then threw it out over the opening. As the metal sphere began falling, Tom took his Tiny Idiot and dialed in the control frequency for the device. “Switching on strobe.”

The Eye-Spy was already dwindling out of sight but, when Tom entered the command, both he and Bud could see a bright blinking light which continued falling into the darkness.

Tom studied the telemetry which was appearing on the computer screen. “Six hundred fifty feet... seven hundred... eight hund—*crap!*”

Glancing over, Bud saw that the telemetry had blanked out.

“Something's jamming the transmissions,” Tom said, a touch of irritation in his voice. “So! We can guess that, at around eight hundred or so feet down, something blocks off things like the laser, or the megascope.”

“Well,” Bud said, “fortunately the Eye-Spies are relatively cheap to produce.”

Hands on hips, Tom stared down into the hole. There was no sign of the strobe. “Yeah, well, *this* Eye-Spy was programmed to automatically switch on its rotor and fly back up to the surface.” His mind worked out the available data. “The rotor should switch on if either its radar picks up an approaching surface, or if it doesn't receive new commands from me. I'm figuring it should return in... oh... eight or so minutes.”

Both men stood there, waiting.

Tom noticed Bud squinting upwards. “What?”

“Is that *Challenger*?” Bud asked, pointing upwards.

Following the direction of Bud's outstretched arm, Tom nodded. “Good catch.” Seeing his ship brought a thought up from the depths and he frowned. “Despite what Ichikawa-sama said about cloud cover, I don't think we would've missed seeing the shaft openings in the earlier scans of Zea.

Bud was watching him steadily. “You're thinking the shafts opened up as we approached.”

“That's what I'm going with.”

“If I ask 'why', would your answer really upset me?”

“Maybe,” Tom replied. “If I had an answer to give you. Which I don't. We might be able to pull some data out of the Eye-Spy when it returns.”

“Ah-hhh, Skipper?”

“Yeah?”

“Not meaning to rain on your parade, but your dingus is now officially overdue.”

Tom frowned down into the darkness. “Bud?”

“Skipper?”

“Now I know how a bull feels when a red flag is waved at it.” Turning he began walking back towards the paraplane.

Chapter 25: Programmable Plants, Mystery Metal and When Is Water Not Water?

Even Tom would admit to never being one to gracefully accept intellectual frustration, and he decided to take his irritation out by making a wide detour in the paraplane to the edge of the forest which Yoshi had spotted. He and Bud stayed long enough to gather some samples and then flew back to Phyllis' Point, managing to arrive an hour before the others returned from the ocean.

His mood over the loss of the Eye-Spy was noticed by the others, and Bud took an opportunity before the evening conference to quietly explain.

"It's like this," he said. "Tom's not a scientist—"

"Wait a minute," Sue said. "How can you say that? Tom's a *great* scientist." Her opinion was immediately propped up by emphatic nods from the others.

"Okay," Bud admitted. "Maybe I could've stated it differently. Tom is very talented in mathematics, physics, chemistry and what-have-you. But he's more of an applied scientist than a theoretical one. He's like his father: an engineer with an instinctive grasp of theory." Bud looked over at Georg. "You've heard of Rudolph Popkiss?"

Georg nodded, as did Koichi and Ichikawa. "And I see what you mean," Georg added.

"We studied his works in college," Koichi said.

"Tom's like that," Bud went on. "Give him an aircraft to design, or a spaceship to build, and he's like Nureyev with a drafting board. When it's strictly a matter of theory..." He shrugged. "He'll eventually arrive at an answer. But he needs *information*. And, right now, Zea's teasing him. On purpose."

Everyone exchanged looks. "The planet is teasing us all," Ichikawa remarked. "Perhaps with what we've learned today we can move closer to a goal."

"Any sort of goal," Sue said. "Right now I'm not picky."

"Well," Bud said half to himself, "neither am I."

It was at that moment that Tom climbed down from the

science deck. "The latest batch of messages have arrived," he told everyone, "and I've been privately debating whether or not to broadcast something on all available channels to see if the Zeans would respond." A shrug. "The prime numbers... anything along that line."

"So what'd you decide?" Bud asked.

Tom grimaced, running a hand through his hair. "Well, it occurred to me that Zea's been telepathically scanning our minds, both on Earth and here. Recalling Taeko's warning about giving human characteristics to an alien intelligence, I finally considered that, if I were a Zean, I'd be insulted by something as trite as prime numbers. We're here. We know that there's an intelligence on Zea. The intelligence knows that *we're* intelligent. So forth and so on."

"So perhaps you would send something more complex," Ichikawa suggested.

"Mrs. Applepound's latest book," Bud added.

Tom shuddered. "I want contact with the Zeans. Not interstellar war."

Everyone began moving to the wardroom table, and Tom passed close by Bud. "Oh and by the way," he murmured.

Bud looked over at him.

"I'm irritated," Tom said. "That doesn't mean I'm deaf as well."

"Oh. Sorry."

"Don't be," Tom replied with a small smile. "You've been watching my six for so long. Why stop now?"

"We've all had a busy day," Ichikawa said, sitting down. "Hopefully a productive one. I think we've all got something to contribute."

Tom nodded. "And I think it's a close race to see who's fidgeting most: Yoshi or Georg. Which means we'll let you, Ichikawa-*sama*, start first. Along with Sue."

"Logical," Bud murmured. "Practical. Dramatic enough for prime-time television."

Ichikawa and Sue looked at each other, then the Japanese scientist turned to address the group. "Understand," Ichikawa slowly began, "that the findings Susan and I have

developed are still being analyzed. We're barely scratching the surface. Literally. Right now, though, our model of Zea's geomagnetic field suggests that the planet isn't as dynamic as Earth."

Bud was privately relieved to see a look of hungry interest on Tom's face. He decided to try and keep the ball in play. "So you're saying," he asked Ichikawa, "that Zea's core isn't a..."

"Geodynamo," Tom finished.

Ichikawa looked at Sue, who nodded. "Nothing about Zea seems to be 'usual' as regards a planet. Like the Professor said, it's still early. But we're theorizing that Zea's magnetic field... like so many other things associated with the planet... are somehow linked to the rings."

"Any further findings on them?" Taeko asked.

"As with the shaft openings, the rings seem to defy attempts at direct scanning," Sue said with a sigh. "They could be the source of the dynamic force which enables Zea to maintain, among other things, an Earthlike environment."

Yoshi produced a discreet cough.

"And that," Tom said with a smile, "was as clear a wave for attention as one could hope for. You're on, Yoshi."

The biologist reached down and lifted a sample container onto the table. "What is the term in your language, Tom? A 'lulu'? I've certainly found some lulus here."

Opening the container, Yoshi carefully removed a transparent cylinder which he placed on the table. Everyone could see that within the cylinder were several small green plants rooted in soil.

"First," Yoshi said, "we've been on Zea now for almost two days in ship time. In all that time my instruments and samplers have not found a trace of any organisms existing in the air. No microbes, no viruses... nothing. The Zean atmosphere seems to be sterile."

Frowns all around.

Tom nodded at the plants. "Then how do you explain—"

"This?" Yoshi nudged the cylinder with a finger. "This is a sample of the 'grass' growing near the ship and, presumably,

elsewhere on Zea. It is *not*, however, what any of us would call a monocot, or a standard form of grass. Neither is it a sedge or a rush. It's a plant, but it's one which is able to survive in a sterile environment.

“As for how... look at this on your screens.” Yoshi tapped on his Tiny Idiot, and everyone else studied the screens on their own computers. They were seeing a magnified image of a single example of the Zean “grass”.

Yoshi continued his explanation. “Notice how, instead of being a blade, the plant is rather globe-like in shape. I've just begun exploring the inside of one of them, but I'm beginning to think that each individual plant is a sealed and self-sustaining biosphere.”

“Whoa,” Tom breathed. “Food and respiration and waste elimination and everything?”

Yoshi nodded. “There're plant cells evident, but they're incredibly complex. More so than their terrestrial cousins. Tom, I'd go so far as to suggest that the Zean grass is some form of biological nanomachine. Sort of a living self-replicating mechanism.”

“Wait a minute,” Taeko frowned. “Aren't all living things self-replicating?”

“Beat me to it,” Bud told her.

Yoshi was nodding. “Yes, but this is an example of a quantum jump. A human being can produce another human being. A blade of grass can produce another blade of grass. But I think *this*,” and here he nodded at the plants in the cylinder, “can be reprogrammed to form other plant forms. Under circumstances I can't even yet begin to consider, a single Zean grass plant could become... oh say... an apple tree, or a sunflower.”

“How?” Koichi asked.

“I'd have to know more about this soil the plants are growing in,” Yoshi replied, “but perhaps the plant can reconfigure the soil into basic components that it can use to produce genetic material capable of resulting in an entirely different form of plant.”

Tom noticed how Georg was slowly nodding to himself.

“What we have here,” Yoshi was saying, “is a level of

sophistication far beyond anything encountered in a living organism.” Once again he tapped on his computer, and the other Tiny Idiots now displayed a close-up of the trees Tom and Bud had flown to.

“Notice that these aren't trees as we normally think of them. Rather, they're all conic structures which resemble wood, and they're covered by what can best be described as moss.” Yoshi looked at the others. “Zean wood is, like its Earth counterparts, a fibrous tissue. But when I was studying the sample Tom and Bud brought back, guess what I found.”

“More of the biosphere structure,” Tom replied.

Yoshi nodded. “Exactly. I'm still performing genetic mapping, but the similarities are evident. Along with the moss.”

Tom had pulled the sample cylinder closer and was studying it. “Are the plants producing oxygen?”

“Yes. Oxygen devoid of microorganisms, but oxygen nonetheless.”

Bud frowned. “But wouldn't they need carbon dioxide in return?”

“Normally I would think so. I still need to explore the cellular mechanisms in greater detail. Perhaps these miniature biospheres don't require carbon dioxide. Or perhaps the carbon dioxide is supplied from elsewhere.” He glanced over at Tom and Bud. “Perhaps from the rings. Perhaps from below the surface, via the shafts.”

Tom noticed how Ichikawa and Sue seemed to pounce on Yoshi's last statement. “Ichikawa-*sama*?”

“Sue and I have noted indications of warmer air in the vicinity of the shaft openings,” Ichikawa replied. “We haven't chemically broken down the scans yet, but we might find CO₂ if we did so.”

“Those shafts seem to go pretty deep,” Koichi said, the remark causing Tom's face to briefly darken. “Could the warmth be produced by magma?”

“I'll believe a volcanic vent,” Tom said. “I'll believe more than one. Believing in twenty-six volcanic vents... smoothly circular... equally placed over the entire planet?” Tom shook

his head. "Those shafts are something else entirely. 'A little celery and a few cranberries, but neither fish nor fowl!'"

Bud smiled. "You really enjoyed being around Bingo again."

"Oh yes," Tom agreed. "But right now we're trying to smoothly segue into the geological and chemical portion of tonight's entertainment. Georg?"

"'Entertaining' is perhaps the word for it," Georg admitted. "I have been having a rather mind-filling day. Let me begin with the smaller mystery."

Reaching down he produced a transparent cylinder similar to the one which carried Yoshi's sample of Zean grass. Rather than plant life, though, Georg's cylinder held a clear liquid.

"Zean water," Georg announced. "To be specific: Zean seawater." He nodded to Koichi, Yoshi and Taeko. "My gratitude, by the way, for providing me with this."

He gently rocked the cylinder in his hands, causing the water within to flow dreamily about.

Tom frowned. "It seems to be... thicker than terrestrial water."

"If you were a student, Tom, I would give you a passing grade for making an immediate observation," Georg replied. "Zean water is, in fact, more viscous than what we'd call normal water. It's actually closer to oil. As I said earlier: similar in chemical content to terrestrial seawater in terms of minerals and such, with the exception of the higher magnesium content. I have also been finding some microscopic components which I haven't yet been fully able to break down. And, as with the atmosphere, the water is apparently devoid of microorganic life."

"Any life forms at all?" Tom asked.

"None that I've found, and that includes the samples of Zean river water." Putting the cylinder down on the table, Georg once again reached down. "And now we come to the prize."

When his hand reappeared it was holding a fist-sized flat piece of gray stone.

"This," Georg said, indicating the stone, "is the reason I

became a geologist. For want of a better name I'm calling it 'zeanite.'" He slowly turned his hand, giving everyone a good look at the stone. "At first blush it seems to be an oxide mineral. If you pushed me into a corner I'd class it as either part of the hematite group or the rutile one."

Ichikawa frowned. "Either'? Not one or the other?"

"Hear me out," Georg said. "I've spent the better part of the day running tests, and the only thing I've come up with is more questions. What I *do* know is that it seems to make up the majority of the surface substance of the planet. That and it doesn't like your spectroscope, Tom."

Tom's eyebrows lifted. "Oh?"

Georg nodded tiredly. "All the atomic spectroscopy settings simply seem to bounce off my samples. The only reason I'm narrowing zeanite down to either a hematite or a rutile is because it seems to demonstrate some features similar to that of titanium, but its crystal structure... as near as I can read it... resembles ilmenite, or corundum. I'm going out on a limb and referring to zeanite as a metal. But it defies direct attempts at analysis."

"How?" asked Bud.

"Now it's my turn for visuals," Georg said, tapping on his Tiny Idiot. "Watch. Here I'm showing how a laser was able to cut up a zeanite sample for placement in the instruments."

Everyone watched their screens as a bright spot of laser light played across a piece of zeanite, neatly separating it into two halves.

"Now," Georg went on. "Watch what happened when I tried the same thing on a later sample."

The Tiny Idiot screens shifted to new footage. Once again a laser beam moved across a piece of zeanite. But, unlike before, the beam had no effect.

Tom's jaw dropped open. "What—"

"*Somehow*," Georg said, "between the time I cut the first sample, and the next attempt, all my zeanite samples became impervious to laser light."

Ichikawa reached out for the stone which Georg dutifully handed over. "That's im—"

“Possible,” Georg finished. “Yes. I know. But something about the surface of zeanite seems to shield the substance against scans. As near as I can figure out, and I’m still working on it, zeanite produces some sort of natural electronic field. How it’s generated I don’t know. But I can’t shake the notion that the first zeanite sample somehow *learned* about the laser, and managed to transmit the information to the other samples. In fact,” and here Georg took a breath, trying to calm himself down, “I’d be surprised if the laser would have any further effect on zeanite.”

“A smart metal,” Ichikawa breathed, passing the stone to Tom.

“Whatever is happening with zeanite is probably happening on the atomic level,” Georg said. “But it’s acting like Yoshi’s plants: programmable.”

Bud was staring at the sample in Tom’s hand. “If it could be mined and processed...”

“And that’s why I’m going into adolescent hysterics,” Georg went on. “Imagine: a low density metal as strong as titanium, or stronger. And somehow equipped with a natural force field.”

Bud looked from the metal to Tom’s face, seeing a glow of intense wonder.

“All these pieces,” Tom murmured. “Pieces of a puzzle, and so very tantalizing.”

Slowly, almost reverently, he placed the zeanite down on the table.

“Okay,” he said. “I’m no longer irritated.”

Chapter 26: Spy

With the first wave of sample collecting completed, the next day found everyone remaining fairly close to *Chigiri*. Taeko was busy going over past records of human/alien contact, trying to find a connection between the pyramids and the Space Friends. Yoshi was working in a slightly similar vein: comparing the data on Zean plant life to what was known about Space Friend botany. Professor Ichikawa and Sue were out on the surface, tending to their instruments, while Bud and Koichi were up on the flight deck running checks on *Chigiri's* systems.

Which left Tom feeling as if he was making something of a pest with himself as far as Georg Rehkopf was concerned. But the geologist was glad for Tom's input (being far more direct and timely than waiting for answers to come from Earth-based experts). The two men were sitting at Georg's console on the science deck, both of them watching information appear from the tests which the German scientist was attempting upon the zeanite samples.

"Something at the eight hundred foot level of the shaft Bud and I visited scrambled signals from the Eye-Spy," Tom was saying. "I'm betting it's the same thing which prevented radar or megascope scanning of the shaft, and I'll also bet it's related to what keeps us from getting a really detailed look at the structure of zeanite."

Georg nodded. "The shaft wall. Did it appear to be zeanite?"

"Possibly," Tom replied. "The shaft wall was totally smooth. Almost like looking down an enormous gun barrel." Upon saying that, Tom found himself recalling the giant cannon from Jules Verne's *From the Earth to the Moon*.

Also the Martian-launching device from Wells' *The War of the Worlds*, and Tom tried to shake that thought away and return to the work at hand. "Yesterday you told us you were able to read zeanite's crystal structure," he said to Georg. "Maybe not perfectly, but enough to make an approximation towards it being similar to ilmenite, or corundum."

Georg nodded. "I wasn't able to get as clear a diffraction pattern determination as I would've liked, and the computer

gave me its closest possible comparison.”

“Um.” Tom rolled thoughts about inside his head. “I’m wondering if the remaining pyramids out there will now disappear if you and the others were to touch them, or will they have become as stubborn as your samples?”

“I’m sort of glad you raised the issue,” Georg slowly replied, his eyes still on his readouts. “I’ve been contemplating going ahead and touching the pyramid that’s bearing my image.”

“Bud and I seem to have survived the experience,” Tom remarked.

“Yes, and I’m wondering just how linked the pyramids are to the overall... well, the 'experience' of being on Zea?” Georg looked at Tom. “What I’m getting at is: let’s assume that the intelligence on this planet knows who I am and why I’m here. If I allow myself to become 'recognized' then will I be given more direct access to zeanite?”

“Interesting,” Tom mused. “We’re now theorizing that the lithosphere of an entire planet can be affected by remote control.”

“I know it’s crazy,” Georg agreed. “But it’s no crazier than the idea of a naturally occurring 'smart metal'.”

Tom sat back in his chair. “The Zeans become aware of our expedition,” he said, “and they set up a welcome. The pyramids. Perhaps the Zeans want certain conditions to be met before making direct contact, and the pyramids are part of the rules. We play by the rules and move on to the next step.”

“You make it sound as if we should’ve brought a behavioral psychologist along on this mission.”

“Um.” Tom rubbed the tip of his nose. “Well, we can send queries back to Earth. Personally, though, I think Taeko’s doing a good enough job as it is.”

Georg thoughtfully looked over across the room at where Taeko was bent over a computer. “Maybe we should ask her to come over.”

Tom smiled. “You’d like that.”

Georg shrugged, looking away with a hint of embarrassment on his face. Chuckling, Tom got up and

climbed down the ladder to the wardroom...

And paused, staring at where he was going, and also at what was no longer there.

Perplexed he climbed back up, poking his head through the hatchway. "Georg?"

"Tom?"

"The zeanite piece we were looking at. Where is it?"

Georg frowned. "It should still be on the wardroom table."

"It isn't."

Still frowning, Georg left his console and followed Tom back down into the wardroom. The two men could clearly see that the zeanite sample was no longer there.

They began peering about, looking under the table and around the wardroom. "I know you left it here on the table," Tom said. "It was here when we both went upstairs to start work."

"And it wasn't the sort of shape to just roll off," Georg added.

Tom straightened up, hands on hips. "Okay. Taeko and Yoshi were upstairs with us. Bud and Koichi are up on the flight deck... the Professor and Sue are outside, and we would've known if they came back in..."

"Certainly you're not accusing—"

Tom was shaking his head. "Not in the least. But one of us might've picked up the sample out of curiosity." He continued staring around.

"There is of course," Georg said, "one other possibility."

Tom sighed. "Yeah, and I'm trying not to think of that."

"Think of what?" Bud asked as he climbed down into the room.

Tom explained the missing zeanite to him. "It couldn't have just grown legs and walked off," he said.

Bud let out a low whistle. "Are you sure? Remember that old movie from the 1950's? The one about the alien rocks that started growing and moving—"

“Yeah, and I sort of wish you hadn't brought that up.” Reaching for his Tiny Idiot, Tom dialed in the 'all users' frequency. “Ichikawa-sama.”

“Yes, Tom. Sue-chan and I are setting up the heat flow experiment.”

“Have either of you been inside in the last, oh... hour or so?”

A pause. Then a “No” from both Ichikawa and Sue. “Although we're thinking of taking a break once we're finished with this,” Sue added.

“Okay,” Tom muttered, putting the Tiny Idiot away. “Now this is getting weird.”

“What was it before?” Bud asked innocently.

Tom slowly walked around the table. He then moved his hand along the surface as if feeling for something. “Okay. So it hasn't become invisible.” Thinking for a moment he looked at Georg. “That was the only sample you had out?”

The geologist nodded.

“I know you couldn't get definite readings on zeanite, but maybe there's enough to work with. Tie in what results you have with the atomic tracker and the internal life support monitors. Scan the inside of the ship for traces of zeanite.”

Nodding, Georg climbed back up to the science deck.

Muttering to himself, Tom continued his slow stroll about the wardroom. Bud quietly watched, knowing from experience that Tom thrived on little mysteries such as this.

Tom leaned back against the door to Yoshi's compartment, his eyes fixed on nothing in particular.

“If I was a loose piece of zeanite,” he asked, “where would I be?”

Bud decided not to mention the first thing which came to mind: an idea for a book entitled *101 Zeanite Jokes for All Occasions*.

(“A sample of zeanite goes into a bar...”)

Apparently reaching some sort of decision, Tom headed for the ladder, climbing up to the science deck with Bud following. There he noticed Georg hard at work, with Taeko and Yoshi standing nearby, and Koichi peering down from

the flight deck.

“It'll take a few moments,” Georg said to Tom. “I'm collating data for the atomic tracker.”

Nodding, Tom moved around the room, finally stopping at the console which carried the master display screen. Switching the screen on he began cycling through various views.

Bud moved closer, studying the screen. “Hoping to see the zeanite tip-toeing away?”

“At this point I really wouldn't be surprised,” Tom murmured, his eyes on the screen. “If we're correct in calling zeanite a smart metal, then it begs the question on just how smart the metal is—wait!”

As Bud watched, Tom immediately went back to a previous view. It was showing a scene outside *Chigiri*. Some of the equipment was visible.

“Exterior camera one,” Tom said to himself. Then, in a slightly louder tone, “You see it?” he asked Bud.

Curious, Bud studied the image. “Skipper, I don't really —”

“I notice things in situations like this,” Tom said, his voice sharp. His eyes still on the screen he addressed the others. “Has anyone been working with the Foresight robots?”

A chorus of *nos* from all around.

“Then why is *that* robot,” Tom asked, pointing at the screen, “in a different position from the way it was yesterday?”

Everyone came to the console, and Bud was now seeing what Tom had spotted. He had been in the habit of making routine checks of the outside and, as he mentally compared yesterday's image to what he was now seeing, it was clearly evident that the Foresight robot on the screen wasn't in quite the same position it had occupied since being unloaded.

Tom once again had his Tiny Idiot out. “Professor. Susan. Both of you back in the ship *now!*”

“Tom, *what—*”

“Come inside.”

Bud suddenly groaned. “Oh, God in Heaven...”

“What's wrong?” Tom asked.

“I oughta get my memory checked,” Bud replied. “Back when Sandy and I were lost on the Moon. The Space Friends. They took possession of the Foresight robots we were looking for.”

Koichi hissed.

Tom's eyes widened. He then began tapping instructions into the keyboard beneath the screen. “I'm going to replay the camera recordings at higher speed,” he explained. “Let's see if anything shows up.”

“You're saying that the Zeans might have been controlling the Foresight robots?” Taeko asked.

“As Bud pointed out, there's a precedence.” Tom started the replay. “And he's not the only one suffering from a poor memory. I should've remembered the one constant we came across in our dealings with the aliens: their predilection for proxies. Exman... the remote controlled sample ship they sent to the Moon... the Brungarian kids Bud and Sandy found... there!” Hitting a button, Tom caused the replay to run at normal speed, and everyone saw the Foresight robot suddenly come to life and start moving about.

“*Was zur Holle?!*” Georg breathed.

A beep signaled the airlock in use, but everyone's attention was still fixed on the screen, watching the robot move one way, then the other, and then out of sight.

Tom growled. “I'll move through the other exterior views. Try to find out—”

“Tom,” Bud said.

“Um? What?”

Bud was slowly looking around, his face becoming pale. “If the Zeans could take control of the Foresights...”

Realization dawned on Tom's face and he also paled. “Oh, *no...*”

Koichi frowned. “You're thinking the Zeans might be able to take over *Chigiri?*”

“Maybe,” Tom murmured. “Maybe not. What concerns me more is the notion that, if the Zeans could use the Foresights—”

“They could also be using our own camera system,” Taeko finished, her eyes widening.

Tom slammed a hand down on the console. “Watched! From day one we’ve been *watched!*”

Sue and Ichikawa were now climbing onto the science deck. “Tom, what—” Sue began.

She received a brief nod in return. “Koichi,” Tom said, turning to the astronaut. “Start going through the computer activity log. See if there’s been any unplanned tasks carried out. Look for unscheduled or unauthorized access to any systems.”

Nodding, Koichi headed for the flight deck. Tom meanwhile brought Ichikawa and Sue up to date on what had been going on.

“I know I’m going to sound very obvious,” Ichikawa said when Tom was finished, “but this is serious.”

“Understand I’m not begrudging the Zeans wanting to examine us as closely as possible,” Tom said. “It’s just all this... “

“Sneaking around,” Bud suggested.

Tom nodded. “Yeah. That.”

“*Tom,*” Koichi’s voice called over a speaker.

“Yeah?”

“The airlock was accessed twice this morning. The first time at 0115 hours ship time, and the second time at 0157 hours. And, before you ask, the airlock indicator signal was disengaged.”

Tom considered it. “And none of us were outside at that time, or should’ve been outside.” He looked around, seeing everyone shake their heads. “So someone came on board the ship and spent just over forty minutes looking around before leaving.”

Sue seemed to be drawing an invisible robe closer around her.

“But that still wouldn’t explain the missing zeanite,” Georg pointed out. “It was still on the table when we awoke.”

“True,” Tom said.

“We can check the interior video recordings the same way we checked the outside view,” Bud suggested.

Nodding, Tom turned back to the console. “Oh, but wait,” he said. “The Video Vikings. They were out and about.”

“And didn't report an intruder,” Ichikawa said. “Or the Foresight robot moving around.”

“But they still should've been recording everything they saw on their patrols,” Tom replied, his fingers moving over the keyboard. “We can access their files before checking the inside views... huh!”

“What is it now?” Sue asked.

Tom was frowning down at the console. “Sue, did you see all the Video Vikings outside the ship? Professor?”

Ichikawa and Sue looked at each other. “We noticed them walking around,” Sue said.

“*All of them?*”

Sue shrugged. “I guess. I'm afraid we sort of got into the habit of pretty much ignoring them while we worked.”

“The reason I'm asking,” Tom slowly said, “is because I'm only showing three Video Vikings at work outside the ship. Where is the fourth?”

By way of answering his own question he entered a command into the computer, looking back up at the screen. The others did the same and saw an electronic map of Phyllis' Point appear. The map suddenly began withdrawing into the distance. When it stopped there was a single blinking red dot clearly visible.

“Is that the missing robot?” Taeko asked.

“Yes,” Tom replied, staring at the dot. “And it's almost reached the entrance to the shaft.”

Chapter Twenty-Seven: Getting to the Bottom of Things

Bud had never dared admit it out loud, but he never quite liked any of Tom's robots.

"Suit up," Tom said to him. "We're going after it."

And that's the main reason why, Bud thought. With most of Tom's inventions something went wrong and, nine times out of ten, the invention just sat there. Sometimes embarrassing, but at least it didn't require pursuit.

The robots, on the other hand...

"Monitor the situation," Tom said to the others. "We'll keep in contact."

Bud followed Tom down the ladder to the airlock.

"Shame on the false Barclay who lingers in his home'," Bud murmured, mangling Macaulay, "when a robot of Swift is on the march for Rome!'"

"Huh?" Tom asked.

"Nothing."

As quickly as possible they suited up. "I can understand the Zeans using our cameras and stuff to watch us," Bud said. "But why cause one of the Video Vikings to break ranks?"

Tom's expression was intent and, at first, Bud thought his question hadn't been heard.

Then: "It looks like we're going to play by their rules," Tom said. "Whether we want to or not."

"You wanted answers," Bud pointed out.

"Yes. On my terms."

Leaving *Chigiri* they immediately went to the paraplane. "Still have a fix on the robot?" Tom asked the people inside the ship.

"Yes," Koichi's voice replied in the headsets. *"It looks as if it'll reach the shaft entrance in... six minutes."*

"We'll be there in five," Tom declared, pulling the anchor lines free.

Once it reached a safe altitude Tom fired up the paraplane's engines and set off towards the shaft.

“I’m getting the relay from *Chigiri*,” Bud announced, his eyes on his Tiny Idiot screen. “We can put down practically on top of it.”

No answer from Tom.

The paraplane raced through the air, soon reaching the edge of the enormous shaft. Despite the sensing instruments on board, both men couldn't resist the instinctive urge to peer out the canopy and try to spot the robot visually.

“There it is,” Tom announced.

No problem with those eyes, Bud thought. Of course, Tom could've been using the telemetry feed in his SmartGlas visor, but Bud suspected Tom was too focused to depend solely on technology. Even his own.

Then again, it was rather easy to spot the silver form of the Video Viking as it moved across the gray stone surface.

Swooping the paraplane down Tom cut the engines, using the flight control surfaces to move into a low drift and bringing the vehicle between the robot and the shaft edge. Bud then fired the anchors and the plane came to a halt.

For a moment the two of them watched the robot. Even with the paraplane landing directly in its path the Video Viking didn't pause or look as if it would change course.

“Determined,” Tom muttered. “Bud?”

“Yeah, Skipper?”

“Am I the only one thinking to ask it if it's looking for an old hermit living out in the desert?”

Bud exhaled noisily. “Well, thank God! I thought those things only occurred to me.”

“Ummm... no.” Unzipping the canopy, Tom began climbing out of the paraplane, pausing to remove the exploration gear backpack while Bud climbed out. They then stood together on the ground, waiting to see if the Video Viking was going to simply walk through them.

As it approached them, however, the robot slowly came to a halt, finally standing absolutely still a few feet away.

Staring at it, Tom contacted the ship. “Can any of you access the Video Viking's visual feed?”

A few moments. Then: “No,” Taeko replied. “*We can see what the other Vikings are transmitting, but we're not*

getting anything through your robot. We show all of you together, though."

Nodding to himself, Tom took a step towards the robot. The robot immediately responded by taking a step backwards. Tom moved back to his original position and the robot did the same.

"Okay," Tom said. "That's the way it's gonna be." Reaching for his Tiny Idiot he carefully accessed the robot control function, selecting the channel for the rogue Video Viking. His eyes on the robot, Tom entered some simple commands.

The robot remained still.

"Well," Bud commented. "Nice try."

"To be honest," Tom replied, "I would've been shocked if it had worked." Putting his computer away, Tom addressed the robot directly. "Can you hear me? Can you understand me?"

No response. "And yes," Tom said in an aside to Bud, "I know the Video Viking has no ears or speakers—"

"I wasn't gonna say anything."

"But *someone's* got to be listening in." Tom returned his attention to the robot.

"We're here," he said. "What do you want?"

At first it seemed as if the robot was going to remain immobile. But then it casually walked past Tom and Bud... keeping itself out of arm's reach... and strolled on to the lip of the shaft entrance.

Bud looked as if he were about to jump on it.

"Wait," Tom suggested. "Let's wait."

Both of them watched as the robot reached the edge. It then stopped and, turning to face them, pointed a single arm out over the vast opening.

Tom let out a breath. "Well. That's pretty obvious."

Bud nodded.

"Are all of you watching this?" Tom asked the others.

"Yes," Koichi replied. "*Bud was almost blocking the paraplane camera, but he's out of the way.*"

Tom was keeping his eyes on the robot. "Taeko?"

"You don't need a theory from me," the anthropologist replied. "I'd say it's pretty open and shut."

"True," Tom said.

Bud was studying the set of his friend's expression. "You knew it'd come to this," he said.

"Yeah," Tom answered. "It sort of makes sense. No surface structures. If I was an intelligent species living on a rogue planet, I'd be inclined to put my civilization underground."

"The Zeans seem to enjoy perfect surface environmental control, though."

"Would you gamble all the way on that?"

"Um!" Bud considered it. "No."

"They're down there," Tom said. "That's what *I'd* gamble on."

As if in reply, the robot made a more emphatic point out to the shaft opening.

"Well," Bud said. "Let's take the ol' bull by the horns. Do we try and fly the paraplane down? There's more than enough room to maneuver in. Heck, if we were crazy enough, we could even fly *Chigiri* down there. But we're no way near that crazy."

Tom was staring at the opening.

"I said we're no way near that crazy—"

"I heard you," Tom said. "And yeah, I'd never take that sort of a risk."

Bud felt a knot loosening in his stomach. Then it just as rapidly returned as, in front of their eyes, the Video Viking suddenly leaped off the edge of the opening, throwing itself into the waiting vastness.

With a shout (neither Tom or Bud could agree on who made it), both men rushed to the edge to see the robot plunging down into the darkness. Just before it faded away, however, they saw a transparent blue-tinged bubble form about it, carrying the robot not only further into the shaft but on out in a direction pointing towards where the center of the shaft would eventually be.

They both straightened up, watching the robot move on out of sight.

“Well,” Tom remarked. “That was special.”

Bud nodded. “For its next magical trick...”

Tom stood there, his eyes fixed on where the robot had flown to. It was no longer visible, but he was perhaps seeing it in his mind's eye. Seeing it, and quietly considering things. In the meantime Bud stood nearby, watching his friend's mind at work and trying to accomplish the near-impossible by outguessing him.

He especially didn't like the way one of Tom's hands brushed idly against the activation button for the emergency Werewasp pack.

“Tom?”

No answer at first. But then Tom suddenly turned and, much to Bud's relief, began walking back to the paraplane.

“Koichi-san,” Tom announced.

“Toma-san?”

Tom had reached the paraplane and was resting his hands on the canopy. “Prep *Chigiri* for immediate launch,” he ordered. “No take off as yet but, if something serious happens, we can finish our observations from orbit on board *Challenger*.”

“Getting ready.”

Tom became quiet, staring down into the paraplane's cockpit as Bud moved close alongside.

“They're down there,” he finally repeated to himself.

“Skipper—”

Tom's blue eyes met Bud's brown ones. “That's what *I'm* gambling on.”

Then, before Bud could move or even call out, Tom had spun around and raced for the shaft opening. At the edge he didn't stop but threw himself out into the open air.

“Tom!” Bud shrieked, running to the edge. Reaching it he could see Tom; his friend's body positioned like that of a skydiver, falling rapidly out of sight. But then, as with the Video Viking, a blue bubble formed around Tom, carrying him further into the depths. “Dammit, dammit... DAMMIT!”

“Bud,” a voice was yelling in his head, and Bud realized it was Ichikawa. “Bud!”

“I know,” Bud replied, trying to keep sight of the rapidly moving spot of blue.

“What do we do?”

Bud felt a coldness slowly moving over him. “Keep getting *Chigiri* ready for launch.”

“What are you going to do?”

Bud didn't answer but took a few steps back. His mind filling with thoughts of Sandy he began running...

* * * * *

Nice, Tom thought.

Which was the simplest way of referring to the sensation. He was comfortably floating within the center of a sphere composed of a thin layer of blue light. No sense of falling or acceleration such as there'd be in even the most comfortable of elevators. No nausea or disorientation.

Glancing up he saw that the shaft opening had all but completely vanished. *Did the shaft's width alter?*

Mildly admonishing himself for not being more immediately observant he removed the laser rangefinder from the backpack and began sending signals out all around him into the darkness. But apparently the bubble was no longer near the shaft wall. Either that, or the laser wasn't penetrating the bubble.

How fast am I falling? Tom thought. *More to the point, how far does this go down?*

Even more to the point, what's the bottom like?

Reaching down he gave a reassuring pat to the Werewasp control button. A much more logical part of his mind was thinking that the emergency system might not be sufficient to get him out of the shaft, but well...

One crisis at a time.

A thought suddenly occurred to Tom and he accessed his medical telemetry, watching the results flow across his suit's SmartGlas visor.

Aha!

His cardiovascular and respiratory data had reported a definite spike some... three minutes ago. Which would've been the moment he had jumped. Tom began working

figures out in his head. *Controlled rate of descent... standard air pressure...*

He frowned. *Was the air pressure standard around him?*

And I'm not accelerating, his mind added. *Bummer. Or I am accelerating,* his mind went on, *and I'm just not aware of it.*

In the back of Tom's mind was the thought that he always knew this was how his life might end: with him idly trying to calculate the surrounding circumstances.

He sensed, rather than felt, the bubble slowing to a halt. As before there was no discomfort. But Tom could now dimly make out a surface approaching from below and he eagerly fired off the rangefinder at it.

Yes! Decreasing distance with each pulse.

The bubble came to a gentle stop and vanished... and Tom found himself standing on a broad plain of the now familiar gray stone. His surroundings were dark, but there was enough of a faint light from an as yet undetermined source to where he could see the plain stretching out empty in all directions. Above him yawned the shaft...

And then a small blue dot appeared which fell towards him. Fell and grew, and Tom could see that it was Bud. He waited, allowing the bubble to neatly deposit his friend a few feet away and then vanish.

Tom smiled. "Hi!"

Bud's expression was somewhat less than accommodating, and he seemed to be catching his breath. "Do you know how I know how much you mean to me?" he asked.

Tom shook his head.

"I am so totally drowning my immediate desire to KICK you all over Creation."

"I appreciate it," Tom replied, slowly looking around. "But I really didn't ask you to jump in after me."

Eight... nine... ten. "Oh right. And I'd have to stay behind and explain to Sandy and Phyllis what happened to you. No. Uh uh."

Tom was dividing his attention between the emptiness and the display on his Tiny Idiot.

“You realize, of course, that in a half hour the news of what we did is gonna reach Earth. When it does, the girls are gonna go ape.”

“Yeah,” Tom mused. “That’s one of the things I love about Phyllis. Devotion.”

Eight... nine... ten. Bud forced himself to look around. He then repeated the action, this time much more carefully and slightly more calmly.

“Okay,” he finally said. “We’re here. So where the heck is everybody?”

“We’ve got a much more pressing question to concern ourselves with,” Tom said.

“Oh?”

“Yeah.” Tom stared directly at Bud. “Why are we alive?”

“Well,” Bud replied, “admittedly it’s a question I’ve sometimes asked myself. In this case, it’s because of these neat blue bubbles which carried us down—”

“No, no, no. You don’t get it.”

Bud waited.

“I’ve been working out how far we’ve fallen,” Tom explained. “Obviously this is only a rough estimate—”

“Which are usually pretty good.”

“But if my calculations prove out—”

“Which they usually do.”

“I figure we’ve fallen around seventeen hundred and fifty miles. Give or take several hundred miles either way thereabouts.”

Bud’s jaw dropped open.

“Which means,” Tom went on, “you and I are probably standing on the surface of Zea’s planetary core.”

Chapter Twenty-Eight: Control Surface

“Seventeen hundred?” Bud slowly asked.

“And fifty miles,” Tom completed for him. “Remember it probably isn't as exact a figure as I'd like.”

Bud was staring upwards. “So you're saying that a bubble no thicker than a piece of tissue paper carried us over seventeen hundred miles in...”

“Eight minutes. Figure in Kentucky windage and say nine.”

Bud's lips were moving as he lowered his head. “That's...”

“An estimated eleven thousand seven hundred miles an hour.” Tom produced a small smile. “And all as safe as if you were in Sandy's arms.”

Bud briefly considered the notion of being held by Sandy while traveling over eleven thousand miles an hour. He shook it away. “Tom, that's—”

“An attempt to impress me with a demonstration of inertia control. And it's succeeded.”

“Can I finish a sentence?”

Tom became silent.

“I just wanted to get out 'that's incredible'. And I'm okay,” Bud assured him. “Well... sort of. As okay as I can be considering we're deep within a planet after having been manhandled—”

“Alien handled.”

“—by an unknown technology.” Bud looked around. “But being this far down. We didn't make nearly this much progress back on Earth with the Core Cannon, and you know why.”

Tom did, remembering the experiments he and Bud carried out years ago in their attempt to penetrate the Earth's crust in a manned vehicle. Nine-tenths of the engineering work involved life support.

“So yeah,” Bud went on, staring at the smooth surface upon which they were standing. “I'm one hundred per cent fully sympathetic with your question as to why, if we're at this depth, we aren't boiled alive? Or worse? Inquiring

minds want to know. Me especially.”

“Well,” Tom considered. “Admittedly we just arrived. And I'm still gathering information.” As he spoke he knelt down, removing his Tiny Idiot from his belt and placing the device flat upon the ground.

“Surface temperature: seventy-eight degrees,” he reported, reading the information on the screen. “Do me a favor and pass me the Damonscope out of the pack?”

Going to the backpack Bud rummaged about, finally producing a palm-sized version of Tom's radiation detector/analyzer. Handing it over he waited as Tom attached the device to the Tiny Idiot.

“Point one eight millisieverts,” Tom finally said. He remained where he was, staring thoughtfully at the instruments.

Bud frowned slightly. “You were expecting something like gamma rays?”

Tom's shoulders bobbed. “I don't know,” he said, picking up his tools and rising to his feet. “There's an idea running around in my konk.”

“Well, share it with an old compadre.”

“When I get a few more pieces... hey! What's that?”

Bud had also spotted the slight metal glint and walked over to it. “Huh,” he said, picking something up and walking back to Tom. “Look what I found.” He held out his hand, showing the Eye-Spy. “The prodigal returns.”

“Um. And speaking of prodigals.” Tom looked around. “You'll notice who's missing.”

“Yeah,” Bud agreed. “No Video Viking.” He glanced upwards. “Ah... Tom?”

“Still here.”

“That sort of relates to an issue I'd like to raise.” Bud looked at him. “Two words: exit strategy.”

“Was wondering when that would enter the conversation.” Tom thoughtfully peered into the darkness above him. “Well... first off I wasn't really expecting us to end up this far down. More fool me. I was originally hoping that, if worse came to worse, we could return to the surface

using the Werewasps.”

“That’s seventeen hundred and fifty miles, which means we’d reach the surface in...” Bud’s mind quickly calculated, “thirty hours thereabouts.” He gave Tom a hard stare. “Has anyone tested a Werewasp engine that long?”

“Was on my to-do list,” Tom muttered, taking the Eye-Spy from Bud.

“On your... Tom, I promised Sandy I’d return to Earth and help her raise the baby.”

“Durned decent of you, by the way.” Tom stuffed the Eye-Spy into the backpack. “Swift babies snore.”

“We’re talking about a Barclay baby.”

“And I talked with your mother. She loves you like anything, but she wouldn’t go through your infancy again for a billion bucks.” Tom once again stared up. “Let’s try something offbeat. Tom to *Chigiri*. Anybody?”

“Tom,” Sue’s voice called out. “*Thank God!*”

Both Tom and Bud jumped slightly.

“Relayed through *Challenger?*” Bud asked.

Tom shrugged. “You’re hearing us okay?” he said to the air.

“*You just came through,*” Sue replied. “*Wait, the others are pulling up chairs.*”

“These things are voice-activated,” Tom said to Bud. “Why would they only be hearing us now?”

Bud thought it over. “*Alien noblesse oblige?*”

“Um.”

“Tom,” Ichikawa’s voice spoke. “*Are you and Bud all right? Koichi’s recalled the paraplane on remote control and we’re waiting for it to return—*”

“We’re all right. We’re at the bottom of the shaft.” Tom explained the circumstances surrounding their journey.

A not too unexpected pause followed. “*Ah... do you need us to do anything?*” Ichikawa finally asked.

“Open for suggestions?” Bud murmured.

Tom *shshh’d* him. “Right now we’re still collecting data,” he said. “If we were brought down here then it stands to reason a similar method exists for returning us to the

surface.”

Two of Bud's fingers crossed.

“We'll keep you informed. Oh, and if any of you want, you might go out and become 'recognized'.”

Bud raised an eyebrow.

“Maybe it's part of what gave us access to this transportation system,” Tom said to him. “Maybe it'd help move things along.”

“I think things being moved along is the least of our problems right now,” Bud replied, “but it's as sensible as anything I can think of. God help us.”

“*What do we tell Earth?*” Ichikawa asked.

Tom whistled briefly. “Just... tell them that a new section of the planet is being explored, and contact with the Zeans might be imminent.”

A hesitant “*All right*” followed.

“In the meantime stay in touch. We'll try to do the same.”

“You know Phyllis is gonna punch a hole in something,” Bud told Tom. “For that matter, so's Sandy.”

“One problem at a time,” Tom said. “At least difficulties with the girls can be solved by kissing them.”

“Now *that's* a program I can get behind.”

Tom was slowly moving his Snooper about, making a panoramic recording of their surroundings.

“No reception committee,” Bud said. “No signs. No lights. No map.”

“I know,” Tom replied. “Sort of disappointing.”

“At least something telling us how to get a return bubble would be nice.”

Tom sheathed his Snooper. “That's also disappointing.”

“Oh?”

“Yeah. To be honest I was sort of hoping the Zeans would teleport us here. I always envied Sandy for being teleported and I would've liked the same treatment.”

“Phyllis was right about you. You really need to learn to appreciate gift horses when they show up.”

Tom shrugged. "Well... maybe. And I agree with you. I wish we had more in the way of basic instructions."

"We could pick a direction and start walking," Bud suggested. "See if we eventually find a white rabbit or... Tom!"

"Hm? What?"

"Right now don't move, and very carefully look down."

Tom did so and his eyes widened. He was standing within a pale glowing circle upon the ground. Several lines of ghostly light radiated outwards from the circle's center, and it was by watching these that Tom and Bud were able to determine the circle was slowly turning beneath Tom's feet.

"I'm not feeling anything," Tom told Bud.

"You think it's gonna form a bubble around you?"

"I don't know."

Several smaller circles now appeared beyond the border of the larger one, and a few of the lines at Tom's feet paused in their movement and stretched outwards, making connections with them.

On impulse Tom suddenly stepped out of the circle. It immediately and completely vanished.

"That might've not been the smartest move," Tom admitted. "That might've been for our benefit."

Moving closer to Tom, Bud gingerly stepped on the area where the circle had been. Nothing appeared. "So!"

"What did I do that you didn't?" Tom wondered aloud.

"You used your computer," Bud pointed out. "You used your Snooper. The Damonscope. You talked to the others..."

"Something else." Tom frowned at the place where Bud was standing. "You had asked about a return bubble."

"We were talking about signs," Bud pointed out. "Maps."

"And I said I wish we had more basic instructions... oh, but it can't be that easy."

The slowly rotating circle reappeared beneath Tom's feet.

"I guess it can be." Tom looked up to meet Bud's eyes.

Bud slowly nodded, then looked down. "I wish we had basic instructions."

And a circle now appeared beneath him.

“Well I got me a big ol' batch of space biscuits just begging to be branded,” Bud remarked in amazement.

The two men watched as the circles became connected via a single radii. Smaller circles also appeared beyond their own, and these were also connected to lines from the larger circles.

“Voice operated control system,” Bud breathed.

“I think Taeko hit it closer than she guessed,” Tom replied. “The planet is rigged with some sort of system which is programmed to respond to certain conditions. I'm betting the whole ball of wax that, since we've both been 'recognized', we're meeting those conditions.”

“You're covered,” Bud agreed. “But what do we do now?”

“Well, first off I don't think this is necessarily operating from our voices,” Tom said. “We formulate a specific thought in our minds... make it more specific by voicing it... and this system reads the desire directly from our heads.”

“So we don't make any idle stupid remarks like 'get lost' or...” Bud immediately smacked a hand over his mouth.

Tom shook his head. “I think the system's too sophisticated to respond to stuff like that. I hope. We were talking about signs, lights, maps and return bubbles and nothing happened.”

“Well, not wanting to be a Panicking Polly, but do we ask for a bubble to the surface now?”

They both waited, but the circles didn't change.

“We might have to phrase it differently,” Tom said. “Or maybe these smaller circles mean something. I wonder what would happen, for instance, if we were to walk in the direction indicated by the lines? That circle at my... let's say two o'clock. That circle's connected by the shortest line to my main circle.”

Bud stared off in the direction indicated. “Looks just as dark as everywhere else.”

“Yeah.” Tom rubbed at his chin. “Let's try something a bit more direct. Take us to the Zeans,” he instructed the circles, raising his voice slightly (and feeling a bit foolish).

The surrounding cluster of circles and lines suddenly disappeared from beneath Tom.

“Uh oh,” Bud said.

As they watched the constellation gradually reappeared.

“I don't think it liked that suggestion,” Bud told Tom.

“Might represent a security violation,” Tom, agreed. “What if...” He waved a hand out at one of the smaller circles. Immediately it gave birth to its own system of radii, as well as a group of tinier circles rotating about it. “Whoa!”

“Subroutines,” Bud said.

“Looks that way. No language... just symbology which I guess we have to work out.”

“Or like you said: we need to find the right way to ask a question.”

Tom nodded. “It won't take us to the Zeans. Let's try another tack.” Again he let his voice raise. “Take us to the control center. Or *a* control center.”

At first the lights beneath Tom began to fade, and it almost seemed as if the circles would disappear once again. But they didn't entirely go out.

Instead Tom suddenly winced. “Ow!”

“Skipper?”

“Headache. I guess I... *Holy...*”

The circles beneath Tom and Bud both vanished. At the same instance the men found themselves lifted a few inches into the air. A large blue bubble materialized around them, and then it carried them off into the darkness at high speed.

Chapter Twenty-Nine: Consultant on Call

“Wait,” Tom cried out.

Bud stared at him. “Like we have a choice?”

“No, I don't mean that. If we're being taken to a control center then that's where I definitely want to go. But maybe I can make the trip easier.”

“Inflight movies?”

“Actually,” Tom replied, “you're closer than you think.” Once again his voice raised a bit. “I'd like a real-time map display showing our position and direction of travel.”

At first nothing happened. Then a pale green bubble appeared between Tom and Bud. It was accompanied by a surrounding system of three rings.

“A rough approximation of Zea,” Bud said.

The bubble was suddenly replaced by an eruption of green lights which zoomed outward, not quite touching either Tom or Bud. When the movement stopped the bubble had been replaced by a horizontal flat surface. Lines stretched across several parts of the green projection, and a small blinking red dot was visible at one end.

“Okay,” Tom said. “So it looks like what we have here is a map of the immediate area. This part matches the coastline to the west of Phyllis' Point,” he said, pointing, “so this big curve over at the other end is the closest part of the shaft opening. That up there must be the forest, and this line here's the river.”

“And this blinking dot is us,” Bud added.

“Fair guess.” Tom looked up. “Calling *Chigiri*. You guys still with us?”

“Yes,” Yoshi's voice said in their ears. “*Ichikawa-sama, Taeko and Sue are outside being 'recognized'. The rest of us have already made the trip.*”

Tom's eyes met Bud's. “If it were done when 'tis done, then 'twere well it were done quickly,” he murmured.

“Like you said,” Bud replied in an equally low voice, “it might help in our efforts here.”

“I know. Still...” Tom looked away briefly. Then: “Yoshi, Bud and I are on the move again. We're currently on a course heading of... two forty-three is my best estimate. We seem to be heading back towards the shaft wall, but no higher. If I figured it right we're being taken to some sort of control center.”

“*It,*” Yoshi exclaimed. “*Everyone will be happy to hear that.*”

“Were you getting the Snooper feed I sent earlier?”

“*Ah... no.*”

Tom chewed his lip thoughtfully.

“Maybe you have to be in active contact when taking video footage,” Bud pointed out.

“Um. Possibly. Yoshi we'll try to send some live footage once we arrive at our destination.”

“*We'll all be waiting. I should also mention that the paraplane is back. Koichi is positive he can fly it.*”

“Yeah, I hear the background intent there. I don't want anyone else coming down here until we have more information.”

“*Ryokai,*” Yoshi reluctantly replied. “*Ah, I should also mention that the first return messages dealing with you and Bud being below the surface of the planet have arrived.*”

“Oh neat!”

“*They include messages from both Mrs. Barclay and Miss Newton. Both of them coded 'personal' and 'urgent'.*”

“We're in the doghouse,” Bud remarked.

“Very likely,” Tom agreed. “Okay, Yoshi. Don't pass them along right this moment.”

A knowing chuckle came over the air.

“Sift through the rest of them and feel free to pass on any information any of you feel might be useful to us. We'll talk again in a bit.”

“Understood. Take care.”

According to the map the bubble was approaching the shaft wall. The outside light still barely qualified as dusk, but

both Tom and Bud could sense the gradual approach of some sort of immensity. A greater darkness becoming more and more evident until they were able to see the gray vertical surface rising smoothly up before them.

The bubble came to a halt several feet before the wall and then it vanished, lowering Tom and Bud gently to the ground.

“And another exciting trip courtesy of the Zeen Express,” Bud said.

Tom looked down. “Basic instructions.”

To the immediate relief of both men the glowing circle reappeared under Tom's feet.

“So that's one worry gone,” Tom said.

They both stared at the wall, their eyes following it upwards.

“We've got the Eye-Spy back,” Bud said. “Couldn't we use it's strobe function to provide a bit more light?”

In answer Tom reached for his Tiny Idiot. Tapping on the screen he studied the results, his lips pursed. “The surrounding light barely registers one candela... oh! Hello.”

Bud looked at what Tom had spotted. In the surface of the wall an opening appeared.

“A nice simple ordinary doorway,” Bud said.

“Convenient,” Tom agreed.

“And you'll notice neither of us are moving.”

“Yeah.” With a sigh Tom began walking towards the opening. “Did you notice something else?”

“On top of every other potentially disturbing piece of information? Oh, I don't know.”

“What I meant was that, assuming we originally arrived at the exact center of the shaft floor, we must've traveled around three hundred and forty or so miles to get to this spot.”

Bud frowned. “And?”

“And it took us longer to get here than it did to travel the length of the shaft.”

“You know, Tom, I really didn't start dwelling on disturbing thoughts until I met you.”

“Apologies.” Reaching the opening Tom gingerly stepped in. He then moved on further, Bud following close behind. Beyond the opening was a corridor made of the same uniform grayness as the outside. The only difference was that the light was a fraction brighter.

“This is an improvement,” Tom said. “Even if I can't immediately place the source of the illumination.”

“Want a theory from me for a change?” Bud asked.

“Love one.”

“I'm guessing that practically everything down here is composed of zeanite. Now we've already determined that zeanite produces some sort of electrical field. Maybe the field manifests itself as light in certain situations.”

Tom considered it. “I'll give you an A for that one. In fact, as a reward, you can explain to Phyllis why I jumped off a perfectly good ledge.”

Bud grimaced. “Gee thanks.”

“Don't mention it.”

The corridor soon opened into a circular chamber which, based on some rapid measuring from Tom, measured almost twenty-five feet in diameter and was fifteen feet high.

It was also devoid of any features other than the opening to the corridor.

“I literally don't know where to look first,” Bud remarked.

“You have one advantage over Phyllis as a companion,” Tom replied as he slowly looked around. “Your comedic timing is somewhat more finely tuned.”

Bud blinked. “I was being funny?”

“Anyway,” Tom continued. “I think I know the solution to the problem. Basic instructions.”

The circle promptly appeared, and rapidly expanded outwards.

“Whoa!” Tom breathed.

As he and Bud watched, the perimeter of the circle quickly passed over the entire surface of the chamber. As it

did the walls came to life, producing duplicates of the original rotating circle theme.

Tom slapped at his forehead. "I get it! This is like SmartGlas."

"Crap, you're right," Bud agreed.

"These circles," Tom said, pointing at the one beneath his feet and then at the others on the surrounding wall. "I'm thinking they're some sort of null setting. Kind of like a screen saver waiting for a command to be entered."

Bud strolled closer to the wall. "So what do we do or try now?"

Tom copied his move, then paused and looked back. "Oho!"

Glancing back, Bud saw that the original circle had not disappeared when Tom moved off of it but was still in place. "Interesting."

"Maybe this is also like my work desk back at Enterprises," Tom mused. And then he reached up to pull off his headpiece.

"Tom!"

His eyes still on the central circle, Tom shook his head. "We had to try sooner or later." He inhaled deeply. "Cool but not cold. Or maybe it's just the overall lack of odor that makes it seem cool."

With a tired sigh Bud reached for his own headpiece.

"You don't have to," Tom warned.

"Yeah but it occurred to me Sandy'd look really devastating in black." Pulling his headpiece completely off, Bud took a cautious sniff and frowned. "I could make a small fortune with the pine scent concession here."

"I also wanted to make certain any commands I had wouldn't be distorted by the suit," Tom explained. "And yes, I'm considering the possibility that our commands are being taken directly from our minds. Call it whistling in the dark. *Chigiri*? Still there?"

"*We are now, Tom,*" Ichikawa's voice replied.

"Has it occurred to you," Bud asked Tom, "that our communications with the ship are also being handled

telepathically?”

“It has now,” Tom replied. “Are all of you on the science deck and within sight of the big display?” he asked the others.

“Yes.”

“Good because I'm going to try something.” Going over to the wall Tom rested a palm on one of the circles. “Transmit an image of this room to the science deck on *Chigiri*.”

“Will the system understand that?” Bud asked.

Tom shrugged. “It understood enough about *Chigiri* to use the Video Viking and probably tap into our onboard video—”

“Tom!”

“Ichikawa-sama.”

“We can see you and Bud on the screen. The both of you are in what seems to be a large circular room.”

Tom nodded in satisfaction. “Great. You should be able to record all of this. To begin: Bud and I are currently in a chamber located within the bottom of the shaft wall. If my earlier instructions were correctly interpreted, then this is a control center or some sort. The light circles you're seeing apparently serve as a direct command link to the overall Zean system.

“Now: let's see if I can up the interesting quotient here.” His hand still on the wall circle, Tom turned to look at the center of the room. “Give me a three dimensional map of Zea.”

At first nothing happened. Then Tom suddenly shook his head.

Bud noticed it. “Headache?”

“Not as bad as before. Maybe the system's having some trouble interpreting... oh!”

Bud was seeing it as well. The center of the room was being filled with a large green bubble surrounded by rings. Another simple image of Zea. But as they watched they saw the image become more detailed. The outer surface maintained its simplicity, but the area within the bubble was filling with straight lines radiating out from a central sphere.

A lacy network of pale purple lines also appeared, rapidly growing all about the bubble's interior, weaving in and around the straight lines.

“Those lines,” Tom said, nodding at the image. “Those must represent the shafts.”

“And those other lines?” Bud asked. “Other passages and such in the planet?”

“Maybe. And maybe I should've asked for more detail.” Tom frowned. “If only the system would get over whatever high horse it's riding and decide on a way to provide us with more information. Some way to answer more direct questions.”

“Will I do?” a new voice asked.

Tom and Bud quickly turned to see the man standing in the doorway. Dressed in a simple one-piece suit he was elderly, with a tall and stately build. His face radiated friendliness, and Bud was seeing something very familiar in the man's features.

As for Tom he moaned softly, feeling as if his knees were about to give out from under him. With an effort he remained standing and managed to speak to the man.

“Hello, Grandfather.”

Chapter Thirty: Reflections of Barton Swift

At the space station Sandy suddenly looked up. "Oh no."

Phyllis was nearby, working on editing a broadcast, and she noticed her friend's outburst. "What's wrong?"

But Sandy continued staring off at nothing, her face becoming pale. "Oh dear God, no!"

* * * * *

The man's smile grew a bit, his expression molding into that of someone enjoying a very personal joke.

"Perhaps I should apologize," he said to Tom, crossing his arms and stepping more into the room. "In spite of your initial shock I don't honestly feel you believe I'm really your grandfather."

Tom wished he could take the time to sip some water. He felt as if he needed some. But he succeeded in collecting himself, an achievement he chalked up as a significant victory, and he concentrated on observing everything which was happening. The way the lighting in the room seemed to focus around the man. The new symbols and such which were appearing on the wall.

But, most of all, the man who was casually strolling towards him and Bud.

"My grandfather," Tom slowly said to the newcomer, "disappeared in a South American jungle years ago and is now presumed to have died."

Barton Swift tilted his head slightly to one side.

"I know a few other things," Tom went on, his eyes narrowing. "First: I know my sister encountered an apparition of my grandfather while searching for answers surrounding his disappearance. It was a projection generated by an alien device. Which leads me to second: my family has since reasoned out that the device somehow recorded my grandfather's features and, very possibly, details of his mind as well.

"Third: the aliens we've dealt with have never been shy about using images of people we know in order to deliver messages."

The man nodded half to himself. "True. True. Quite true. It would not only be foolish to try and pass myself off as your grandfather, but totally dishonest as well. But you're beginning to realize that what you refer to as the 'system' attempts to interpret your commands to the best of its abilities. My presence here represents the best possible result of your latest effort."

"So you're not a Zean," Bud said.

"Oh my, no," Barton Swift replied.

"But your presence reveals that Zea is a product of the Space Friends," Tom accused.

"Not even that," the man assured him, "although I can understand how you'd arrive at that idea. May I explain?"

Tom cautiously nodded.

"As you've learned, the part of the galaxy where we live has, for quite some time, been under the domination of the species which you refer to as both the 'Space Friends' and the 'Senders'. One result of that domination has been a standardization of technology on an interstellar level. Matter transmutation... artificial enhancement of mental skills... things of that nature.

"The Space Friends have not, by any means, been alone in their interest in humans. When Barton Swift's pattern was recorded it was routinely made available to other races for purposes of study. One result of this has been to make your grandfather's pattern a part of any... let us say 'particular circumstance'... where contact with humans might become a possibility."

Tom didn't answer.

"Once again, perhaps I should apologize."

"I really don't know why I'm surprised," Tom admitted. "I guess I was so caught up in what we've been learning today that your appearance was one of the last things I expected."

"Am I that upsetting?" the elder Swift asked. "Should I perhaps try to adopt another form?"

"Let's... keep things as they are for the moment," Tom replied. "You're definitely a shock and a surprise, but I won't deny there's also something comforting about dealing with a familiar face."

"I'm pleased to hear that," the man said with a nod.

Tom was now regarding the sight of his grandfather with growing interest. "One thing I'd like to know. Just how much of Barton Swift's actual mind do you possess?"

The man ran a hand through gray hair in a gesture Bud found very familiar.

"Well," Barton said thoughtfully, "I, of course, have no way of knowing how complete the pattern transferral process was. But apparently I possess enough to experience an interesting sensation of pleasure at learning you finally intend to marry your young lady." He looked at Bud. "Not only that, but also at the news that I'll soon become a great-grandfather."

Bud's face became stony. "Don't take this the wrong way," he said, "but please don't involve yourself with my child."

"I sympathize with your concern," Barton told him. "But it's totally misplaced. If your respective families continue to breed true to form," and here he glanced at both Tom and Bud, "we will not have to confront your children. Rather, it is they who will eventually seek us out."

Bud looked away, his face mournful. "Yeah."

"Let's get back to the current situation," Tom said. "If you're not a Zean then where are they?"

For a few moments Barton seemed to be listening to something within himself.

Then: "Not here."

"Not here?" Tom pressed. "Or not on the planet?"

Barton let out a slow breath. "Understand that I am here to assist you. But please also understand that, at this stage, there are certain rules which must be obeyed. You earlier suspected that there are security measures at work here. You're partially correct. I can provide information, but above all that I must take steps to see you're not harmed."

Now it was Tom who crossed his arms. "So it all boils down you being able to answer our questions, but only if the questions are correctly asked."

Barton nodded.

Tom exchanged a look with Bud. Then: "Ichikawa-

sama?”

“Still watching, Tom.”

“Make certain everything's being recorded. Feel free to break in with any questions you feel are relevant. And keep Taeko close by.”

“I'm here, Tom,” the anthropologist replied.

Tom nodded and thought a bit. “Is there a race which is native to this planet?” he asked Barton.

“That is the proper question,” Barton said. “And the answer is no.”

“Great,” Bud muttered. “Extraterrestrial contact has now become a television game show.”

Despite himself, Tom smiled at the remark. Plus it gave him a bit more time to contemplate the next question. “Was Zea sent here on purpose?”

Barton again seemed to withdraw into himself.

“Uh oh,” Bud murmured.

“It is not that bad a question,” Barton replied. “But the reason for Zea cannot be openly revealed. An effort to understand must be made on your part. It may be possible that you will return to Earth without fully knowing what needs to be known about Zea.” Spotting the indignant look rising on Tom's face he quickly went on. “If you come to fully understand Zea then you will also understand why I'm hesitant about revealing everything here and now.”

Tom's mouth had been open. He closed it and tried to hammer out what he felt would be a useful question. “I'm not asking if Zea's a product of one race or several,” he carefully said. “But do any of these security restrictions have anything to do with the fact that the Space Friends and Senders experience intense pain from exposure to human thoughts?”

“No.”

Bud coughed for attention. “Just how are things going with the Space Friends and Senders anyway? We've been trying to transmit information on how the other races could throw off the Space Friends... domination, I guess... but we've been out of the loop as far as learning anything new.”

Barton gave Bud a long and appreciative look. "I would be careful if I were you."

Bud blinked. "Why?"

"Because you and Sandra will doubtless have clever children." Barton leveled a finger at him. "You are so close to realizing everything."

Bud threw Tom a helpless look.

Tom's mind was whirling. "Is Zea somehow part of an offensive against the Space Friends?"

Barton shook his head. "No!"

Tom swore to himself. "We were having less problems before you showed up," he growled to Barton. "You claim we have to make more of an effort to understand Zea. Can you elaborate in any way? We were recognized. The system here on Zea anticipated our arrival and prepared for us. Doesn't that count for something?"

"By now all of your patterns have been recorded," Barton explained.

Bud moaned. "Oh holy Hell—"

"But not in the way you're thinking," Barton said in a comforting tone. "You were not recorded to the extent that the original Barton Swift was. On your world you routinely have to confirm your identities in order to gain access to certain areas. Although you were thoroughly scanned during your flight here, a more complete scan was needed when you arrived."

"Enough of our patterns were recorded to allow us to use the system," Tom said.

Barton nodded. "Exactly."

"Zea is *that* potentially problematical? Enough to justify all these precautions? It's already well on its way to leaving our solar system."

Barton silently stood there.

"No wonder you and Dad fought so much," Tom muttered, looking away.

Bud had moved closer to him and heard the remark. "And your Dad's gonna be seeing this conversation soon."

“I know,” Tom said, running a hand through his hair. “I can't close the damn can of worms. And maybe Dad can send along some sort of insight.”

He turned back to Barton. “Can you at least answer some technical questions?”

“I can try,” Barton replied.

Tom gave a nod towards the doorway. “Are we right now on the surface of Zea's core?”

A smile returned to Barton's face. “Most definitely yes.”

Tom and Bud looked at each other. “Can you supply detailed technical schematics of whatever structures such as this exist on the planet?” Tom asked Barton.

“Most definitely not.”

“What—”

“For the simple reason that you don't need them.”

“I don't...”

Barton's smile grew. “You already have everything you need.”

Bud saw the exasperation in Tom's expression. “Easy, Skipper.”

“I'm easy,” Tom assured him, growing calmer. “Oh I'm so easy.” To Barton: “If we have everything we need then why can't we access more regarding Zea?”

Barton's smile was now a grin. “Exactly what I've been wondering.”

Tom turned completely away from him and stared blindly at the wall, his mouth silently moving. “Well can we at least have descriptions on images and projections and such coded to Earth forms of measurement?” he asked when he finally turned back around.

Barton nodded. “Yes. Enough of your patterns were recorded to make that possible. Simply specify what you need when you enter a command.”

“Well that's something,” Tom mused, staring at his feet for a few moments. “Bud and I should consider returning to our ship and conferring with the others,” he finally said. “We have the rest of today, plus four more days, to try and figure

things out. I presume there'll be no problem in getting back to the surface?"

"None whatsoever, but I rather thought you'd want to spend more time with me."

"We've had a busy day," Tom said. "I'd like to share my thoughts with the crew on a more direct basis. Plus I suspect this isn't the last time we'll be seeing you. Is there some way we can access the system from inside *Chigiri*?"

Again the brief withdrawn look. Then: "The wardroom table," Barton announced. "You'll find a command node installed there."

Tom nodded and, giving a glance to Bud, started for the doorway, Bud falling into step alongside. "Until later then. Thank you."

"Tom."

Tom turned back towards Barton Swift. "Yes?"

"I explained that part of my mission was to see that you're not harmed. And you're not the only one gathering information. My sources are limited at the moment, but I must tell you now that your life, and yours personally, is in extreme danger."

A deep frown appeared on Tom's face. "From Zea?"

"At this time I cannot say for certain."

Tom thought it over, then nodded. "Thank you, Grandfather."

Chapter Thirty-One: Core of the Mystery

A bubble returned Tom and Bud back to the surface, neatly depositing them at the edge of the shaft entrance. Waiting for them there was Koichi and Yoshi, the two of them having arrived in the paraplane. The trip back to *Chigiri* took on the dimensions of a tightly packaged acrobatics routine as Yoshi clambered about the narrow cockpit in an attempt to get early samples of blood from Tom and Bud.

“We're still breathing,” Tom tried to convince the biologist.

“I'll be the judge of that,” Yoshi declared.

“Getting home as fast as possible,” Koichi promised.

* * * * *

“Well, let's go ahead and try this,” Tom said and rested his palm on the wardroom table. “Basic instructions.”

The top of the table immediately glowed with the rotating circle pattern. Watching it, Ichikawa, Sue and Taeko practically growled with curiosity, leaning over the table for a closer look. The others were just as interested, but hadn't moved quite as fast.

“Will it accept multiple users?” Georg asked.

“Will it only respond to questions in English?” Ichikawa added.

“As to the second question,” Tom said, “it'll probably respond to questions in any language. All evidence points to the system as being telepathic. As to the first question,” he shrugged. “You people might want to experiment and see what happens.”

“I wonder if it'll supply examples of alien language?” Taeko said. She then blinked. “But wait a minute.”

Bud consciously tried not to watch the clock in the wardroom.

“Would a technology which includes telepathy even require a written language?” Taeko argued half to herself. “Knowledge... symbols... concepts... all could be transferred directly from mind to mind.” She blinked again. “But the Space Friends used a symbolic language to communicate

with humans.”

“Remember that the 'telepathy' which we're talking about is of an artificially maintained sort,” Tom patiently pointed out. “There may be genuine psionic powers existing within some of the alien races out there, but perhaps not everywhere. This telepathy is a tool, and a tool could still still break down.”

Taeko nodded, taking it in as she gazed at the glowing circle.

Koichi looked at Tom. “We've got good video footage of the two of you with...”

“Go ahead and say it,” Tom prompted.

“Your grandfather,” Koichi finished. “Good imagery on all the symbols which appeared in the room.”

Tom nodded. “Yeah, I want to study some of those. Another reason I ended the visit down there when I did was because it was getting to be too much to take in all at once.”

“The both of you had an extremely full day,” Ichikawa softly said.

“Tell me about it.”

“Tell us about this warning your grandfather delivered. What do you make of it?”

“I won't deny it hasn't been on my mind,” Tom admitted. “One would think that a threat to me would involve all of us equally. But I've apparently become a direct target for someone. Or something.” He shrugged. “Nothing new about that.”

“Don't let him fool you,” Bud told the others. “He's not really that blasé about it.”

“And I'm not,” Tom agreed. “But if experience has taught me anything it's that nothing's gained by flying off the handle.” He stood there and thought to himself for a few moments. “It's late,” he declared. “Like Ichikawa-*sama* pointed out, I've had a full day. I know all of you want to play with the command node, but I want to eat something and let my thoughts settle. Maybe go on to sleep and start with a fresh head tomorrow.” He looked at the others. “What's the response been from Earth concerning our contact with... Grandfather?”

He noticed everyone passing a look amongst themselves. "What?"

"Communications with Earth have sort of broken off," Koichi said.

Tom frowned. "Define 'sort of'."

"So far it doesn't seem to be a problem with our equipment," Koichi replied. "I'm still running a check on systems. It doesn't seem to be solar activity either. All we know for certain is that the transmissions from Earth have become sporadic and we're thinking that perhaps there's a problem at their end."

"I don't like the timing."

"Neither do I," Bud added, his frown matching Tom's. "I'll go up and help looking over the equipment."

"Keep me posted," Tom said to Bud and Koichi. "It'll help me digest my reconstituted tuna."

* * * * *

The next morning Bud climbed down from the flight deck to notice Tom was awake and sitting just outside his room. "Skipper?"

Tom had been reading something on his Tiny Idiot and he looked up. "Bud-O-Rama?"

Clinging to the ladder, Bud let out a sigh. "On the way back to Earth can we stop somewhere and pick up a big thing of flowers or something?"

Tom smiled. "I take it you read your 'Personal and Urgent' from Sandy."

"Yeah."

"That bad?"

"She loves me, she misses me, she wants me... and she's gonna break my neck when she gets her hands on me. Stop laughing."

"Sorry," Tom said. "It's just that great minds think alike." He waved his computer at Bud. "I was going over my message from Phyllis. She's found a house she likes over around the edge of Lake Carlopa, out near the vineyards."

Bud considered it. "Sounds good."

“Yeah. And she's gonna make me sleep out on the front porch.”

Bud exhaled sharply. “Double up on the flowers.”

“I was about to come up and check on you guys,” Tom went on. “Anything new on the communications front?”

“Koichi and I have practically rebuilt the entire system twice,” Bud said, leaving the ladder and going to get some juice. “There's definitely nothing wrong at our end.”

“We're not getting *anything* from Earth?”

“We're still getting the carrier wave,” Bud replied, walking back over. “There's also some occasional chatter on both the space station and DSN channels. Fragments of messages.”

“I can't believe both the space station and the Network are having trouble,” Tom said. “Have you guys tried relaying through the Moon, or some of the other ships out there?”

“We'll be working on that.” Bud's voice lowered slightly. “Have you considered the possibility that the problem might not be entirely terrestrial in nature?”

“I have,” Tom murmured. “But why would the Zea system block transmissions from Earth?”

“I wasn't really referring to the Zea system,” Bud pointed out.

“Yeah.” Tipping back his chair, Tom leaned against the door to his room. “I was really trying not to go there.”

“Maybe we should.” Bud looked over to where Ichikawa, Sue and Yoshi were sitting around the table, the three of them murmuring amongst themselves and studying various images which were floating above the command node. “I see the kids are happy with the new toy.”

“Oh they were busy when I got up,” Tom said. “Did you spend all night up on the flight deck?”

Bud shrugged. “Koichi and I catnapped in between tinkering with the communications system. No biggie.” He looked around. “Where's Herr Rocky and the beautiful anthropologist?”

“Swan diving into a deep shaft.”

“Yikes.”

Tom nodded. “They were already gone when I got up. Georg loaded up the paraplane with all sorts of gear, and then he and Taeko took off for the shaft. They're okay. We had a message from them about a half-hour ago.”

Bud swallowed the rest of his juice. “Anything special on our agenda?”

“Unless something drastic happens—”

“Always a distinct possibility.”

“—I plan to stay here and research over what we learned yesterday,” Tom finished. “Like I said last night, I got a lot dumped on me and I want to spend some time carefully going over it and trying to connect the dots. You heading back up to slave in the salt mines with Koichi?”

Bud nodded.

“Keep me up to date on progress.”

“You do the same. Which reminds me: Koichi wanted you to know he's still got *Chigiri* on an 'immediate emergency launch' basis.”

Tom nodded, returning his attention to his computer. “Hopefully we won't need it.”

“I try to share your optimism, Tom. I really do.”

“Yeah, and I try to sound more confident than I feel.”

* * * * *

For the majority of the day Tom involved himself in discussions and debates with the three scientists at the command node. A good part of the talk involved how best to pose a question to the system in order to receive the best possible answer.

It was Yoshi who seemed to make the most overall progress. “Plant life we have on Zea,” he said. “But animal life? Apparently nothing. And the command node confirms it.”

“Can you have plant life independent of corresponding animal life?” Sue asked. “That doesn't sound like a workable ecology.”

“It doesn't,” Yoshi agreed. “But remember that the plants on Zea are self-contained. And if everything on the planet is

susceptible to the sort of transmutation technology we've experienced, then does Zea really need a normal ecological system?"

Regular reports came in from Georg and Taeko, both of whom were apparently roaming at will deep beneath the surface of the planet. They didn't send nearly as many video signals as Tom and Bud had and, as the afternoon began to fall towards evening, they announced that they were returning to *Chigiri*. Not only that, but Georg was planning a special experiment.

Tom was naturally interested. "What're you up to, Georg?"

"Wait and see," was the answer.

Bud and Koichi reported that communications with Earth had slightly improved, but only packets of the most basic information were making it through to them. "Although they seem to be getting everything we send," Bud added.

"*Challenger* should also be getting the transmissions from Earth," Tom said. "Download its files and see if there's more content from that direction."

"Good idea."

Over an hour later the paraplane returned to Phyllis' Point, and Georg and Taeko climbed back into *Chigiri*.

"Not a single building *anywhere*," Taeko grumbled. "I might as well have stayed up here with the command node."

"She kept calling up nodes everywhere we went," Georg said, smiling. "Pestered the system for details."

"How far did the two of you travel?" Tom asked.

"*Everywhere*," Taeko sighed, rummaging about for something to drink.

"We took more advantage of the bubbles than you did," Georg told Tom, his voice serious now and his accent becoming more prominent. "An *absolut fantastische* way of traveling. I didn't keep as good a track of our progress as I should have, but I feel we covered at least one-sixth of the planet."

"That's... far," Tom said. "If I had known you were planning on doing that then I might've said something. In

spite of the system the two of you could've ended up getting lost.”

Georg shook his head. “No problem,” he replied airily. “The bubbles knew where we needed to go to get back to the surface. Tom! The area below the surface of Zea is honeycombed with passages and chambers.”

“*All of them empty,*” Taeko snarled.

“But listen,” Georg went on, ignoring the outburst. “There are traces of basic elements upon Zea. Just as I spotted from orbit. Aluminum, calcium and such. The majority of what I've found, however, has been zeanite. But Tom...”

He not only had Tom's attention, but that of everyone else in the room.

“Beneath the surface of Zea there appear to be no stratas of different mineral types. No deposits or accumulations of anything like iron. As near as I can determine, the internal structure of Zea seems to be *composed entirely of zeanite!*”

A low whistle from Sue.

“Is that geologically possible?” Yoshi asked.

Georg sighed and began strolling about the room. “We get fragments. Meteorites composed mainly of nickel-iron combinations. That iridium meteor which was found years ago. But an entire world? Composed mainly of a single metal?” Georg shook his head. “The scale of this is unprecedented. And that's even given the unusual qualities of zeanite.”

“You had mentioned an experiment,” Tom gently prompted.

Georg nodded, pausing in his stroll. “*Ja!* I have. Taeko helped me set up some equipment I left on the floor of the shaft. A Damonscope. Also a seismometer and other geophysical scanning instruments.” He glanced up at the wall clock. “In... ah! Timed this right. In just over six minutes we should get some definite readings on the core activity within Zea.”

“Oh?”

“It's actually a clever idea,” Taeko said, smiling for the first time since returning to the ship.

“If it works,” Georg hastily added. “The nature of zeanite prevents us from getting detailed readings. But it occurred to me that maybe there was a way around the restrictions.”

Realization slid into Tom's mind. “Programming a smart metal.”

“Even so,” agreed Georg. “Once I had the instruments set up I called for a command node and, estimating how long it would take for Taeko and I to return here, ordered the zeanite in the immediate area of the floor of the shaft bottom to briefly become transparent at such and such a time. That time should arrive in...” he once again looked at the clock, “five minutes eight seconds.”

“Brilliant,” Tom exclaimed. “Do you think the transparent window will conduct heat readings?”

“I set up a bolometer.” Georg shrugged. “We'll have to wait and see.”

Everyone climbed up to the science deck to gather around the central console. Learning of what was going on, Bud and Koichi came down to witness the results of Georg's work. A measurable collective tension began rising as the clock indicated the moments remaining.

“If the system had objected to Georg's idea,” Ichikawa murmured to Tom, “then would we have received a message here?”

Tom's eyes were on the clock. “We'll find out in three... two... one!”

At first nothing happened. Leaning backwards, Bud glanced down the hatchway to see no reaction at all from the command node on the wardroom table.

Then Georg's Tiny Idiot beeped and he quickly studied it. In the next moment his eyes widened. “*Unglaublich!*”

Pushing past everyone else he went to the master console, inserting his Tiny Idiot into a corresponding slot, his fingers then dancing rapidly over the computer keyboard.

“These readings,” he murmured.

Coming up behind him, Tom studied the data which appeared on the screen.

“Oh,” he breathed. “I just don't...”

Expressions of surprise also appeared on the faces of Ichikawa and Sue.

Taeko and Yoshi looked at each other and shrugged. "If anyone can translate what we're seeing into agricultural terms..." Yoshi began.

"Georg's plan apparently worked," Bud explained. "And yes, it's very weird."

"In what way?"

"Well, when your father-in-law happens to be, among other things, a gifted nuclear engineer, you tend to pick up the occasional tidbit. I think Georg was expecting to find a solid inner core, somewhat similar to what we have on Earth."

"I take it..."

Bud was keeping his eyes on the screen. "The inner core of Zea is *not* solid," he said. "Rather, it looks like a really dense gas being held in a plasma state. If that Damonscope reading is accurate, the inner core is also throwing out neutron radiation at levels fit to beat the band. I'll bet if we had all been looking out the viewports towards the shaft we would've seen a beam of light heading into space at the moment the floor section became transparent."

"It might've burned out the instruments," Tom was heard to mutter to Georg.

"The computer's still crunching numbers," Bud said to Yoshi and Taeko, "but it looks as if the core temperature of Zea is high. I mean really, really, *really* high. I might be reading some of it wrong, but it looks as if nucleosynthesis is taking place down there."

"Nucleo—"

"Creating new atomic particles," Tom replied, turning from the screen to look at them. "Putting it in simplest terms: the inner core of Zea is a nuclear fusion reactor an estimated seven hundred and twenty miles in diameter."

Chapter Thirty-Two: Nuclear World

“But—,” Taeko began.

And then she stopped as she saw the expression on Tom's face. In fact, with the exception of Georg (who was still poring over the incoming data from his instruments), everyone's attention was drawn to Tom: watching as he seemed to intently stare off into nothing.

“Oh,” Bud whispered.

“What?” Taeko asked.

“I've seen this before,” Bud murmured to her. “Also on Sandy. I wasn't around when Tom's dad was busy inventing practically everything, hardly leaving anything for Tom to do, but I bet he did the same thing. Something's trying to occur inside Tom's mind.”

“And I'm still not deaf,” Tom said.

Bud had the sense to look contrite.

“But you're right,” Tom continued, his attention returning to Bud and the others. “This puts a whole new spin on the ball. Maybe one that'll get us closer to the answer. I don't know.” His voice dropped a bit. “I don't know. Yet.”

“This can't be a natural occurrence,” Koichi said, waving a hand at the screen. “Can it?”

“If *that* was a natural planetary core,” Tom replied, giving the screen a brief nod, “then it would've totally consumed Zea. But it's encased in a zeanite shell.”

“Purposefully?”

“If so,” Tom said, “then we have to conclude that, for some reason, the natural core of Zea was replaced with what we have here. And yes,” he nodded, “we're talking about an impressive feat of engineering. But keep in mind who we're dealing with. The Space Friends, the Senders... possibly quite a number of intelligent races out there could no doubt terraform planets as easily as you or I would change a light bulb.”

“Perhaps whoever accomplished this knew Zea would become a rogue planet,” Ichikawa pointed out. “They knew that a normal planetary core wouldn't be able to sustain

life... oh, but that's wrong.”

“There apparently wasn't any native life on Zea to maintain,” Tom agreed. “Unless we count the plants, and they might've been placed on Zea simply to... oh, I don't know. Help maintain the air. Besides that: another part of the alien technology involves the ability to move planets about at will. If Zea did somehow become a rogue then it would've been simple to just nudge it back into an orbit somewhere.”

“There's also the power to consider,” Bud remarked.

“Thank you,” Tom replied gratefully. “I could understand burying a fusion reactor on Zea if the only purpose was to provide enough heat and such to maintain a stable environment while wandering out in deep space. But the size of that thing.” Tom glanced back at the screen. “That's the equivalent of a small star. It's producing energy on an enormous scale. Why? For what purpose? Professor?”

Ichikawa had been reading more of the data on the screen. “Um? Toma-san?”

“The rings surrounding Zea.”

The scientist slowly nodded. “Yes-sss. If, as Sue-*chan* and I suspect, the rings are capable of producing an intense magnetic field, then they could be assisting the zeanite shell in keeping the core under control.”

“And the energy from the core could be powering the zeanite,” Georg added, straightening up from the console, his eyes still on the screen. “If zeanite can distribute energy throughout its mass, then perhaps the source of its power is the core. The shell of what we've been calling the outer core could be using the power to generate a protective energy field strong enough to help the shell survive the effects of the nuclear reaction.”

“That's something else I wanted to mention,” Ichikawa said to Tom. “The solartrons the Space Friends were building around the Sun years ago.”

Tom's eyebrows lifted. “Oho!”

“Back then,” Ichikawa said to the others, “it was believed that the solartrons survived being so close to the Sun because they could take the Sun's energy and convert it into mass on an instantaneous basis. But what if it was also

something else?”

“The solartrons could've been composed of zeanite,” Koichi said, receiving a nod in return from Ichikawa.

“It hasn't been just the core that's been modified,” Georg declared, turning to face the others. “Practically the entire planet has been modified.”

“And when we know the reason why,” Tom said, “we'll have it all.” He headed for the ladder.

“Where're you going?” Bud asked.

“Up to the flight deck to work with the radio. Radios I understand.”

* * * * *

It was a half-hour later when Tom, sitting cross-legged on the floor of the flight deck, glanced up from his work to notice Bud regarding him from the hatchway.

Smiling, he returned to his tinkering. “You know what I've been thinking of?”

“No, but I bet I'm going to be real surprised when I find out.”

“I was remembering you telling me about when you and Sandy were lost on the Moon. You were messing around with outdated Russian electronics, trying to find some way to communicate with the surface and get help. I always sort of envied you having that experience.”

Bud snorted. “Yeah. I was seriously injured, I damn near died, and Sandy and I were being hunted by a raving psychotic armed with atomic weapons. I respect you an awful lot, Tom, but you should never get that bored.”

“Um. Point taken.” Tom carefully returned the multiplexer to its position within the communications console. “Well, I can't complain about the work you and Koichi put in. And we *are* starting to get more in the way of responses from Earth.”

Tom didn't feel up to mentioning the private message which his father had sent. The rather haunted way his face had seemed on the screen. And the message itself: *“I should be grateful for the sense of closure. In so many ways it seems like my father. You and I both know it isn't, but I*

can't ignore what I've been feeling when I see him moving about and hear his voice. A part of me thinks Dad might've been pleased by knowing his mind and his personality was selected to represent the human race. Or maybe he would've been upset by the notion that he's been reduced to a sort of interstellar commodity. I don't know, son. I'm just glad it's you out there handling this and not me. I would've messed things up."

"No you wouldn't," Tom whispered.

Then, in a louder voice: "There's still some odd gaps showing up in the transmissions. We apparently received something in the way of a warning from Sandy, but I can't find a trace of it in the log."

Bud thought it over for a bit, then shrugged. "I'm sure it'll be repeated. I can send off a message asking for clarification. Meanwhile, everyone's downstairs having supper."

"Yeah. I can hear them, even all the way up here. Georg's discovery has really thrown a rock into the pond." Tom leaned back against the pilot's chair. "We've uncovered so much. So why aren't we at the finish line?"

"We're not asking the right questions," Bud offered.

"And I'm in danger," Tom murmured. "Usually that sharpens my thinking. It isn't working this time."

"You've got company," Bud told him. "My mind ain't working either. Admittedly it's not so unusual a condition with me..."

"What do you mean?"

"I've been going over what your grandfather told me. That business about how I was close to realizing everything."

Tom's mouth drifted open, then he started moving up off the floor.

"This is one of the reasons I like having you around," he said to Bud. "You're smarter than I am."

"Huh! Fooled me."

"I'm a genius," Tom admitted, settling into his chair, "but you're smarter. You proved that when you married my sister."

"That didn't involve brains," Bud pointed out, moving to

stand behind the chair. "That involved... and maybe we should just let that water flow on under the bridge." Closing his mouth he watched as Tom used the computer to call up part of the video record taken of their visit beneath the surface of Zea.

"It should be..." Tom murmured. "Yes. There!"

On the screen Bud and Barton Swift were speaking. "*Just how are things going with the Space Friends and Senders anyway?*" Bud had asked. "*We've been trying to transmit information on how the other races could throw off the Space Friends... domination, I guess... but we've been out of the loop as far as learning anything new.*"

"*I would be careful if I were you,*" Barton Swift had replied.

"*Why?*"

"*Because you and Sandra will doubtless have clever children. You are so close to realizing everything.*"

Tom slowly sat back in the chair. "Huh."

"That's what's been bothering me," Bud said. "What did he mean by that?"

"I remember Grandfather being a lot of things," Tom replied. "But obtuse wasn't necessarily one of them." He thought for a moment. "You had asked how things were going in regards to the Space Friends. Nothing unusual or special about..." His voice suddenly became soft. "That."

"Uh oh," Bud said. "I know that look."

"That last part of your comment," Tom slowly said. "The bit about how we've been out of the loop as far as learning anything new."

"Yeah, but—"

"We've been out of the loop," Tom repeated, tasting the words. "The human race has been left out of the loop."

Bud watched him, waiting.

"We're on the verge of being brought in," Tom said, excitement gradually rising within him. "That's got to be the answer. You may have been right back when you asked if this was going to be a situation where the human race would be judged. We're not going to be judged, but we're sure as

Hell going to be *tested*. Zea's not just a laboratory maze, like Taeko theorized... it's an entrance examination."

"To what? A bigger role in the scheme of things?"

"I don't get all the answers at once." Tom looked slightly apologetic, even as his mind felt as if it were on fire. "I don't have enough space between my ears."

"Once again: fooled me." Bud now noticed how his friend's attention now seemed to be focusing on a portion of the image which was on the screen. "What now?"

"Look there." Tom pointed. "Just to the left behind Grandfather. That business on the wall."

Bud leaned closer. "Yeah. That's one of those new images we were all gonna study closer."

Tom stared at it a moment longer, then he rose from his chair and headed for the ladder, climbing down.

Bud followed to see Tom at the master console. The large screen had come to life, and it was showing a close-up of the image from the flight deck screen. Then "Scuse me" from Tom as he moved back to the ladder and resumed climbing down, Bud hurriedly scampering after him.

In the wardroom the others looked up at Tom's arrival. "We saved you some banana pudding," Yoshi offered.

"In a minute," Tom told him, moving to the table. "Need a bit of room here," he went on, trying to move plates and such aside with as much courtesy as possible, following this with placing his palm flat on the table. "Basic instructions."

The command node appeared.

"I know you're linked to *Chigiri's* systems," Tom said to the air, his hand still on the node. "There's a picture currently on the science deck's main monitor that I want reproduced in its original form here."

Above the table an image appeared. A three-dimensional collection of forty-five dots of varying size. Many of the dots were located within a series of long ovals, with the oval nearest the center of the image colored red.

Tom stared at the image, hands on hips and nodding. "I shouldn't be upset," he said. "But my telejector can't produce results this clear."

Georg was also looking at the image. “Is that—”

“One of the new items we saw yesterday,” Tom told him. “Yes. Bear with me, people. I’m sort of excited right now, and things sometime get pushed together when that happens.”

“It’s not very detailed or informative,” Taeko said.

“We could ask the Zea system to produce labeling,” Georg pointed out. “Provide more detail.”

Tom quickly waved the suggestion away. “They want us to play by their rules,” he said. “It’ll mean more points if we win by them. And, if I’m right, the problem is that we’ve got too much detail.” Once again he touched the command node. “Can you remove the ovals from the image?”

The ovals immediately disappeared, leaving only the dots.

Tom let out a slow breath. “Oh yeah.”

Bud coughed. “I may have married Sandy,” he said to Tom. “But...”

Tom was looking around at the others. “Anyone?”

No answer.

“Sue? Ichikawa-sama? C’mon. You two must’ve seen this hundreds of times. Don’t let the lack of labels throw you. Read the pattern.”

“I’d claim there’s definitely something familiar,” Sue said. “However...”

“Look,” Tom said. Leaning over the table he reached into the image, pointing a finger at the dot in the center. “The Sun. *Our* Sun.”

Sue’s mouth opened. “Oh!”

“Here,” Tom continued, moving his finger. “Alpha and Proxima Centauri. Over on this side: Groombridge 34, Ross 248, Barnard’s Star, Ross 154, 61 Cygni. If we move in the opposite direction we have Sirius, Procyon, Luyten’s Star and so on. Up here: Wolf 359, Ross 128, Lalande 21185...”

“Star chart,” Koichi breathed.

“The pattern pretty much matches,” Tom replied. “Of course I could be wrong. Maybe what we’ve got here is part of a control combination one uses to order a latte on Zea.”

Personally, though, I think I'm close enough for government work.”

“A localized astronomical display in a control room,” Ichikawa said. He stroked at his chin. “It would make sense.”

“But what did the ovals mean?” Bud asked.

“One miracle at a time,” Tom told him. He looked back at the display, a decision building in his mind. “Okay everyone... make sure you get a good night's sleep. We're all going to be very busy tomorrow morning.”

“What's on the agenda?” Sue asked.

“We're going underground,” Tom said. “All of us.”

* * * * *

Once again in a hidden location on Earth.

“All of our efforts at this end have been exhausted,” a voice commented. “And the reports from our agent indicate that all is in readiness. Tom Swift is to be assassinated at the first opportunity according to plan.”

Chapter Thirty-Three: The Fifth Day

It was during breakfast that a thought occurred to Ichikawa. “Toma-san...”

Tom looked up from his reading. “Professor?”

“I of course relish the opportunity to explore the interior of Zea. But do you consider it wise to have all of us travel below the surface? Shouldn't at least one or two remain with *Chigiri*?”

“Oh, most definitely.” Tom sipped at his coffee, glancing back down at his Tiny Idiot. “I wouldn't worry about it.”

Question marks grew in the minds of everyone around the table. The only exception was Bud who quietly closed his eyes, shaking his head a bit.

Ichikawa frowned. “Then...”

“Obvious answer,” Tom replied. “We take *Chigiri* down into the shaft with us.”

Silence except for the sound of Sue's spork leaving her hand to fall upon the table top.

Koichi was staring hard across the table at Tom. “We take *Chigiri*—”

“Correct me if I'm wrong,” Tom asked, looking up at him. “Excluding the main drive, which we didn't use, the 'Taka' system has sufficient fuel to return us to *Challenger*.”

Koichi nodded.

“In fact we have quite a healthy fuel reserve. We wanted to be prepared for unforeseen circumstances so we made certain of that.”

“That's true,” Koichi slowly replied. “And I see where you're going with this. But... and please bear with me a moment... if you're wanting to take *Chigiri* down into Zea, then that means a total round trip of around fifty-six hundred kilometers on top of making the return trip to *Challenger*. As you say, we've got a good fuel reserve. But what you have in mind would severely cut into it.”

“True,” Tom admitted. “If we used the secondary drive for the whole round trip. But I suspect we'll only need to use it to return to the surface, and maybe not even then.”

Bud had opened his eyes. “Aha! You're thinking about the bubble system.”

Tom nodded. “The bubbles have carried us and our research equipment up and down to the core of Zea. I see no reason why it shouldn't do the same for *Chigiri*. But it's not,” he added to Koichi, “as if I'm just jumping into the dark.”

“This time,” Bud muttered.

“I'll want the engines prepped for immediate firing in case a bubble doesn't appear,” Tom went on. “In fact, we might want to bring the main drive on line and ready to go just in case.”

“The main drive for the ship wasn't meant to be used in a planetary environment,” Ichikawa pointed out.

“I understand that,” Tom told him. “But Zea's pretty tough. Not only that but, if a situation arose where the only thing which could save us would be the main drive, then I'd want to leave the planet anyway and return directly to *Challenger*.”

“It would be nice and comforting,” Taeko considered, “to have the ship with us down there.”

“Not only that,” Tom added, “but I'm thinking the planet wants us to find the answers, so I'm sure they wouldn't mind if we brought all our tools along.” He finished his coffee. “Let's saddle up, people.”

* * * * *

Just over an hour later found *Chigiri* hovering out over the entrance to the shaft. Once again Koichi, Bud and Tom were on the flight deck while everyone else was below and strapped down in their quarters.

Koichi's eyes were on his instruments, his hands on the controllers. “Reducing thrust,” he announced. “Starting descent.”

Tom had been given the responsibility of monitoring the main drive, freeing up Bud to assist Koichi in case something went wrong. “Superconductors running on standby mode,” he said. “Fail-safes unlocked. Injector feeds, ICH coupler and compressors clear from zero to redline.”

Chigiri was drifting down into the shaft.

“If everything holds true to form,” Tom said, “a bubble

should appear at the two hundred forty meter mark.”

Bud quietly let two of his fingers cross.

“One hundred ninety meters,” Koichi murmured. “Two hundred ten... two hundred fifteen.” His hands tightened on the controllers. “Two hundred twenty-five...”

One of Tom's fingers was brushing back and forth across the COMMIT button on his console.

“Two hundred thirty-five... two hundred—*oh!*”

Tom and Bud immediately recognized the sensation. “That's the bubble kicking in,” Tom said. “Cut thrusters.”

“We're accelerating,” Koichi said.

“Yeah, it's a quick ride. Cut thrusters.”

Calling upon silent gods, Koichi switched off the engines, feeling a thin film of sweat on his forehead. His eyes were on the new readings appearing on his monitors. “Rate of descent constant. Eighteen thousand nine hundred and four kilometers per hour.” He slowly let out a breath. “Wow.”

“Yeah,” Bud agreed. “It's a booger of a ride. But I'd keep my hands on the controls anyway.”

Koichi wasn't sure he couldn't let go of the controllers unless someone applied a wrench.

“I'm keeping the main drive ready as well,” Tom said. “I'm feeling more trustful towards this system, and I want to stay alive so I can go on feeling this way.”

In spite of all concerns the rest of the trip was uneventful and, minutes later, *Chigiri* was gently deposited on the surface of Zea's outer core.

“*Kakudan*,” Ichikawa's voice breathed over the intercom.

“No kiddin',” Sue's voice echoed.

Koichi was lightly petting the controllers. “Tom, your cybertron is perhaps my favorite among your inventions,” he said. “But this is impressive.”

“Don't feel as if you've got to spare my ego,” Tom replied, unbuckling his harness. “I'd dearly love to bring the bubble system back to Earth. Even,” he sighed, “if it means our entire transportation industry goes down the toilet.”

Bud had tapped on some of his controls and was studying the results. “We're getting good downlink from *Challenger*.”

Tom considered it. "So apparently the distortion field which was scrambling the telemetry from our Eye-Spy earlier is no longer in effect. Dang it."

Bud and Koichi looked over at him. "What's wrong?" Bud asked.

"I just wished we'd been able to study the immediate gravitational field around the ship during our descent," Tom told them. "I should've left instructions with the command node. Someone switch on the exterior lights before we go out."

A half-hour later found the crew of *Chigiri* stepping out onto the broad dark plain. For the benefit of those who hadn't yet ventured down into the shaft, Tom quietly allowed for a few minutes of simply looking about.

He had finished checking the contents of his backpack when he noticed Bud staring up into the shaft. "Problem?"

"Understand I'm not complaining," Bud said, walking over to him. "Bringing *Chigiri* down here was a good idea and all. I just hope we haven't all been lulled into a sense of complacency and have fallen into a trap."

"Where's that boundless enthusiasm and optimism you used to have?"

"Right now my boundless enthusiasm and optimism is in the form of a pert and cuddly blonde with blue eyes, creamy complexion and who's also in the family way. She's waiting for me back in Earth orbit."

"Um! Granted. Accepted. And about as succinct a summation of the twenty-first century situation as I could hope for." Straightening up, Tom slipped on the backpack and looked around.

Bud noticed his friend's action. "Expecting something?"

"Just wondering if Grandfather was going to meet us here."

Bud shrugged. "Switch on a command node and call."

"That's... sort of not what I want." Tom looked at Bud. "It's hard to explain."

"You'd like it to be more of a personal experience than a phone app."

"Yeah, you and I have been together quite a while, haven't

we?" Tom raised his voice slightly. "All right, ladies and gentlemen. We're here. We all know how to call up command nodes. Here's that magical moment when the answers simply fall into our laps."

No one moved and nothing happened.

"So... it takes a little longer."

"*Sumimasen*," Ichikawa murmured, looking about. "I must confess I was rather wondering if my grandfather was going to make an appearance."

Or perhaps your late wife, Tom silently thought, possessing enough wit not to voice the theory out loud. "Not too unusual a notion," he said, "but keep in mind that my grandfather appeared because he was scanned by an alien machine years ago. Unless anyone else here has a relative who's experienced a close encounter, I think Barton Swift is the only possibility we face. Georg! What're you doing?"

The geologist had moved away a bit from the group. Standing on a command node he was now holding his hands out before him in a pose which made Tom think of a stage conjurer.

"Just trying something," Georg said, concentrating on the space immediately before him. "Let's see if I can... ah!"

As everyone watched, a globe of zeanite the size of a baseball slowly molded itself out of the ground and rose into the air until it hovered between Georg's hands. The faint shimmer of a blue bubble could be seen enclosing the globe.

"I'd been considering some theories," Georg explained to the others as they gathered about, "and I thought I'd test them here. I asked the command node to produce a sample of zeanite for me to play with."

"As opposed to the samples you've been officially studying on *Chigiri*?" Tom asked with a smile.

Georg shrugged with a slight air of embarrassment.

"Don't apologize," Tom assured him. "There's no rule which says I have to be the genius of the expedition. Who knows? Maybe Mrs. Applepound will start a series of books about you."

The zeanite globe wavered slightly.

"It's the mutability of zeanite which has been fascinating

me,” Georg explained. “After all the talk about the enormous power present in the core, I thought I'd try a few experiments. For instance.” Making certain he was still standing on the command node he directly addressed the globe. “Convert your mass into... carbon.”

Within the bubble the globe immediately darkened to black.

A chorus of murmurs echoed around the others.

“Let's try something a bit more *von der Wand*,” Georg said. “Convert your mass into platinum.”

The globe now took on a grayish white hue.

Georg looked around. “Anyone else want to try something?”

Tom was staring in fascination at the globe. “Convert your mass into fluorine.”

The globe became a yellowish gas which was given a faint green highlight from the tint of the enclosing bubble.

“Amazing,” Yoshi whispered.

Sue now spoke up. “Convert your mass into pumpkin pudding with a guacamole glaze.”

The gas once again became solid, this time appearing as a spherical mass of yellow-orange thickly covered with bands of a crusty green substance.

Bud looked at Sue. “You got any relatives in Texas?”

“I think I see where you're going with this,” Tom said to Georg, his eyes still on the globe. “All substances are composed of atoms which, consequently, are composed of various combinations of protons, neutrons and electrons. If one has both access to and finely tuned control over a practically unlimited supply of subatomic particles, then one can literally form whatever substance one desires.”

Taeko frowned. “That would require vast amounts of energy.”

Tom nodded, went “ahem” and pointedly looked down.

Taeko followed his glance. “Oh.”

“What I was trying to do years ago with my solartron idea, this planet has carried to the ultimate degree,” Tom said. “The nuclear reactor which forms the core of Zea can

apparently interact with the large amounts of zeanite all around. By giving the proper instructions one can literally reshape the zeanite into whatever he or she might... need."

Tom's voice had drifted into slowness.

Bud noticed it. "What?"

Tom was shaking his head. "Something's percolating back here. Let me think for a moment."

Ichikawa had leaned over and cautiously poked at the bubble with a fingertip. "The mass you have within the bubble can apparently draw upon a store of subatomic particles as needed," he said to Georg. "Between all the scanning the planet has done on human minds, it doubtless carries enough of our knowledge of elements to produce our requests."

"But where's the information being stored?" Koichi asked.

"Perhaps the zeanite itself," Georg suggested. "Remember that whatever one portion of zeanite experiences is 'taught' to the rest of the planet."

"So what you're saying is that the entire zeanite mass of the planet can be one enormous computer."

"I don't know," Georg replied. "We're still just scratching at the surface."

Bud nodded. "What we really need is access to whatever sort of central records system might exist on Zea. A home base. A central control complex."

"Such as the one you and Tom visited," Koichi pointed out.

"Maybe. I don't think it was meant to be a major installation, though. Barton Swift was pretty cagy when we asked for engineering details concerning whatever sort of control apparatus existed on Zea."

"No," Tom suddenly exclaimed.

Everyone looked at him.

Tom returned their stares. "Grandfather didn't provide us with technical information because he said we didn't need it. We didn't need it," he repeated a bit more slowly. "Why don't we need it?"

No one immediately ventured an answer. Then Bud finally made an attempt. "Because... we already have

everything we need. Oh God, that's so lame. I'm sorry.”

“No,” Tom declared, pointing a finger at him. “That might precisely be the answer. Remember? I had asked Grandfather why, if we had everything we needed, we couldn't find out more about Zea.”

Bud nodded.

“Maybe my problem is that I just phrased it wrong. Maybe it's *because* we have everything we need that we can find out more about Zea.”

Bud knew he was looking as confused as he felt. “Tom... okay, you got me. I admit it. I've got absolutely no idea where you're heading with this.”

“Oh then you'll love this next part. Question: why is Zea a planet?”

Chapter Thirty-Four: “I Have Loved the Stars Too Fondly...”

Bud knew he would always remember this moment: when Tom had a handful of the finest scientists on Earth looking as if they'd been rudely awakened from a sound sleep and were all standing about wearing dopy expressions.

Of course he knew his own pose wasn't much of an improvement. “Huh?”

“Zea,” Tom repeated patiently. “Why is it a planet?”

And Bud thought: *They're all waiting for me to make an answer. I get to be the stupid one.*

However it was Yoshi who ventured a hesitant comment. “Ah... because it's big?”

Oh, thank God, Bud thought. *That was all I would've come up with.*

“Actually,” Tom said, “I think it's the size of Zea which was throwing us off all along. Otherwise we might've arrived much sooner at the theory that's currently bouncing around inside my noggin.”

Ichikawa was developing a shrewd look on his face. “Perhaps, Tom, it hasn't just been you who's been phrasing things wrong. Perhaps what we should be asking is why you think Zea can be something else other than a planet?”

Tom nodded, his hands on his hips as he slowly paced about. “Interestingly enough, if I recall correctly, the word 'planet' is derived from an ancient Greek term meaning 'wandering star'. Which describes Zea perfectly.

“But things are starting to connect and, if I remove the notion of Zea as a planet, then the connections become that much more solid.” He began ticking off points on the fingers of a hand. “A planet mostly composed of a single metal? Orbiting by artificial rings which are possibly regulating energy fields, and perhaps even gravity? A planet whose core is a whacking big fusion reactor?” He swept the crowd with a single searching look. “Are we that blind?”

Again everyone else exchanged a look. Then Koichi spoke up. “We accept that there's been extensive terraforming—”

“*Terraforming?*” Tom closed his eyes briefly, working to

calm down. "Sorry. I'm not mad at anyone. Or, if I am, I'm mad at myself for being an idiot. And not just now. Early on as well."

"Early on?" Ichikawa asked.

"All this brain power on the expedition," Tom replied, "and we left behind perhaps the one person we could've really used. Phyllis."

"I hate to say this," Sue remarked, "but you're getting more and more confusing. I mean, I can understand why you'd want Phyllis along—"

"And not just for that reason," Tom said, a small smile on his face. "We've got engineers, astronauts, geologists, physicists, anthropologists... but what we really needed was someone with practical experience in marketing and public relations." He noticed the expression on Sue's face. "I know. I'm not making myself much clearer. But I should've realized what was going on back when it occurred to me that Zea might've been a ploy to get the human race further into interstellar relations. I was almost right." He nodded to himself. "I was really close. But Phyllis would've seen it much sooner."

"Tom—," Bud began.

"Zea's not a laboratory maze," Tom declared. "Nor is it an intelligence test. It's a *sales pitch!*" His eyes on the others he immediately suspected what they were probably thinking. "Okay. Rather than immediately blurt out what I'm thinking, let me lead you down a few more points and see if the lights come on. Excuse me for feeling a touch dramatic. Bud!"

Bud almost felt the need to snap to attention. "Skipper?"

"I'm not trying to sound stupid, but remember when we were taken to the control center?"

"Yes I do, and no: you're not sounding stupid."

"I made an observation then that I really should've chewed over more. The fact that it took longer for the bubble system to get us to the control center than it did bringing us down here."

Bud nodded. "Yeah."

"When I first asked the command node to take us to the control center I got a sudden pain in the head. I'd been getting those on odd occasions while dealing with the

system.”

Sue was nodding. “We've all been getting those pains here and there. We figured out those were due to the system experiencing confusion as to how it could best answer a question.”

“Exactly,” Tom replied. “At first I passed it off as being part of the security restrictions Grandfather mentioned. Now I'm realizing that, when I asked for a control center, the system was responding as best as it could. Not only did it take Bud and me to what was essentially a bare bones sort of affair, it made the bubble take its own sweet time in delivering us while it got things ready.”

Koichi blinked. “Got things ready?”

Tom nodded. “Don't you *see*? There was never any control center there to begin with. It was just the system trying to respond to a request.”

Blank looks.

“Okay,” Tom said. “Everyone gather close around and I'll demonstrate. And Georg?”

“Tom?”

“Thanks for providing a further clue with your zeinite ball. C'mon... come stand close around me.”

The group moved to stand nearer to Tom.

“Basic instructions,” Tom said, causing a command node to appear at his feet.

“Now,” he intoned. “Build me a command center.”

As everyone watched, the zeinite floor around them began to flow. Filaments of material were rising up on all sides.

“I want a circular chamber,” Tom said to the air. “Let's say oh-hhh... forty-five feet in diameter. Height: ten feet.”

The zeinite filaments were rapidly weaving themselves all around the group.

“Provide a direct open access to *Chigiri*,” Tom added. “Now, for the nuts and bolts.” He thoughtfully tapped at his chin. “A central control console a few feet ahead of where I'm standing. I'll want wall displays all around, but I'd like a main display on the wall forward of the console.”

Taeko went *eep* and backed away a step as the zeanite near her feet began flowing upwards, forming itself into a wide, curving waist-high platform.

“Seems to be reading my mind for additional details,” Tom mused. “Oh, and can we have the interior lighting just a bit brighter? Somewhere between the base setting and normal surface daylight illumination.”

The dimness within the room gradually faded away.

“Not much to see in the way of details,” Bud observed.

“That’ll change,” Tom assured him. He stepped closer to the console, frowning down at it. “The right third of the console I want devoted to observation of reactor operations,” he ordered. “The left third I want devoted to scans of the immediate area of space. All possible formats which exist within range of Zea’s capabilities, and geared towards human visual perception. As for the center part of the console... directional plotting of Zea’s position and relative velocity. I want the wall displays to show a continuous loop of real-time data related to the arrangement I’ve described for the central console. All subject to change of course.”

Lines of color flowed across the console, separating themselves into squares and rectangles which gradually filled with smaller shapes. Meanwhile the wall produced eight evenly spaced squares upon which various images appeared. One of them was immediately recognized as the star chart Tom had pointed out earlier, complete with its original ovals.

“Oh, and chairs for everyone,” Tom added.

Zeanite flowed just behind him, forming a chair which Tom settled into. Seven other chairs bubbled into existence at the same time, allowing the others to gingerly relax.

Turning in his chair, Tom smiled at everyone. “Nice?”

“Impressive,” Yoshi replied.

“But it doesn’t quite help,” Tom went on, nodding to himself. “All right. Acceptable. Admittedly I was wanting to do this to test out some of my theory. But follow me a bit. When I made the earlier request for a command center I ended up at what I now presume was a compromise on the part of the Zean system.

“As Taeko has taken pains to point out: Zea is a product

of an alien intelligence. That doesn't involve just social norms and perceptions but apparently extends to engineering concepts as well. When you or I think of something like a 'command center' we usually have in mind something already in existence at a central location somewhere.”

Slow nods all around.

“That's the human way of thinking given the current state of our technology. But the Zean system has apparently passed far beyond that. Why set up a permanent installation at a fixed location when it's just as easy... simpler even... to set up an installation wherever you want or need it?”

Both Bud and Koichi slowly went “Ohhhhh...”

Tom held out a hand, palm up. “If I wanted to, I imagine I could summon up a globe of zeanite which would fit in my hand and which could perform all of the functions I'd want this room to be capable of. But I'm much more comfortable with this sort of arrangement.” He swept an arm around at the surrounding chamber. “It's customization. It's an optional feature for anyone who visits Zea. As I said, Phyllis would understand it immediately. Yoshi?”

The biologist became attentive.

“All of this,” and, once again, Tom indicated the room with a wave of his hand, “is outfitted for humans. But did you ever read the report Sandy submitted on the various Space Friend forms she saw on the Sun?”

Yoshi nodded. “Oh yes. That caused debates for months. In some quarters the arguments are still going on.”

“Imagine one of the more radical life-forms which Sandy mentioned. Think of that life-form on Zea. How would they design a command center? The physical dimensions? The accommodations? The instruments?”

“Completely different,” Yoshi replied instantly. “Probably alien to our way of thinking. It's even doubtful whether or not they needed instruments. They made use of spaceships, to be sure. But we never quite came across anything which suggested controls or instrumentality in the way you or I would think of it.” Next to him Taeko was nodding in agreement.

“And, as before,” Tom added, “variations customized to

suit individual needs. Phyllis could probably write the sales brochure in her head.”

“Sales brochure for *what?*” Bud asked.

“Ask Koichi,” Tom said. “After all, he and I had the same idea. We just didn't know, at the time, how close we were to the truth.”

The Japanese astronaut looked perplexed.

“Don't you remember?” Tom asked him, turning in his direction. “When you saw the image of Zea you commented on how it resembled *Challenger*.”

Koichi nodded. “Yes, but—” He then stopped, his eyes widening.

As did Bud's.

“Tom,” he breathed. “Are you saying Zea's a *spaceship?*”

Tom shook his head. “No. Much better than that.”

“Better?”

“Zea's a starship.”

Chapter Thirty-Five: “...To Be Fearful of the Night.”

“A starship?”

Tom was nodding, slowly turning about in his chair as he took in the entire room. “Understand I may be wrong. I still don't have all the facts in yet. But, more and more, the notion that Zea is a starship is becoming the only solution which fits the facts I do have.”

“Perhaps you'd like to share your facts with us,” Ichikawa said to him. “I'm impressed by your theory, Toma-san. But, until all the answers arrive, it must remain a theory.”

“Fair enough,” Tom agreed. “In fact I'll start with you.” Tom stopped turning and faced the astrophysicist. “When you originally discovered Zea you thought it was a comet. Correct?”

Ichikawa nodded.

“But you're not a comet hunter, Professor.”

“True,” Ichikawa admitted. “Originally myself and the others on Japan Prime were tracking down what we thought was a soft x-ray transient in the region of Cepheus. We couldn't find the transient, but when I later examined the recorded data I came across what I first thought was a comet, but which later turned out to be Zea.”

Tom was wearing a smile which Bud privately felt belonged in the dictionary next to the word “enigmatic”. “You found your transient, Professor.”

Ichikawa blinked. “Zea?”

Tom nodded. “Run with me a bit on this. The reactor beneath our feet.” Tom gave a mild stamp of the floor with a foot. “Enormously powerful. Producing enough energy to allow recognized individuals to shape zeanite to serve their purposes. But, even considering the sort of power that would involve, it's still just a scratch at the total output of the core.”

Ichikawa considered it. “Possibly.”

“Very possibly,” Tom added, “and I suspect my father's probably wanting to hijack a spaceship just to come here and study the reactor. And Mom's probably having to keep him

locked up in their compartment on the space station.

“But back to the discussion at hand. The reactor here on Zea is producing tons of energy. That's *tons* of energy. Perhaps even enough energy to bend space on a local level, as well as provide some sort of thrust to move the entire mass of Zea.”

An eyebrow rose on Ichikawa's face. “A space warp drive?”

“Why not,” argued Tom. “It's been discussed for years. About the only thing anyone could agree on was that such a drive would need enormous quantities of power.” Again Tom's foot stamped on the floor. “Right here, Professor. Right *here*.”

Ichikawa became thoughtful.

“If Zea was able to warp in and out of normal space,” Tom continued explaining, “then there'd be some sort of side effect on a local level. Maybe even...”

“An x-ray burst,” Ichikawa breathed in realization.

“And there's your transient,” Tom finished. “A warp signature indicating Zea's arrival in our solar system.”

Ichikawa sat back in his chair, thoughts obviously racing behind his eyes.

Taeko now shyly raised a hand. “Can I have a turn now, Tom?”

“Professor the floor... or rather the planetary core... is yours. And go ahead. Prove me wrong. Show me where I'm messing up.”

“This is where you've got to work him like a fish on the line,” Bud murmured to her.

Taeko scratched lightly at her forehead, then began. “It's certainly an attractive theory,” she admitted. “But if this is indeed a starship, and if it indeed has the ability for faster-than-light travel, then why build so big? Why employ designs to make it appear to be a planet?”

Tom's smile was now openly malicious. “And why employ human concepts to an alien artifact?”

Taeko's eyes suddenly closed, as if she had experienced a sharp pain.

Tom's expression gentled. "Apologies, Taeko-*chan*."

"No," the anthropologist replied, shaking her head and opening her eyes. "I stepped into my own trap and you were right to call me out on it."

"But let's assume you have a point," Tom said. "We accept the notion that there are intelligent races in the galaxy who have some sort of hyperdrive technology. If that's true then why build starships the size of Zea? What's the possible motive?"

"Colonization," Bud offered. "With a starship like Zea you could move an entire population if you wished."

"True," Tom agreed. "Attractive. Even tasty. But Zea arrived devoid of life, with the exception of its plants."

"Perhaps it wasn't meant to deliver a population," Georg suggested, "but to pick one up."

Silence in the room.

"Go ahead and finish the thought," Tom said to Georg.

"Perhaps Zea was sent as a means for the human population, or at least a portion of it, to escape some sort of cataclysm." Georg shrugged. "Maybe we're facing another threat from the Space Friends, and Zea is a sort of lifeline."

"Even if that was the answer," Tom pointed out, "Zea is moving too fast through our solar system to take on evacuees. And yes, I'm considering the possibility that Zea might yet slow down and enter a more stable orbit. But I'm thinking it's part of something else."

"That was my dark contribution to the discussion," Georg said. "I've got a more geological one to toss out at you."

"Go ahead."

"If Zea's a starship, then what part do the oceans play?"

"Good one," Yoshi chimed in.

Tom was nodding. "I agree. So let's speculate for a bit. There're shaft openings in the oceans, so the water is obviously meant to play some role in Zea's operation. Maybe the water can serve as some sort of neutron moderator for the reactor." Tom sighed. "Along with Phyllis I should've brought Dad with us."

"Try this," Yoshi suggested. "If Zea is a starship, then

maybe it can carry passengers other than land-based ones. The oceans could serve as an environment for them.”

Tom considered it. “Georg? Have you been able to find traces of zeanite in the water?”

“Not yet,” Georg slowly replied. “But I’ve been wondering if the unidentifiable components I’ve been finding in the water might be zeanite nodules? Perhaps some sort of nanobot?”

“Aquatic passengers could convert the ocean into chemical combinations favorable to their biology,” Yoshi said. “And, if the shaft openings in the ocean can be lowered slightly, it would allow aquatic passengers access to this part of the planet.”

Ichikawa was smiling now, and lightly clapping his hands. “Congratulations, Tom.”

“Ichikawa-sama?”

“You’re managing to draw us over to your way of thinking.”

“And still without any real shred of proof,” Tom replied, sitting back in his chair and sighing. “I know. All I’ve really got is a gut feeling, and it’s such a strong one.”

“I want to come in with something,” Bud said.

“Please do.”

“Let’s assume that you’re correct,” Bud went on. “Then this room you’ve created. That console. These displays. Are you now thinking you can take command of Zea the way you could *Challenger* or the *Sky Queen*?”

“I’d be surprised if I could,” Tom said, turning slightly to look at the console, letting a hand brush across it. “But I’m nowhere near that naïve. The Zeans, or whoever sent Zea to us, might be benevolent or generous, but I’m betting even they wouldn’t just blindly hand over control of a mammoth starship to us.” Tom shook his head. “Once again I’m borrowing something out of Phyllis’ way of doing things. She’d gladly produce a sales pitch for an atomicar, a jetmarine or a Pigeon Special. But even she wouldn’t hand the keys over to an unqualified user, no matter how solid the purchase deal was. It be suicidal. Worse, it’d be genocidal.”

Georg frowned. “Genocidal?”

“What else would you call placing untrained humans at the helm of a massive starship?” Tom asked him. “I'm not saying you or I or anyone else here would try anything stupid. But could we say the same for all of humanity? If Zea was given to us outright then, eventually, it'd be visited by other humans. Someone would make a mistake... or a deliberately dangerous move. With the power that Zea represents we could accomplish by accident what the Space Friends were trying to do on purpose.”

“Then what are we supposed to do with Zea?” Koichi asked.

“One mystery which I haven't solved,” Tom said, standing up. “But I appreciate now what we've been told about security restrictions and safety concerns. Zea represents far more power than I originally believed. Far more potential, and at a catastrophic level. No wonder it was left up to us to try and work the puzzle out. But here's the kicker. My concerns are only valid if I'm right, and Zea is a starship.”

Tom paused for a few moments. Then: “Am I right, Grandfather?”

“For the most part,” a new voice remarked, and everyone looked to see Barton Swift standing in the doorway.

He regarded the room with a slow look. “Interesting. Decorative. And you're much closer than before, Tom. But, as you said, there are still some details remaining.”

“But that's why you haven't been more forthcoming with information on Zea,” Tom said, moving closer to him. “It would've been dangerous to just give us all the answers at once.”

“There are safeguards in place which would've prevented any grand act of destruction through accident,” Barton replied. “But yes, you could've been harmed on an individual level.”

“*Can* we control Zea?” Tom asked.

The old man sighed. “The last time I answered a question in the way I'm about to answer this one you were frustrated. But it's the only answer I can give you at this time. You cannot control Zea, Tom...”

Disappointment clearly showed on Tom's face.

“But the reason is that you don't *need* to control Zea.”

Bud heard the low growl which Tom produced, saw the annoyed shake of the head.

“We weren't taken to a command center,” Tom sharply said to himself, gazing off at nothing. “It's because we didn't need to be taken to a command center. We can't control Zea... because we don't *need* to control Zea.”

He once again met the eyes of the image of his grandfather. “You're dangling maybe the greatest prize of all in front of us, and at the same time you're holding it back.”

“I'm not,” Barton assured him. “A good part of me wants to help you fully. Please believe me. There's also an equal part of me that wants to protect you. Tom... you're not focusing on the goal. You're too obsessed in the method.”

Tom turned his head away.

“You're forcing it, Tom. Your father was the same way—”

“Is that a star chart?” Tom suddenly asked, pointing at the display on the wall. “Am I at least correct on that?”

“Yes.”

“Zea *can* be navigated and guided.”

Barton's expression became tragic. “Oh, Tom. You are so close—”

“Damnation!” Turning away from Barton, Tom went to the console, not wanting to look at anyone.

Barton took a few steps in his direction. “Tom—”

“I *know* I'm forcing it,” Tom said, still facing away from the group. “I'm sorry. This started out as an interesting alien world. A new place to explore. Now it's something which can raise the entire human race to the stars. Literally. It's... it's the one thing I've worked for all my life. I can just touch it, but I can't tear the wrapping off.”

A few more moments, then he turned back to face Barton. “Simple question. Is there anything direct you can give me that I haven't asked for?”

“You've done so well up to now,” Barton replied. “In all your work your opponents have been tangible. Materials that wouldn't quite stand up to design... specifications which needed adjustment... interference from other people. But

this time you're up against the most pernicious and unyielding opponent of all.”

“My ignorance.”

Barton slowly shook his head. “Close, Tom. Again, so close. Your ignorance is something you've conquered again and again. But now you're facing a more devious obstacle.”

Once again Tom looked away, apparently staring at the star chart.

“We've got... about fifty-four hours before we have to leave Zea,” he said. “That's how long we've got to figure it out.” He turned back so that his eyes now bored into those of Barton Swift's. “I don't want to leave without the answer. I can't.”

“You can,” Barton assured him. “And, if necessary, you will.”

“You'll drive us off Zea?”

“No, Tom. You will drive yourself off.”

Tom seemed to deflate slightly. “Nothing I enjoy better than a galloping case of perplexity.” He looked at the others. “Let's break for lunch and see if some reconstituted food can stir up the brain cells. Will this room remain after we've left?” he asked Barton.

“Oh yes.”

The members of the expedition began filing out of the room. As Ichikawa passed he reached out to briefly touch Barton's shoulder.

“I understand,” he murmured.

“Thank you,” Barton whispered back.

Tom was the last to leave, but Barton stopped him at the door. “I have additional information for you,” he said. “It is about the threat on your life.”

“Go on,” Tom said.

“You are still in danger,” Barton told him. “But not from Zea. We will do all we can to protect you, but you must know that there is a plan to have you killed. And more.”

“More?”

“It is a two-pronged attack. There has been a sort of...

theft from Zea.”

Tom frowned. “A theft?”

Barton nodded. “Totally unexpected, but a resource has been taken and put to use against both you and a related target.”

“What could possibly have been taken from Zea—”

“Be on your guard, Tom. Steps have been taken to prevent us from learning everything, but we're trying our best. But be careful. Sometime before you leave for Earth there will be an attempt against your life. An attempt that might well succeed.”

Chapter Thirty-Six: Breakdown

Tom was the last person to return to *Chigiri* and he immediately sat down at the wardroom table, his shoulders slumped.

Bud immediately noticed his friend's mood and put a bowl of soup down before him. "Eat."

Tom didn't move but muttered "Okay".

"Eat," Bud commanded in a slightly firmer tone of voice. "It's your favorite: thermostabilized French onion soup. Full of all the nutritional goodness of bisphenol-A, monosodium glutamate and the juice from onions which have been treated with gluten-free glyphosate. Yum!"

With a sigh Tom squeezed his eyes shut, a hand rising to pinch at the bridge of his nose while he murmured something under his breath.

"Headache?"

Tom shook his head. "Worse."

"Uh oh. Is it..."

A nod. His eyes still closed, Tom addressed the others. "Do any of you people sometimes get something stuck in your brain that you can't shake?"

"Oh, I *hate* it when that happens," Sue replied.

"With Tom it's worse," Bud said.

"Worse?"

Bud nodded. "Tom's father... Tom Sr.... is a man of many interests. For example: he possesses what must be considered the largest collection of Hanna-Barbera cartoons in the world. By the time I met Tom he had thoroughly memorized the theme songs to practically everything in the H-B library. And," here Bud sighed, "in times of genuine frustration his mind gets locked on a song."

Tom was grimacing. "Nnnnnnn."

"You people might consider yourselves honored," Bud told the others. "You've been made privy to Tom's deepest and darkest secret."

“ever purr,” Tom murmured. “They know how, but not what fur. Cattanoooga Cats don't go meow', AND I'M NOT SINGING THE ENTIRE DAMN SONG.” Straightening up with a growl, Tom grabbed at his spork and began banging away at the soup.

“He usually manages to work himself out of it,” Bud assured the others.

“And I apologize,” Tom said to the others between swallows of the soup. “This business with Zea has had a tendency to get on my nerves. Just another one of my endearing personal traits which are somehow preventing me from figuring things out.”

“Tom,” Bud said warningly.

Tom suddenly pushed the bowl away and sat back, looking at Bud. “This is what I want,” he said. “I'm on fire I'm wanting this so much. So why can't I figure it out?”

“You're forcing it,” Bud told him. “Like you said.”

“We *can't* control Zea because we don't *need* to.”

“If it's any consolation,” Yoshi offered, “we're just as mystified as you.”

Tom placed a hand on the table top. “Basic instructions. Project the star map, please.”

The map obediently appeared above the table and Tom stared at it.

“The ovals,” he said softly. “They're part of the mystery.”

“Is the map attempting to place specific stars within groups?” Ichikawa asked. “Like elements in a mathematics subset?”

Raising a hand, Tom traced one of the ovals. “This one involves our sun,” he said. “It includes Sirius, Procyon, Arcturus... all the way out to Castor and Aldebaran.” His hand moved. “Here, at Aldebaran, there's another oval which goes out to include Capella and points beyond.”

“Most of the ovals interconnect somehow,” Ichikawa said.

Tom nodded. “Professor, do you see any connection with any of the stars within our particular oval?”

A shrug. “Other than their relatively close distance to us, none. And, before you ask, the same holds for the other ovals

as near as I can determine. I thought the ovals might indicate zones of equipotential thermonuclear flux, which would provide something of a clue as to the sort of star drive Zea employs. But I have no way of making accurate calculations.”

Tom continued staring at the map.

“What I wouldn't give right now for a bran muffin,” he whispered.

Bud silently thought of the nearest thing *Chigiri's* food inventory had to a bran muffin: processed squares of what everyone universally called “not-cornbread”. He tried to ignore the sudden growl in his stomach.

Tom suddenly rose from his chair, heading for his compartment. “I'm going to lie down for a bit,” he said.

“Good idea,” Yoshi said to Tom's back. “Perhaps some relaxation will help your thinking.”

At the door to his compartment Tom paused. “Koichi.”

“Toma-san?”

“It's fifty-three hours until we reach our planned maximum stay point. Start the preliminary checks for a launch.” Entering the compartment he closed the door.

Giving everyone else a glance, Bud wandered over to the door and tapped on it.

“C'mon in.”

Bud slid the door open slightly to see Tom already stretched out on his bed, staring up at the ceiling. Then he felt a presence at his elbow and made some room to allow Ichikawa to also stand in the doorway.

“I've had a thought,” the astrophysicist said.

A slight smile made an appearance on Tom's face. “Well, one would hope.”

“You had earlier mentioned a desire to take the bubble transportation system back to Earth, but you also commented on the effect such a system would have on the economy as involves the transportation industry.”

Tom made no reply.

“After that impassioned speech you made about what you

want I dislike being thought of as someone taking away something valuable and important,” Ichikawa went on. “But it must have occurred to you that we really cannot take any of the Zean technology back to Earth.”

“I know,” Tom softly replied.

“Zeanite... the bubbles... the command nodes... any one of these would easily produce a global chaos which would outweigh the potential benefits.”

Tom continued staring at the ceiling. “And interstellar travel, Professor? Does your embargo extend as far as preventing Earth from gaining access to a fully functional starship?”

It took a while for Ichikawa to answer. “I wish I was more of a philosopher, Tom. As with you I am tremendously excited at the possibility of being able to personally explore other star systems. You are ready. I am ready. I imagine everyone on this ship would feel the same way. But the human race?” He shook his head. “It is not my place to judge.”

“Two things occur to me,” Tom said.

Bud and Ichikawa waited.

“First: I am very much aware of the unforgivable atrocities which our race has committed throughout history in the course of its expansion over the world. Second: it is because of our bloody history that I firmly believe humanity has to escape the confines of our solar system if we're ever to survive. Maybe better than anyone else I know how far we've come in efforts to colonize space, and I thank God for people like Ken and Bingo Horton. But, as far as we've come, it's not far enough and not nearly as fast as we should be going. We need the Zean starship, Professor, and it's going to take a lot to convince me otherwise.”

“I understand,” Ichikawa replied. “I only wanted to make my position clear.”

A brief bob of Tom's head. “I'm grateful.”

Ichikawa moved away from the door and Bud made a motion as if to follow.

“Bud, stay.”

Easing into the compartment, Bud shut the door, leaning

against it.

“You and Phyllis thinking of emigrating into space?” he asked.

This resulted in an actual chuckle from Tom and he briefly covered his face with his hands. “I suspect Phyllis' sights are set on a more terrestrial level,” he said. “Besides, even though Mom and Aunt Helen have had a taste of life in zero-g, I'm betting they want to remain as close as possible to any future grandchildren.”

“Tell me about it,” Bud replied. “I think your Mom enjoyed the space station, but she was still giving me the hairy eyeball over my bringing Sandy up, and none of this is what you wanted to talk to me about.”

“True,” Tom said and quietly told Bud about the warning which Barton Swift delivered.

Bud instinctively glanced back over his shoulder. “But you're not seriously thinking that any of us would try and kill you?” he whispered, moving closer.

“Grandfather's exact words,” Tom said. “An attempt is going to be made on my life. My life. Singular. Not yours or anyone else's. This eliminates the possibility of *Chigiri* or *Challenger* having somehow been sabotaged and killing all of us. What's left is one of two possibilities. Either an assassin has flown to Zea on his own—”

“Which is patently impossible.”

“Or one of us is an assassin.”

Bud was shaking his head. “Tom we've worked with these people. We know them. And I'm betting Sherman personally vetted each and every one of them all the way back to potty-training.”

“Don't think I've ignored any of that,” Tom assured him. “It's a puzzler, which right about now I need as much as I need a poke in the eye with a sharp stick. Reason tells me none of our crewmates can be a killer, and yet Grandfather was emphatic about his warning.”

“There's something else,” Bud said. “This business about something being stolen from Zea and used against you. How do you figure that?”

“Another good question, and I could tell the lack of

information bothered Grandfather as well. Nothing could have possibly been taken from Zea except by us, and we haven't started back to Earth yet."

"The zeanite maybe?" Bud's face brightened. "Maybe zeanite has some sort of mind control capability and it's affected one of us."

"A resource has been taken," Tom said to him, recalling Barton Swift's exact words. "Something taken which would be used in a two-prong attack."

"And without even a slingshot between us," Bud said, looking worried.

"The same could be said for whoever the assassin might be," Tom pointed out. Settling back on the bed he allowed his eyes to close. "Do me a favor and send a coded message to Sherman apprising him of the situation. And try and find out about Sandy's warning."

Bud stared at his friend. "Tom..."

"I've been all right so far," Tom said, covering his eyes with an arm. "Whoever our troublemaker is, I don't think he'll strike with everyone else still in the wardroom. Besides, Zea has promised to try and protect me."

* * * * *

Tom surprised himself by actually managing to doze for a half-hour. But he became aware of a commotion in the wardroom and brought himself to full alertness, sliding the door open.

"What's wrong?" he asked, stepping into the wardroom.

The rest of the crew were standing around the table, and Bud turned to him. "Plenty, Skipper. The communication system's been sabotaged. We can't even get in touch with *Challenger*, much less anyone on Earth. We've been completely cut off."

Tom's eyes swept the others in the room, thinking: *And one of you is responsible.*

Chapter Thirty-Seven: Killer on the Loose

“Well?” Tom finally asked Bud.

“Koichi and I didn't notice it until we realized we weren't getting any download from *Challenger*,” Bud replied. “At first we thought we were getting interference from something in the shaft. But when we ran a check on the communications system we discovered that the band-pass filter in the primary transponder assembly was missing.”

Tom hoped he looked calm as he considered what Bud said. The Ricoh/Swift SCS-41B band-pass filter was a small piece of electrical engineering, but it was vital to the overall operation of the transponder. Without it *Chigiri's* communication system was just so much pretty components.

Still trying to appear calm he looked at the others.

“Well?” he asked. “Does anyone want to say anything?”

“We're as... mystified as you, Toma-san,” Ichikawa said.

“I doubt it,” Tom muttered, rubbing at his face. “Well, it's a simple matter of consulting the video recordings from the flight deck cameras... and, from the looks I'm now getting, I take it the idea's already been shot down.”

“The video system's been disconnected for the past seven hours,” Bud said.

“The *entire* system?”

Bud nodded.

“Thorough,” Tom murmured. Disconnecting only the flight deck cameras would've prevented anyone from seeing who had removed the band-pass filter. But disconnecting the entire system eliminated the possibility of studying the video playback to see who had gone up to the flight deck over the last seven hours.

Once again he looked at *Chigiri's* crew, silently considering each of them.

Why now? he asked himself. *On top of everything else, why now?*

“I suppose it's possible,” he slowly said, “that this is all an action taken by the Zeon system, and it was made for a reason I cannot possibly fathom. I hope it is because, to be

honest, I'd rather not deal with the possibility that there's a saboteur on board *Chigiri*." And by default, he silently added, *the same person who's out to kill me.*

Sue was shaking her head. "None of us..."

"I share your hope, Sue," Tom told her. "Unfortunately you haven't been working at Enterprises for very long, or else you'd know that such things are possible."

Georg took a step closer to Tom. "What would someone gain by sabotaging the communication system? Certainly we're still able to leave *Zea* and return to *Challenger*."

"There's still time before that happens," Tom pointed out. "Unless, of course, we decide to leave now, which I don't want to do. Apparently whoever did this feels that there's the possibility of vital information coming in from Earth. It occurs to me we've been having communication problems ever since arriving on *Zea*. Up to now I was willing to put the blame on the sort of experiences we've been having here. Now, however..." He thought for a moment, then came to a decision. "Koichi."

"Toma-san?"

"Go back up to the flight deck and perform as thorough an examination of the controls as you can. Make certain we can still blast off safely when the time comes."

Koichi nodded and headed for the ladder.

"Bud can help you," Tom calmly added.

A brief flinch was Koichi's only response as he headed up the ladder, Bud close behind him.

Yoshi gave Tom a shocked expression. "You don't suspect _"

"I don't know what I suspect," Tom replied, his response a bit sharper than he wanted. "What I do know is that someone, or something, has prevented us from being in contact with Earth. If I knew who had taken the band-pass filter then maybe I could appreciate the motive. But I don't so I have to speculate and, without facts, speculation can become rather ugly."

Putting his hands on his hips he faced the remaining five people. "And I do apologize for anything I say or do. Including this next bit. From now until we return to *Challenger*, I don't want anyone alone. Professor Ichikawa,

you'll be with me. Bud will be with Koichi, and the rest of you can pick whichever partner you want. This might make for some awkward situations, but I want to know where everyone of us is at any given moment." His eyes swept the group. "Is that clear?"

No response but, from the looks which Georg and Taeko exchanged, as well as Sue and Yoshi, Tom privately suspected that thoughts of a win-win situation were rising in certain minds. *Oh well*, he considered, *Love trumps sabotage... I hope.*

Not wanting to risk further impolitic outbursts on his part, Tom went to the ladder, climbing up to the science deck and immediately heading for the master display screen, sitting down at the console.

He felt, rather than saw, Ichikawa's approach behind him. "I'm sorry, Professor."

"It is I who should be sorry, Toma-san. To have this happen on a Japanese space expedition..."

"Yes, well... welcome to my side of the street." Tom continued tapping on the keyboard.

Ichikawa settled into a seat alongside Tom. "What are you doing?"

"Making certain the video system is back online," Tom said. "And, while I'm doing that, I'm adding a subroutine which will sound an alarm on my Tiny Idiot if anyone tries to disconnect the system."

After a few moments Ichikawa spoke. "I thank you, Toma-san."

"You're welcome. For what?"

"If you're trusting me with this information then it means you don't suspect me of being the saboteur."

Tom sighed, keeping his eyes on the screen as he typed. "Professor, you were a last-minute addition to the crew. And I mean that literally. You couldn't be part of an organized sabotage plot. I realize I'm whistling in the dark here, but I'm trusting my instincts."

"So it cannot possibly be something Zea is doing?"

"Not if my Grandfather's warnings were correct."

"Then if not me, or Bud, then who—"

“I don't know,” Tom said, feeling tragic. “I'd just as soon not consider the remaining five of us. But it looks as if I'll have to. And I'm gonna need evidence. I'm gonna have to have solid and totally irrefutable evidence before I accept the notion that one of them is out to harm the mission.”

Ichikawa was carefully studying Tom's face. “There is something else, isn't there?”

Tom nodded. “Grandfather mentioned something about a two-pronged attack. I've been pondering that and have a suspicion which I pray to God is totally wrong.”

“Well, of course—”

“Because if I'm right, then this is really a bad time to be cut off from Earth.”

* * * * *

The alarm droned loudly, accompanied by a computer-generated voice. *“Warning! Critical life-support failure in Spoke Nine. Connecting corridors 9A through 9D are being sealed. All personnel must evacuate adjacent sections. Warning...”*

Tom Sr. grabbed at the shoulder of a drifting space station crewperson and sent him on down the corridor at a much faster rate, keeping his eyes on the sealed section of the corridor which was only twenty feet away.

Ned now floated near. “Okay, I think that's everyone... wait.”

But it was Bingo, flying like a little missile towards them. “Miz Swift an' Miz Newton are already in one of the escape pods with Sandy and Phyllis,” she said breathlessly, grabbing at a stanchion and coming to a halt. “They got the baby... 'n I got a personal message from your wives. Puttin' it as simply as possible they want both your butts down there with them.”

“Ken's in the control room?” Tom Sr. asked.

Bingo nodded, something in her eyes telling Tom Sr. that a brief but very vocal argument had recently taken place between the Hortons. “I'm—”

“You need to get to your son,” Tom Sr. declared.

Bingo's jaw tightened, but Tom Sr. was already raising his Tiny Idiot to his lips. “Ken?”

“Yeah, Mister Swift?”

“Can you tell where it's heading?”

“Ah-hhh... we're tracking it, and it's almost reached the nine-hub junction.”

“That's where Ned and I are, just on the other side of the outermost seal on 9B.”

A pause. “You and Mister Newton got to get out of there. We're thinking of jettisoning the entire spoke.”

“Not yet, Ken. I've been working on an idea.”

“Mister Swift—”

“Ken, when it gets close to the seal on 9B I want you to crack it open just a bit, then close it again just as quickly.”

“There ain't no air on the other side of that seal.”

“If you move fast enough it won't matter. Ned and I will hang on. We want you to attract its attention. Make it come this way.”

“Make it—”

“Trust me, Ken. I've got an ace up my sleeve.”

A pause. “Okay. It's almost there. Hang on.”

Nodding at Ned, Tom Sr. reached out for the same stanchion Bingo was holding, letting his free arm circle around the little Texan to make certain she was secured tight. Ned, in the meantime, had both hands around a stanchion on the opposite bulkhead.

An alarm sounded, and flashing red lights began blinking around the edge of the sealed corridor end. As Tom Sr., Ned and Bingo watched, the seal split into two halves and pulled apart slightly, allowing air to roar past them and on into the adjoining section. The three people held on to the stanchions, feeling themselves being pulled towards the opening... and then the seal once again closed shut... but not before a silvery figure was spotted moving about in the area beyond.

“Get ready,” Tom Sr. said. “I think the bait'll be taken.”

He had no sooner spoke when the seal rung with the sound of something hard impacting against it. There was another impact, and a noticeable bulge was now visible upon the metal surface.

“Okay,” Tom Sr. said. “Let's get moving.”

Letting go of the stanchions the three pushed themselves further down the corridor. But the alarm returned and, once again, the air began howling past, causing the three to grab for stanchions again.

“Power handholds in the hub transit section,” Bingo cried. “Let's go!”

Tom Sr. was looking back and he could see that a very noticeable hole had been punched into the seal... and the seal was now being forced apart by two powerful metallic hands. The hands belonged to the silvery figure which had been spotted earlier.

The Tom-Tom. The robot was now literally tearing apart the seal and forcing itself into the next compartment, obviously in pursuit.

“It's definitely taken the bait,” Tom Sr. said. “Okay, Bingo... lead the way.”

“Warning,” the computer voice now announced over the roar of the escaping air. *“Critical life support failure in hub junction nine. All access to that section will be sealed. Please evacuate the section or go to the nearest emergency shelter.”*

Bingo was moving from stanchion to stanchion. “We're almost at hub transit three,” she cried out over the wind. “We can either go to the control room or to the escape pods.”

“Get us to the next section,” Tom Sr. ordered, following her.

Bingo glanced back. “Ain't nothin' there but—”

“Do it,” Tom Sr. ordered.

Bingo continued scampering along the bulkhead as Tom Sr. and Ned followed. There was a succession of hisses, and Tom Sr. looked back to see metal panels sliding into place between them and the Tom-Tom. As the last one closed the rush of air ceased... but Tom Sr. had seen how the robot's pace didn't slacken, and he could already hear the pounding on the furthest metal seal.

Bingo drifted pass the junction of hub transit three (giving a brief longing look in the direction of the control room), floating into the compartment beyond. The compartment was empty except for a door on one side and

one at the opposite end. The side door was marked HUB AIRLOCK 3, and the door on the opposite end was marked EVA STORAGE LOCKER 3.

Tom Sr. drifted to the locker door, resting a hand on it as he raised his Tiny Idiot. “Mary?”

“Tom?”

“Is she... did you...”

“*She's there and waiting, if you're there. Oh, but Tom—*”

“It'll be okay, sweetheart. I know it was a hasty plan, but my best ones usually are. Just hang on down there and I'll let you know when it's over.”

“*Please be all right when this is over.*”

“I love you too, darling. Talk to you later.” Tom Sr. thumbed the screen on the Tiny Idiot. “Ken.”

“*Mister Swift?*”

“Bingo's brought us to hub airlock three.”

A pause, then: “*Is she there with you?*”

“Yes, and—”

“*THAT GIRL...* ”

Bingo looked very small.

Tom Sr. continued speaking into his computer. “Ken... Ken... it's all right. This is where I wanted to get to at this point. Fortunately we all had a little time and, with Mary's help, I think I've got something ready that'll save us. I'll need you to do something for me.”

“*What?*”

“Just get ready at the airlock controls. And pray.”

“*Okay. And Mister Swift?*”

“Ken?”

“*Spank Bingo.*”

Moving his Tiny Idiot to his belt, Tom Sr. glanced around the compartment. “Okay, Bingo,” he asked. “Refresh my memory. This control panel here, opposite the airlock door. It controls the inner door, correct? And the access door to the locker?”

Bingo nodded. “What're you—”

SLAM!

A metallic fist punched through the metal seal in the compartment beyond the hub transit. Once again the air began rushing past as Tom Sr., Ned and Bingo reached for stanchions, and the alarm again sounded, announcing another critical life support failure.

But all attention was focused on the Tom-Tom as it clawed its way through the opening, the smooth humanoid figure looking about, its blank face finally settling on the three people in the far compartment.

“C'mon,” Tom Sr. was murmuring. “Don't go down the transit corridors. You see us, you come at us.”

The chances of the robot heading in any other direction were eliminated as protective shields slid over the corridors of the hub transit section which led to other points of the space station. The only remaining direction was the compartment where Tom Sr. and the others waited, and the robot began fighting its way against the rushing air as it headed for them.

“A little closer,” Tom Sr. breathed.

“I think it's close enough,” Ned suggested, his eyes also on the robot.

Tom Sr. nodded, moving himself and Bingo back close against the bulkhead, and signaling for Ned to do the same.

The Tom-Tom had crossed the hub transit section and was now less than fifteen feet away.

Tom Sr.'s hand reached for the button which would open the locker door.

“Here's my ace,” he muttered, pressing it.

Behind him the door to the EVA storage locker slid open, and an enormous object shot out from within the locker, aimed squarely at the robot.

Sestina. Back when the Tom-Tom had begun its assault, Tom Sr. had quickly assessed the situation and realized that the robot was working a path of destruction up through Spoke Nine. A rapid examination of a station map provided the glimmer of an idea, and Mary and Sandy had explained to Sestina what they needed, convincing the giant to hide in the storage locker where she patiently waited until Tom Sr. had opened the door.

The giant now slammed fully into the robot, Sestina wrapping her muscled frame fully around it. The Tom-Tom immediately responded, trying to twine its metal arms around Sestina's broad body; the two of them struggling against each other as they floated within the compartment.

Bingo, no stranger to displays of Sestina's strength, was still pop-eyed as she saw the girl's muscles bunch, saw the normally sad and placid face grimace in anger. And then, even more amazing, she could hear the tearing of tortured metal.

"Migod," she breathed. "Sestina's..."

Tom slapped at the controls, and the inner door to the airlock slid open.

"Sestina, get ready," he yelled.

The giant made no sign of having heard him but continued wrestling with the robot, the Tom-Tom having managed to free an arm which was trying to grab at Sestina's face.

Tom Sr. brought his Tiny Idiot to his lips. "Ken, get ready to jettison the outer door to hub airlock three."

"*Mister Swift—*"

"Just get ready!" His eyes on the battle taking place before him, he called out: "Sestina... *now!*"

Sestina suddenly seemed to pull herself into a ball. She then appeared to explode in all directions, her arms and legs thrusting out and managing to break free of the robot. Break free... and send the damaged mechanism spinning into the airlock.

"Ken, *now!*" Tom Sr. yelled, his hand already moving to close the inner airlock door.

The Tom-Tom had braced itself against the outer airlock door, obviously preparing to launch itself back into the compartment. But even as the inner door began sliding shut, the outer door suddenly disappeared, blown into space by explosive bolts fired from the control room. Immediately all the air in the chamber was sucked out... including the Tom-Tom which became a rapidly dwindling metal dot against the backdrop of a half-lit Earth.

The inner door was still sliding shut, and the sudden vacuum from space was threatening to pull Sestina into the same path taken by the Tom-Tom. But Ned swung out from

his position, and Sestina quickly grabbed at his legs.

“Alley-oop,” Bingo announced and, scissoring her legs around those of Tom Sr.’s, swung out to reach with her arms, managing to snatch a portion of Sestina’s tunic and hold on tight until the inner airlock door finally shut completely.

“Attention,” the computer voice announced, *“damage control procedures are in effect. Damaged sections will remain sealed off until further notice. Full atmospheric pressure is being restored to non-damaged sections. If you are currently in a shelter then please remain until a formal All Clear is announced.”*

“In the words of the philosopher,” Bingo said, “Umbriago!”

Sestina was whimpering slightly, and both Ned and Bingo worked to maneuver her closer to them. Bingo tried, rather unsuccessfully, to envelop the giant in a hug.

“I hope you like lemon pie,” she said. “Cause I’m baking you an extra big one.”

Sestina seemed content to float with Ned and Bingo holding onto her.

Tom Sr.’s Tiny Idiot was chirping for attention and he touched the small screen. The device immediately responded with a chorus of Ken and Mary’s voices. “Tom?” “Mister Swift?” “Is everything—” “Did everything—”

“Everything’s fine,” Tom Sr. breathed. “Ken, I’m afraid you’ll have to do your own spanking. Everyone’s OK here, and the robot’s out the airlock. I’m no mathematician or ballistic engineer—”

“Not hardly,” Ned replied.

“—but I think we managed to send the Tom-Tom on a trajectory which’ll eventually result in it burning up in the Earth’s atmosphere.”

“Good riddance,” Bingo said.

“We got a lot of pieces to pick up here,” Ken reported.

“Yeah,” Tom Sr. agreed. “And a lot of questions to ask.” Intense worry crossed onto his face. “Beginning with what the hell’s happening on Zea?”

Chapter Thirty-Eight: Face of an Assassin

It would've taken the supreme height of self-delusion to deny that a spiritual cloud was hanging over the crew of *Chigiri*. The usual hum of conversation had died down to hushed tones, and everyone was clearly regarding everyone else out of the corners of eyes.

Tom was naturally irritated about many of the things surrounding the situation, but the change in the mood of the crew really stuck in his craw. The clock was ticking on the amount of time left on Zea, and the notion that someone within the crew was a saboteur was visibly affecting work habits. It seemed as if everyone was just going through the motions.

What was worse for Tom was knowing that he was really the cause of it all.

And how else was I supposed to handle the situation? he argued with himself.

He knew there was no sense in trying to present a cheerful face to the others. Even the effort of genuinely devoting himself to research struck him as being fatuous.

A part of him desired to leave the ship, summon a bubble and embark on a high speed journey over every square inch of Zea. There had to be *something*...

"No," he murmured.

Ichikawa had been studying something on his Tiny Idiot, and he now looked up. "Tom?"

"According to Grandfather," Tom said, turning to him, "we're in possession of everything necessary to understand Zea. It's all *here*, and apparently I'm the only real obstacle between us and the solution. But I'm beginning to think the problem is much more subtle."

Ichikawa frowned. "In what way?"

"We're trying to communicate with an alien system, and vice-versa," Tom explained. "One advantage is that the Zean system has been able to tap into our conscious minds on a limited basis. Not only that, but Zea has gathered genetic information on everyone in the crew. That, combined with its telepathy, has enabled the Zean system to construct a

summary of the human race effective enough to handle its end of the communication problem.

“But it's only half the problem. We're still having to overcome our own ingrained perceptions. Our perspective on what Zea represents is still extremely limited. We know this because we occasionally experience pain when we ask a wrong question. Zea is a machine. It's designed to respond in a specific way...” Tom's eyes slowly went out of focus.

Ichikawa noticed it. “Toma-san?”

Tom shook his head, once again focusing on the here and now. “For a moment I almost thought I had it. It's something...”

“Perhaps we should present this problem to the others.”

“Yeah,” Tom replied reluctantly. “Let's go visit Jollity Farm.”

Climbing down to the wardroom was like lowering one's self into a vat of grease. Or at least that was the sensation Tom was experiencing. Bud and Koichi were at the wardroom table; Bud tinkering with some items in his exploration pack and Koichi engrossed in his Tiny Idiot. Taeko and Georg were sitting and murmuring to each other at the doorway to Taeko's compartment, while Sue slowly stirred a cup of cherry gelatin and Yoshi was studying some plant information via the command node. The group gave Tom and Ichikawa only a cursory look as they appeared.

“Okay kids,” Tom said, taking a seat at the wardroom table, “Captain Bligh's once again on deck.”

It may have been a trick of the light, but Tom thought he saw a faint, brief smile on Bud's face.

“I know I've just about mashed everyone's mellow,” Tom went on.

“It's not your fault,” Taeko said. “It's...” and here she glanced around at the others.

“Yeah, let's not ruin the evening further with loose comments,” Tom said to her. “In fact, to be honest, I'm surprised none of you have accused me of taking the band-pass filter.”

Thud.

Tom had the immediate attention of everyone in the room.

Bud's stare was especially noteworthy. "That's..."

"Crazy?" Tom finished for him. "Crazier than, say, any one of you committing the theft? I've had the same opportunity as the rest of you to do the job, plus I possess the skill. And maybe I feel that, by taking the filter, I'd could extend our stay on Zea."

"You wouldn't do that," Yoshi said.

"You think not?" Tom replied. "Maybe I feel such a move would force the hand of the Zean system towards favorably providing us with information. It's a desperate move, like stealing home plate." His eyes went to Bud. "Tell them. Don't you think my ego's enormous enough to consider something like that?"

Bud seemed reluctant to answer.

"Go ahead," Tom prompted.

"Okay," Bud said. "Tom... I really respect you, and I'm glad that now I'm a brother to you in fact instead of in all but name. But yeah: I've seen your ego trip you up sometimes." His voice sped up a bit. "You've got an honest right to be egotistical. I'm not denying that. But I'll be the first to admit that sometimes it's made your judgment a bit hazy."

"The only correction I'd make to that," Tom said, "is that you wouldn't be the first in your admission. Your wife's already got that position."

"Huh. Yeah."

"But obviously I'm not without sin," Tom said to the others.

Sue was staring at him as if seeing him for the first time. "Tom, I have to tell you you're beginning to scare me."

"I'm just wanting to point out that I'm as potentially suspect as everyone else here."

Koichi sighed. "Except you're not a suspect." Switching off his Tiny Idiot he placed it on the table and stared across at Tom. "All flight control systems have been checked, and *Chigiri* is still in good shape as regards to lifting off for *Challenger*." A pause. "Bud can confirm this."

Tom nodded dumbly, trying not to show how much Koichi's mood bothered him. He also silently berated himself, knowing he had broken the first law of air and space travel: Never Annoy The Pilot.

Sensing the way things were going, Ichikawa decided to step in. "The reason Tom and I came down here," he said, "was because we were once again discussing the mystery of Zea. Tom thinks the overall problem might be more a matter of expression than in understanding of what we do know. We have the information we need, we just need to properly form our questions. This requires everyone's help."

"Even the help of saboteurs?" Koichi asked.

Let it go, Tom willed himself. *Let it go*. "Everyone's help," he said. "For instance: we keep saying we need to understand Zea. But exactly *what* are we trying to understand?"

His spirit lifted as he noticed looks of thoughtful curiosity begin to blossom on everyone's faces.

Taeko was idly polishing her glasses. "Perhaps, along with bringing your fiancée, and your father," she said, "you should've brought an expert in rhetoric to Zea." She slipped the glasses back onto her face. "We are trying to understand Zea's purpose in being here, in our solar system. It is an invitation for the human race to become more involved in the interstellar scheme of things—"

"Presumption," Tom pointed out. "Not proven."

Taeko grimaced. "True."

"But, just for googles, razzies, kookoos and pupcakes, let's go ahead and build on that for a moment. What would the interstellar scheme of things be that would oblige an alien race, or races, to send Zea to us?"

"And why won't the Zean system be more open about it?" Georg asked. "Why all the secrecy?"

Ichikawa suddenly brightened. "Ah, but is it secrecy?"

Everyone looked at him. "Go on," Tom said.

"Your earlier comment about presumption started me thinking," Ichikawa explained to him. "We presume that Zea's presence here is a reflection of some sort of situation going on within our part of the galaxy. Has our past

experiences with the Space Friends colored our way of thinking? Could Zea, in fact, be acting independently of whatever is going on with the other worlds?"

Tom frowned deeply, and everyone else was also turning Ichikawa's questions over in their minds.

"Someone sent Zea," Tom said. "Someone... " and his voice faded as he looked off to one side.

"Let's pull back for a moment," Taeko suggested. "This is all very interesting, but I think it's distracting us from the question Tom originally posed. And I want to throw in what I feel is a related issue. Tom: what do you want with Zea?"

Tom blinked. "Simple. Zea's a functioning starship, and I feel it's what the human race needs—"

Taeko was shaking her head. "No, no, no. What do *you* want with Zea?"

Tom seemed slightly confused. "I..."

"You asked Zea to build you a command center," Taeko went on. "But think back on it. That wasn't just a command center, it was the bridge of a starship."

"Is there a difference?" Bud asked.

"I think for Tom there is," Taeko replied. "A command center implies information. A central locus for discovering things. Tom's version of a command center implied control. Guidance. He wants to *control* Zea. To personally pilot it."

Tom was staring at the table top, feeling sweat building on his brow.

"Is that it?" he wondered aloud. "I want to control Zea... but Zea doesn't need to be controlled?"

"It's all kitchen psychology," Taeko admitted.

Tom lifted a hand, silencing her. "But what if that's it?" he said. "What if the answer is in how Zea operates in spite of who or whatever is on it? Beyond the ability of any one person to independently control? What if..."

And then he stopped because Bud had risen from his chair. He had finished his work with the small items he had removed from his exploration pack and was now holding a gun which he was aiming directly at Tom.

"Time to die," he announced, his finger already squeezing

the trigger.

And, at the same time, everything collided within Tom's mind, and he yelled out: "Bud! DON'T THREATEN ME!"

But it was too late.

Chapter Thirty-Nine: The Defeat of Tom Swift Jr.

In the space of less than a heartbeat everything happened at once.

Georg and Koichi were closest to Bud, but the initial shock over what he was doing was enough to initially freeze them and, even if they had moved fast enough, they couldn't have stopped him in time.

And they didn't have to.

The wardroom table was between Tom and Bud and, before Bud could finish pulling the trigger, the table top became dark gray. In the next moment it flowed upwards and out, rapidly and completely engulfing Bud from head to toe in a solid sheath which then fell over onto the deck.

With a single choked cry Tom raced around the table, bending down next to the sheath.

"Let him go," he cried out, both hands trying to pull at the unyielding material with covered Bud. "He wasn't at fault. Let him *go!*"

No response.

Forcing himself to be calm, Tom placed a hand flat on the sheath. "Basic instructions."

A glowing pattern appeared where he touched.

"Release him," Tom ordered. "NOW!"

Immediately the sheath expanded into slender gray filaments which spun away, freeing Bud from within. He was pale, his eyes open and unfixed.

"*Yoshi!*" Tom cried out.

The biologist was immediately at Tom's side, a portable medical kit already open as he begun a rapid examination.

"I'm getting signs of respiration," he announced, still pressing instruments to Bud's body. "Also a heartbeat. Both are very faint. Right now I'm saying some sort of acute stress reaction, but I need more information, and we need to get him up to the medical section."

Sue was holding both hands to her lips. "Speaking of

shock,” she moaned.

Tom and Koichi were helping Yoshi maneuver Bud towards the ladder.

“He tried to *kill* you,” Sue insisted.

“No,” Tom declared. “Not Bud. Never Bud.”

* * * * *

After a search through Bud's compartment, Tom located the missing band-pass filter and had re-installed it within *Chigiri's* communication system, establishing clear contact with Earth.

It was now a few hours later. Ideally *Chigiri's* flight deck was designed to comfortably accommodate only three crewmembers. But with Tom, Koichi and Ichikawa in the seats, and Georg, Taeko and Sue standing close by (Yoshi still attending to a gradually recovering Bud on the science deck below, but listening in), the surroundings were rather snug. No one wanted to miss out on the news from Earth, as well as Tom's explanations on what had happened.

Piecing together the entire story took a while, what with the transmission delay to and from Earth, but everyone was slack-jawed as Tom related the near disaster which had occurred on the space station.

Finally it was time for Tom's reply to Earth, and he began by accepting two aspirin from Georg (who passed them on up from Yoshi). “Thanks,” he said gratefully, dry swallowing the tablets. “Heck of a headache here. Always happens whenever I have rapid-fire insights... and nothing gets the old brain going into overdrive like having a friend point a gun at you.”

“The robot tried to tear up the space station,” Ichikawa said.

Tom nodded. “And I'm gonna get a big 'I Told You So' from Phyl when we get back. Times like this make me think I ought to get out of the robot building business altogether.”

“It is fortunate,” Taeko pointed out, “that there were only injuries, but no deaths.”

“Yeah well, when it comes to emergency procedure training, Ken's an out and out tyrant. And Bingo's his High Executioner.”

“But what *happened*? They're still picking up the pieces back there, but do you have any idea?”

Tom rubbed at his aching temples. He knew that he was needing sleep, and plenty of it, and he also knew that it would be a while before he got any. “I've got ideas,” he slowly said, reaching over to touch a switch. “And I'm now beginning recording for Earth. Feel free to jump in with any questions or comments you might want to make. They'll probably be useful.”

“Before we get too far,” Georg asked, “just what the hell grabbed Bud?”

Tom looked at him in mild surprise. “You didn't recognize it, Georg? That's our missing zeanite fragment. I've been sort of wondering why Grandfather announced there was a command node on the wardroom table. Why not in other locations on the ship? Then it occurred to me... and I mean *very suddenly* occurred to me... that the only possible answer was for a command node to appear on a piece of zeanite somewhere within *Chigiri*. When our backs were turned the zeanite must've expanded out over the table, camouflaging itself.”

A sigh. “Grandfather said Zea would try to protect me. When Bud made his move the zeanite must've read his intent and reacted instantly, paralyzing him.”

“It could've killed him,” Koichi pointed out.

“We have to be careful with zeanite,” Tom replied steadily. “It's been pounded into my head again and again that we need to be careful regarding Zea. Here was our big lesson. Zea will not allow its... passengers... to come to any harm. But protection can take on extreme forms.” His frown deepened. “Where is the zeanite now?”

“Still downstairs with Yoshi,” Georg reported. “When you came up here to fix the radio it retracted into a small cube.”

Tom nodded, filing the information away.

“What about Bud's attack?” Sue asked. “Your father was talking about the Haargolandians, and something about recorded transmissions which I didn't quite catch.”

“And, once again, big dummy me was asleep through all these clues,” Tom said to her.

“You're being hard on yourself,” Ichikawa gently said.

“Not nearly hard enough,” Tom told him, trying to hold down the anger bubbling inside. “Bud had reported that we were getting some unidentifiable chatter over the communications link with Earth. Some 'odd fragments' as he put it. Maybe if I hadn't been so focused on Zea I could've analyzed those fragments and realized they were coded transmissions sent from Earth and meant for Bud's ears only. Orders to kill me at such and such a time.”

“You mean hypnosis?” Sue asked.

“Not quite,” Tom said, “although we're talking about pretty much the same effect. Grandfather had warned me that something had been stolen from Zea, and Bud and I were going crazy trying to figure out what it could be. What, if anything, could have been taken from Zea?”

Sue sharply sucked in her breath. “The transmissions from Zea. The Catatonia Ray.”

“Points for the pretty blonde,” Tom said, nodding. “Like I said, I should've seen it sooner. There'd been attempts all over the world to record and analyze the Catatonia Ray signals. Now the Haargolandians aren't the greatest scientifically oriented threat in the world. Not by any stretch of the imagination. But they were obsessed with getting both Dad and me, and sometimes their obsessions manage to produce fruit. They didn't quite duplicate the Catatonia Ray, thank God, but they managed to come up with something which could plant preprogrammed suggestions into people's minds. Somehow... and we're still trying to backtrack... they managed to hit Bud with this thing, planting a gun on him that he could take on to Zea and sending further coded instructions to him from Earth.”

He shook his head. “It was all so obvious, and I owe you an enormous apology, Koichi. You had admittedly been my top suspect as the saboteur, but Bud was an even more obvious one. He was, after all, in charge of communications for the expedition, and it seemed that all the problems we experienced with keeping in touch with Earth occurred whenever he was around.”

“Don't apologize,” Koichi said. “If our positions had been reversed I would've thought the same thing.” His expression sharpened. “I am concerned, however, about these

Haargolanders who managed to take control over Bud.”

“Not nearly as much as I am,” Tom told him. “But Sherman says that, with help from the space station, the signals sent by the Haargolanders were backtracked, and the authorities have located their base. *Hopefully* this'll mean an end to it.”

“I would personally like to visit them.”

Tom's expression matched his. “Join the club.”

“But the robot,” Sue said. “The Tom-Tom. How...”

“Dad theorizes that the Haargolanders tried to use their Catatonia Ray knockoff to take over the mind of someone on board the space station. It didn't work but, apparently, it had two results. One was to trigger a programming malfunction in the Tom-Tom. Unfortunately we may never learn the truth because the Tom-Tom was reduced to ashes somewhere over the Gulf of St. Lawrence. The other result, and this was the more interesting one, was to awaken a latent instinct in Sandy. A holdover from her days when the Space Friends were using her. She received an insight that something was horribly wrong and tried to contact us. Unfortunately her warnings were intercepted by Bud who, under Haargolander control, promptly ignored them.”

“I certainly hope,” Ichikawa said, “that efforts are being made to locate all evidence of this Haargolander discovery and destroy it.”

“Sherman's already leading a clandestine team of Enterprises security people to accomplish just that. He says the authorities have promised to destroy the Haargolander device, but Sherman doesn't put much faith in princes.” Tom grimaced. “For that matter, neither do I.”

“And Zea?” Ichikawa asked. “What do we do?”

“Believe it or not,” Tom said, “I suspect I was very close to a definite answer before I was so rudely interrupted. We've still got tomorrow, plus some of the next day, before we have to leave, and I think I can wrap everything up to a degree of satisfaction. I just need one more conversation with Grandfather.”

“Tomorrow?”

Tom nodded. “First, though, there's someone else I need to talk to.”

Tom gently tapped on the compartment door.

A few moments later Bud's voice replied. "C'mon in."

Opening the door Tom entered Bud's compartment, shutting the door behind him.

Bud was stretched out on his bed, his face still wan, his features haggard. He was lying still, staring steadily up at the ceiling...

His hands bound together at the wrists with handcuffs.

Tom stared at him for a few moments. "Okay," he finally said. "When I came in here I had several conversation openings to choose from. But I'm not going to use them because there's something I need to know. *Who* the hell brought handcuffs along to Zea? And if it was Taeko I'm locking my door at night."

No returning smile, and Tom's spirits dropped.

"The handcuffs are zeanite," Bud murmured. "Part of the fragment."

Sighing loudly, Tom pulled the chair over near the bed and sat down. He then reached over and rested a hand on the cuffs, concentrating slightly.

The cuffs turned dark gray and slithered off Bud's wrist, the zeanite flowing obediently into Tom's hand.

Bud watched him, his expression empty. "You're managing that pretty good now."

"Well, don't set me up in a magic show just yet." Closing his hand around the zeanite, Tom focused his thoughts on it. When he opened his hand he was holding a dark gray ring.

"There we are," he said, a tone of satisfaction in his voice. "Phyllis should find that acceptable."

Bud frowned. "Phyllis?"

Tom nodded. "How many girls can claim to have an engagement ring fashioned from a metal found on an alien world?" He moved the ring to a pocket.

Bud's eyes were on him. "You really shouldn't let me loose —"

"Yes I should," Tom said, his voice hard. "Yoshi explained

the situation to you.”

Bud looked away.

“You were *not* responsible for what happened,” Tom insisted. “No more than Dad was back when the Space Friends tried to make him set off the solartrons.”

“And what if it happens again?” Bud shot back, his voice now hot with emotion. “What if I’ve still got orders inside me? What if I try to hurt Sandy, or the baby?”

“I think Sandy knows you,” Tom said. “My sister has sometimes made mistakes in her life. But I think the smartest thing she’s ever done was to fall in love with you and marry you. Sandy trusts you.”

“I tried to kill you,” Bud said simply.

“No,” Tom said gently. “A Haargolander zombie might try to kill me. But Bud Barclay never would. And never will. Sandy isn’t the only one who trusts you.”

With a small groan Bud struggled into a sitting position on the bed, leaning back against the bulkhead. “All I want to do now,” he said, “is go home.”

“Soon,” Tom replied. “I recently learned a lesson, and tomorrow I’ll have another talk with Grandfather. Sort of a final exam, you might say.”

Bud looked at him, and Tom was heartened to see a dim spark of his friend’s usual curiosity appear.

“You were right,” Tom told him. “My ego does get in the way. I guess it’s sort of been that way for quite some time. It’s always been *my* Flying Lab, *my* jetmarine, *my* robot, *my* space station—”

Bud shrugged. “You invented them.”

Tom nodded vigorously. “Yeah, and this time it was going to be *my* starship. *My* discovery for the human race. Taeko was right. Down deep I was imagining myself piloting Zea through the universe. Making the explorations. Making the new discoveries. But Grandfather was also right. Zea’s fully automated, and it possesses the capability to accommodate any intelligent life form which lands on it. It doesn’t need to be controlled. It controls itself quite well, thank you very much.”

“Yeah, but...” Bud idly scratched his chin. “Couldn't your Grandfather have simply come out and explained all of this directly?”

Tom's smile became quirky. “The Scarecrow could've explained it to Dorothy. So could the Tin Man or the Cowardly Lion. But it wouldn't have done any good. Dorothy had to learn the lesson for herself. So did I. I had to face this thing and put it down. In order to open myself to the potential benefits of Zea I had to defeat myself. The one thing every opponent I ever had tried to do, and I was the only one who could do it.” Tom shook his head. “Talk about your delicious irony.”

“So what do we do now?”

Tom's heart jumped at Bud's use of *we*. “Tomorrow we go to Grandfather on our knees. Maybe figuratively. I'm still working on it. I explain to Grandfather that I fully understand that Zea can and will operate independently of whatever we desire.”

“And then?”

“Then?” Tom softly replied. “Then perhaps Grandfather will finally let us look at the answer page in the back of the book.” Tom rose from his seat. “In the meantime, though, I think lots of sleep is the next order of business. Oh, and I've downloaded a long and probably very worried and mushy communication from Sandy into your Tiny Idiot.”

“Tom.”

Tom had turned to leave but looked back.

“I'm still worried,” Bud said.

Tom smiled. “As I said before, Bud: you've been watching my six for a long time now. Give me a chance to return the favor.”

Conclusion: The Earth Route

Tom's command center had been redesigned. The room was still circular in form but larger, and the console and displays had disappeared. Now its appearance suggested something closer to an ancient Greek theater, or a Senate chamber from Roman history. Five gradually descending concentric tiers were meant to serve as seats. In the center was a shallow dais above which floated a slowly revolving projection of the Zean star chart.

Standing in the doorway, Barton Swift nodded at the arrangement.

"Simple," he said. "Elegant. Effective."

"I'm glad you approve," Tom replied. He was calmly sitting on one of the tiers, gazing at the image of his grandfather. Scattered elsewhere around the room were the other members of *Chigiri's* crew.

"And I'm glad you survived what happened the day before," Barton said, moving a bit closer to Tom. "I just wish it wasn't necessary for the experience to be so extreme."

"It was almost very expensive."

"Believe me, Tom, you and Bud got off cheaply." Without waiting for permission, Barton sat down on a tier. "Well," he went on, gazing at the star chart. "If my presumptions are correct, you will soon have to depart for Earth. What are your conclusions?"

"So you *are* my teacher," Tom said to him.

Barton shrugged. "If you wish. Understand, Tom, that things are going to happen whether you've learned anything or not. These things will be glorious, or they can be catastrophic. The difference lies in what knowledge you and your friends have gained and will subsequently take back to Earth."

Tom didn't immediately answer. When he did he was gazing down at his feet.

"Zea is a starship," he said. "Totally automated and extremely sophisticated. Capable of supporting a variety of life-forms. It has a defense system in the form of what we've called 'The Catatonia Ray'. It can also react against threats to

both itself and its passengers.”

Barton kept looking at the star chart but he seemed to be waiting for something else.

“And that's not the important thing,” Tom went on. “Zea is not only automated, but *autonomous*. It can not, and it will not, be controlled by whoever's on it. No one planet, or race, or person can take possession.” His voice dropped a bit. “Not even me.”

Barton smiled thinly.

Tom raised his head to look at him. “How many times have you had to do this?” he asked. “How many different races on how many different worlds have you had in this situation? Admitting the same thing?”

Barton met his stare. “Remember, Tom, that I'm designed to be something of a delegate to your species. But yes: there's a part of me that has experienced this moment more times than I'd care to count. And no, not everyone has admitted the same thing you did.”

Getting up, Tom approached the star chart. It stopped rotating as he moved closer.

Indicating the oval which included the Sun, Tom turned to Barton. “This area,” he said. “It indicates the part of space that Zea services. Am I correct?”

Barton nodded. “Yes, but go on. I want to know the depth of your understanding.”

“So Zea travels within an area of space which has our Sun at one end, and out as far as Castor in the Gemini constellation, and Aldebaran in the Taurus region.”

Barton said nothing.

“Is it a regular path?”

Still nothing.

Tom found he was having to swallow a gradually rising sense of irritation. “If this,” he once again waved a hand at the chart, “indicates a regular path, then why has Zea only now appeared?”

Barton's eyes moved from the chart to Tom.

Tom stepped towards him. “Okay. I don't have the right to claim control over Zea. No one does. But don't we finally

deserve something in the way of an explanation?”

Barton took a moment to listen to whatever hidden thing lay within him, while Tom stood there and waited, his heart racing.

“On your world,” he finally said, “and particularly among your own people, you would refer to it as 'mass transit'.”

Tom gaped at him.

So did Bud. “Wait a minute,” he said. “You mean Zea... all of *this*... is just a great big *bus*?”

Barton continued watching Tom, but his answer was directed at Bud. “For want of a better term: yes. Look at the chart.”

Everyone's attention went to the chart and, as they watched, it gradually began withdrawing into a picture which steadily grew larger. The stellar neighborhood became a fraction of the galaxy... then a section... and then an image of what Tom assumed to be the entire Milky Way galaxy was being displayed. As the chart had undergone change it became spotted with more and more ovals. Eventually everyone could see that a fine red mist covered the expanse of the galaxy.

“Zea is only one of an enormous fleet of such worlds which wander along specific paths throughout the galaxy,” Barton explained. “Each 'starship world' spends a certain amount of time in the vicinity of a star system. Providing an opportunity for arrivals and departures. At the end of that time the world slips into what you would call hyperspace, heading for its next port of call.”

The image of the galaxy expanded, eventually returning to the original star chart.

Tom once again pointed to the original oval. “Then this other oval? At Aldebaran? A connecting point?”

Barton nodded. “It is possible for someone traveling on a world such as Zea to reach one of many connection points throughout space. From there they can transfer to another world which will be heading on a different route. With sufficient research and timing a passenger can plot an itinerary which will allow travel across dozens upon dozens of light-years in a matter of months. Perhaps less, perhaps more.”

From where he sat, Bud could see Tom almost appear weak with longing.

Ichikawa must've noticed Tom's mood as well because he now spoke up. "And the Space Friends designed this entire system?"

"Oh my, no," Barton replied.

Everyone looked at him. Even Tom was shaken out of his reverie.

"There are some things all of you must understand," Barton told them. "First: it is true that a great many races throughout the known galaxy possess technology which allows them to travel interstellar distances in a relatively short length of time. The Space Friends among them. By comparison, what we generally refer to as the 'Network' offers the opportunity for traveling among the stars to less technologically advanced races."

"Such as us," Tom murmured in a tone Bud suspected only he and Barton Swift could hear.

"There are also those starfaring races which make use of the Network's capacity for carrying large amounts of cargo, or similar items," Barton said. "Such worlds have assisted societies in times of disaster, evacuating entire populations. A similar task is assisting a particular race in the colonization of new worlds.

"But I should emphasize that the Network was not a product of the Space Friends."

The attention on him from the others heightened.

"The Space Friends are, as you suspect, a very old and established race. But they are by no means the oldest." A hint of gauntness edged over Barton's expression. "The Network was established at a time when the Space Friends were still developing a vertebrate system. The race which built it... the Primary Race, as it were... has since withdrawn from observable positions."

Tom now frowned. "But when we first met," he said to Barton, "you told me you were a recording of my grandfather which the Space Friends created."

"And so I was," agreed Barton. "The Space Friends, after all, made first contact with your world and your species. It was their technology which made the initial recording of

Barton Swift. But remember that the recording was also made available to other worlds.”

“So the Network—”

Barton's smile was wintry. “We acquired the recording.”

Bud felt the cold in that smile and suppressed a shudder.

“But this sort of brings me back to an earlier question,” Tom said to Barton. “If the Network has existed for so long, then why has Zea only now appeared here?”

“A decision was reached,” Barton said. “The Network has now extended a... 'franchise' if you will... to the people of Earth. Zea will now be made available for use by your people.”

Excitement blazed within Tom. “Then Zea will—”

“Zea will make an appearance in this solar system every eighteen of your months,” Barton told him. “During those times your people will be given an opportunity to place scientific missions, diplomatic teams or even passengers on Zea. Presuming that they remain here they will be returned to this system eighteen months later.”

Tom softly moaned.

Then: “You said a decision had been reached,” he asked Barton. “Was it the Space Friends? The races opposing them?”

“Don't disappoint me now, Tom,” Barton gently admonished. “Hold to what we've discussed. The Network exists independently of the politics or will of other races. The decision to extend a franchise to Earth was made by the Network and by it alone. For good or evil, Tom, your people are being given the stars. Your hands will not rest on the controls, but the stars are offered nonetheless. Your race can now wander endlessly about the sky, and I can only hope that this will never become a cause for regret.”

Tom's attention had been drawn to the star chart. He now looked back at Barton.

“Thank you,” he said.

Barton made as if to rise.

“Wait a minute,” Bud said.

Pausing, Barton turned to him.

“You say the Network operates independently, and it's been this way since it began.”

Barton nodded.

“And, in all that time, no other race has tried to take it over?”

“The Network is not only independent,” Barton explained, “but inviolate as well. Throughout the galaxy no race will gain dominance over the world ships. Not even the Space Friends will make such an attempt. Zea and its sister worlds represent the ultimate in neutral territory.”

“And this law's never been broken?”

“I never said it was a law, Bud.”

Bud frowned. “Then—”

“And yes, in the enormous history of the Network there have been those races who tried to assume control. The reasons have been various, but commonly it's been an inability to accept what Tom has come to realize: that the Network has and will remain independent.”

“So all the races who tried just failed.”

“No, Bud,” Barton said simply. “All the races who tried were annihilated.”

* * * * *

Barton accompanied the group out of the structure. “I, of course, wish all of you a safe journey back to Earth,” he said.

Tom glanced back at his creation. “Will that remain after we leave?”

Barton smiled. “Zea will resume what you might call a 'neutral setting' once *Chigiri* takes off. Were you hoping some sort of memorial to this experience would remain?”

Tom looked a bit sheepish. “Well... sort of.”

“Oh, I think the advent of your society upon the galaxy will provide enough in the way of lasting memories,” Barton told him. “And I have a suspicion that, among such memories, the names of Swift and Barclay will assume preeminence.”

Tom shot Barton a look. “You really have a knack for pushing my buttons.”

“Of course. That's what grandfathers are for.”

“True,” Tom admitted. “But that reminds me. I hate to sound like a party-pooper, but can I have my Video Viking back?”

Barton's smile widened. “Until next time, Tom.” Then, before everyone's eyes, he suddenly became a flowing mass which rapidly shrunk in size. When it resumed a solid form it was, once again, the missing Video Viking.

Bud walked closer, staring at the robot. “How long did you suspect...”

But he noticed Tom wasn't paying attention. Rather, he was standing near the doorway to the circular structure, lightly touching it and gazing at the upward curve of the wall.

Bud went over to him.

“A starship,” Tom was murmuring, his hand now stroking the wall. “In a few days it'll go into hyperspace and begin visiting other star systems. Other worlds. It'll be back here in eighteen months.”

Bud remained quiet, watching him.

“With zeanite there'd be no trouble in creating living quarters. Even a laboratory and an observatory. And there's got to be some way I can live on the Zean plants and water for the duration of the voyage.”

“Phyllis,” Bud softly said.

Tom didn't immediately answer, but remained where he was, his eyes on the structure.

After a minute he abruptly turned and started walking towards *Chigiri*.

“You're a good man, Bud Barclay,” he said. “Even if you do occasionally try to kill me.”

* * * * *

“Countdown proceeding,” Koichi announced as Tom and Bud took their positions on the flight deck. “I used a command node to preset the appearance of a bubble which will take us back to the surface, and have tied in the computer to fire the thrusters once we're there.”

Bud was consulting his instruments. “Good download

from *Challenger*, Skipper,” he said to Tom. “I’m sending up a command to initiate rendezvous prep with *Chigiri*.” He glanced up at a display. Liftoff in... t minus fourteen minutes.”

Tom had strapped himself in and, reaching into his pocket, removed the zeanite engagement ring he intended for Phyllis.

“Let’s go home,” he said, gazing at the ring. “I’ve got a new world to explore.”

**IN THE NEXT INSTALLMENT OF
“THE SWIFT GENERATIONS” —**

Submitted for your consideration: one Phyllis Newton. An attractive and intelligent young woman, she is on the brink of happiness as a result of her upcoming marriage to her long time sweetheart: Tom Swift Jr. But, with only a week to go before the wedding, Tom travels west to assist a friend with some scientific research, and shortly afterward disappears entirely. Naturally concerned, Phyllis follows Tom's path and ends up in a totally unexpected location. But the problem isn't so much *where* she is as *when*.

Stay tuned for PHYLLIS NEWTON: TIMELOST