

TOM SWIFT
And The
Starless Planet

BY
Victor Appleton II

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Tom Swift and the Starless Planet

By Victor Appleton II

Tom Swift and his best friend/brother-in-law, Bud Barclay have traveled in and around and even outside our solar system, but each planet they encountered was part of our system.

When a rogue planet is spotted swiftly crossing the orbit of Pluto it becomes the source of incredible study from all observatories, but none so much as the Swift Observatory in the hills near Shopton. Using the powerful computers available to them at Swift Enterprises, they compute the path of this previously unknown planet.

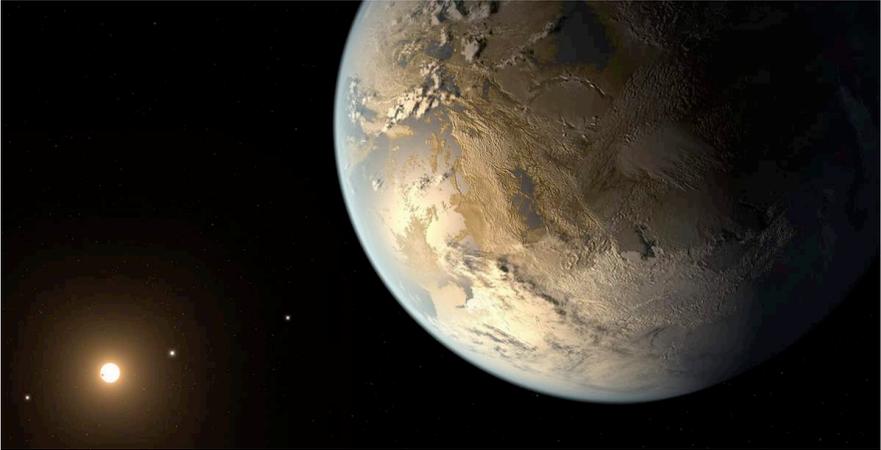
Nearly as large as the Earth, it will pass at a fair distance to our planet on its way to a slingshot around the sun. But, it is what lays in store months after it swings around our star that has everyone at Enterprises in a dither over what to make of it all.

There is a likelihood of 99.7% the planet will safely pass Earth's orbit but return to the vicinity of Jupiter when that planet will be near that same spot. And, if it does impact the Jovian giant, or the ringed beauty beyond, what happens next might involve the Earth!

Can Tom and a team of volunteers get to the mystery planet, force it off its course, and save the world?

With each passing day the likelihood gets smaller and smaller. If it gets too small, Tom may need to destroy the planet before it does any damage!

I thank anyone who ever wrote an apocalyptic novel or screenplay about the chance encounter between our planet and something else coming in from outer space. My first visual experience was the movie, *When Worlds Collide*, from a book by Edwin Balmer and Phillip Wylie (1933). I saw the movie in about 1962 and read the book in 2003. What it says about mankind is not pretty with fights and lies and near wars to become one of the lucky few who will escape the death of our home planet. The only more sad novel was one by Susan Beth Pfeffer, *Life as We Knew It* (2006) in which the moon is knocked out of orbit by a passing asteroid. Read them both!



The planet was heading inexorably toward the sun, but all signs pointed to it missing the Earth along the way, and that was not all good news! **CHAPTER 11**

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AUTHOR'S NOTE

We are getting closer to another milestone; we are not *quite* there yet, but closer. Thirty books cannot be too far off. Twenty-five is in the rear view mirror and this book makes twenty-eight.

Wowers! (Thanks and acknowledgement to *Inspector Gadget*)

When I began this writing project, at the urging of another Tom Swift fan author, Scott Dickerson, little did I understand what it would mean to me—and I hope to others. The first book slipped out through my fingers so quickly that when I reread it a year later I was surprised at the fullness of the action and the dialog. Made me sort of proud!

Later, when I submitted it to a review group at the publisher, Lulu, they provided me a report of how my style, characters and dialog compared to many known authors. I received what I consider to be one of the nicest things anyone could tell me about my work. I won't bother you with whom I was compared, but suffice it to say my real name is also the main character in a posthumously-published novel by someone whose name rhymes with *Fernest Blemmingplay*.

Too subtle? Sorry.

My love of writing has been life-long. I've told the tale before but in both high school and in college I was taken aside by English teachers/professors and told that when they asked for 3,000 words—and I generally gave them 6,000—they were going to ignore all my extra words. One told me I might just as well write, “Blah-de-blah...” over and over again for all the good the extra words would do.

So, I pushed that idea and did that for about 2,500 words before typing, “Will you go out with me?” This was the professor by the way.

When the paper came back it said in bright red, “A” with an asterisk that was only completed on the final page where she wrote, “Sure, but no hanky-panky... on the *first* date!”

Fernest Blemmingplay... Wow! Or as Bud would say, “Jetz!”

Copies of all of this author's works may be found at:

<http://www.lulu.com/spotlight/tedwardfoxatyahoodotcom>



My Tom Swift novels and collections are available on Amazon.com in paperbound and Kindle editions. BarnesAndNoble.com sells Nook ebook editions of many of these same works.

Tom Swift and the Starless Planet

FOREWORD

I don't know about you but I have been seriously impacted (or rattled, shaken and stunned) by a few apocalyptic books and movies in my day. See my dedication on page 3 for at least two of them. You can add the Walter Hughes book, *Chris Godfrey and the Last Disaster* to that. The old saying is that civilization 'is three meals from barbarism,' and these works point out the pettiness of mankind with everything from the über-religious wanting to just let "God" take his revenge on the planet, to dictators who would try to use an oncoming disaster of worldwide proportions to feather their nests, to people who just get on with their lives because they know there is nothing to be done.

Whether that is acceptance or giving up, I don't know.

What I do know is that there are some fine authors out here with better than "merely interesting" ideas about what could happen, and more specifically how mankind in the so-called "civilized world" handles themselves when the inevitable becomes known.

For this story I decided that the peoples of this era are no longer mature enough to handle the knowledge they are inches close to probable death they cannot be told until the danger has passed or been ameliorated (BIG word? You bet!).

"Why didn't you tell us?" they might demand, but if I know anything about the people even at the Y2K millennia change, they panic at the slightest thing, made more serious by a press that believes they are only doing their jobs if they seed panic or dissent or hate of the things and peoples they personally do not like. Or, turn an annual increase in influenza into a "*Pandemic!!!!*"

They let their own ignorances spill over into their reporting.

They are bad people and ought to be forced to adhere to the same sort of standards the old API Standards of Reporting promoted. Sadly, that is from a bygone era. Like Walter Cronkite.

Oh, and is this a Foreword written in anger? You betcha!

Victor Appleton II

CHAPTER 1 /

A TYPICAL WEEK AT THE SWIFT'S

TOM SWIFT, the now twenty-nine-year-old inventor and scientist, son of Damon Swift, a man who is—well, let's just say he is *older* and leave it at that—and Anne Swift—a gentleman never asks a lady's age—brother to Sandy Swift-Barclay and best friend for nearly fourteen years to Sandy's husband, Bud Barclay, sat in the place of refuge he had staked out when he was about seventeen. It was the original control tower atop the largest building to grace the four-mile-square grounds of Swift Enterprises.

The hexagonal room was less than twenty feet wide, featured triple panes of thick glass to cut out noise and tinted to reduce heat from the sun. It was also a private haven for him where he could escape and just ponder life or his latest inventions.

Today he was in escape mode. His voyage just before the birth of his third child, a daughter named for his mother—in a combination spaceship and deep-ocean submarine to Neptune—had concluded seven weeks earlier and he had spent five days at home, sleeping a lot and cuddling with his wife, Bashalli. The rest of the time had been spent with his other kids, Bart, now six, and Mary, almost four.

Bart was going to take after most of the men in the Swift side of the family. By age three he was reading at a second grade level, at four he had learned how to fly remote control aircraft and before his fifth had designed one of his very own.

Mary, on the other hand, was all little girl who had a mischievous sense of humor and loved devising little pranks to pull on her brother and parents.

That return was followed by a deep diving trip in the *Yamato II*, his Neptune ship, to recover the small model of that vessel that had broken free of its minder sub and dropped into the deepest point on the Earth: the Marianas Trench. But, he was home now and glad to be back.

The evening before he was sitting with Mary on his lap and was pleased to find she wasn't squirming around and making him lose concentration on the report he was reading.

She understood this was a special day with her father and so she had been sitting quietly and patiently as he looked over many, many pages on his tablet computer.

Suddenly, she let out a giggle.

“What are those, daddy?” she asked pointing at the picture of several strange, alien beings.

“Those, Mary, are the people your grandpa and I used to call our space friends. Do you remember me going on a long trip to a new planet I told you was named Mars?”

She slowly nodded, her eyes not moving from looking at the alien beings.

“Well, it was out there that these beings lived on what we believed was a large spaceship or maybe inside a little moon. And, they used to help grandpa Swift and me with some of our harder problems. It was eleven years ago, as of today, that they first sent a small rocket to land in one corner of Enterprises, right out where we have all those rocks and dirt?” She nodded again, and again did not look away from the screen. “That rocket had some funny scribbles on it that turned out to be a language we finally figured out telling us they wanted to be our friends.”

Now, Mary looked up at her father’s face. “You were *their* friends?” She had a few friends from afternoons at the park but could not picture her father playing in a sandpit or on the rocking animals mounted on springs with these strange beings.

Tom thought a moment. “Well, sort of. We never did go visit them but I helped them come down here to take a look around. When they came, that was when your uncle Bud took that picture.” He tapped the screen causing what had appeared to be a still image to turn into a fifteen-second video.

Mary watched the funny creatures and giggled a little, but she soon turned back to him looking sad. “Did they die?”

He felt a moment of emptiness. “I hope not, Mary. I really hope not, but they did leave their place out near Mars and go home. And, before you ask, nobody knows where their home planet really is. All Grandpa and I think is it is so far away they cannot come back. At least, not in the years since they disappeared. But, that is yesterday, and today while your mommy is at the spa with Aunt Sandy, you and I get some time together.”

“Is mommy getting mud all over her?”

“Probably,” Tom told her with a grin imagining his wife and sister wallowing in a pool of gray mud.

“Will she come home with mud?”

Tom chuckled. “Only if she isn’t good about showering it off, so I think the answer is no. No mud. Why?”

“Because I want to be pretty like mommy. With mud!”

He smiled at her and gave her a little hug. “You, my darling daughter, are already beautiful!” *Maybe a little too beautiful for a four-year-old*, he thought. *I’m not looking forward to when you get to dating age! Teenage boys all over the yard and knocking on the door at all hours. I might need to practice my growling and glaring.*

He glanced at his watch and stood up while still hugging the little girl. “Speaking of time, my dear, it is time we headed out and to the car. We have to go pick up some food for dinner so your mommy doesn’t have to do any cooking. What should we have?”

“Chinese!” she squealed.

“You always say Chinese. Don’t you want pizza or anything else?” He knew the answer. Once Mary had been on solid foods her parents had been giving her little bites of everything they ate. She immediately homed in on things like egg rolls, wantons, spicy shrimp and other delights of that Asian cuisine.

With a shrug he told her, “Then, Chinese it is. Come along.” He set her down because he knew she really did not like being carried up or down stairs unless she was very sleepy.

“Amanda?” he called out to their nanny.

Their nanny came out from a side room where the children generally watched TV. “Yes, Tom?”

“I’m taking Mary with me to the restaurant to get Chinese food for dinner once Bash gets home. I know Bart and Mary want shrimp. Any preferences?”

“Mu Shu Chicken for me, please.”

He added that to his mental list. “Right. We should be back in a half hour. If Bash calls tell her dinner will be at six. Thanks!”

Tom helped his daughter—his first daughter; Amanda was taking care of little Anne, their infantt—into her light jacket and opened the front door. She walked ahead of him stopping at the top of the steps.

He held her little hand on the way down but she made it just fine. He let her run ahead to the side of the car while he pulled out his keys and unlocked everything.

After he opened the door of their family sedan, she climbed up and into her safety seat, grabbing the crossed straps from behind her head and clicking the connector into its clamp.

He knew she had it, but he gave the connector a little tug.

“Got it in one, Mary,” he congratulated her with a little kiss on

her cheek as he closed her door and climbed in the front.

He knew it might be a mistake, but he allowed her to pick out two of the four dishes they would take home, along, of course, with a box of steamed rice. She looked seriously at the woman at the front desk as she said, “We want shrimps in yerster sauce and eggs rolls with pork.”

“She means oyster sauce in case you had a question.”

The woman smiled. “Oh, no. Mary always orders her shrimps with *yerster* sauce and we have a good supply of that just for her!” She winked so Tom could see it and Mary beamed at being recognized. “And spicy shrimp for Bart?” Tom nodded.

The woman told them it would be about twelve minutes and took their order back to the kitchen. She came out with something in her hand. “Can you guess what is in my hand, Mary?” she asked.

“Forchum cookie?”

“Yes, and if you promise to not ruin your dinner you can have an extra one,” the woman said with a smile, handing the plastic-wrapped cookie to her.

Tom and Mary left thirteen minutes later with a large bag of food. He had remembered at the last minute Bashalli loved this restaurant’s hot and sour soup and so had also ordered a large container of it.

They got home just three minutes before Bashalli did having stopped at her parent’s hours to pick up Bart, Anne and Mary’s big brother.

Bart had turned six eight months earlier and was following his father. That meant, he had surpassed his first grade teachers so much that after the Christmas break he had been placed forward into the second grade. Now, a couple months later, the school was pondering moving him to the third grade even before the end of the school year.

Everyone had a great dinner with Mary happily getting her *yester* sauce all over her lower face. Bart rolled his eyes but went to the kitchen sink and brought back several damp paper towels to use to wipe her hands and face clean, a job he thought of as his duty.

After eating, Amanda offered to get the three ready for bed.

“You’ve had a nice relaxing day, Bashalli, and Tom came home looking a little tired, so let me get them tucked in and then you can say goodnight. Okay?”

Neither adult argued the point but both smiled and nodded.

Tom walked the meandering pathways that ran between all eleven of the main buildings in the central cluster at Enterprises. In his arms he carried a plastic box of some twenty-two inches long and about a foot-and-a-half in both the other dimensions.

It weight only a few pounds but was a bit clumsy.

Following a quick stop and a chat with the woman who managed the Propulsion Engineering department, Dianne Duquesne, he arrived at the farthest building from the Administration structure, and his destination. He set the box on the ground and leaned in to get his face close enough to the entry lock sensors they could do a scan of his face and his right iris. Once the system provided a cheerful little *beep* and the screen sensor panel flipped around exposing a numeric pad, he keyed in his personal 15-digit code.

The heavy door in front of him rolled to the right side admitting him, and his box, a few seconds later.

“Recognized: Tom Swift. Authorization: full access with no restrictions.”

He had to smile on hearing his own wife’s voice. Bashalli had become the official voice of computers all across the Swift empire, and not just because she was related. Her having grown up the first ten years in Pakistan and then coming to the United States where she strove for perfect English diction—with a merest hint of her former accent—made all verbal issuances easy to understand and pleasant to listen to.

As Tom waited for the inner door to open, the voice came back.

“Present inside is Damon Swift. Do you require private access?”

“No. Thank you. Please open the inner door.”

The door moved to the side and he stepped into the vast and very tall space.

He had to take a moment as the sight greeting him, one he had seen dozens of times but still made his heart race. Hung from the ceiling three stories overhead were many spacecraft of both his and his father’s designs.

His space kite powered by an invention he had called the gravitex hung above the entry. Over to the left were such things as the first Skeeter two-man helicopter he’d developed for his *Sky Queen*. Ditto the small one-man jet built for the same hangar inside that massive three-decked jet.

Everywhere he looked were more and more examples of vehicles

that had a great purpose when originally built, but had very little use after that. That was okay. This was, after all, a museum of Swift inventions.

Including the *Red Cloud* airship his great-grandfather had built and flown on several adventures. Over to one side sat that man's giant searchlight, the first in possibly ten generations of such powerful lights to be used mostly from aircraft.

He was drawn out of his reverie by the sound of someone approaching.

"Well, hello, Son. What brings you and... I see you have some sort of box there."

His son shook the box gently. Inside several *some things* jostled around.

"I'm finally clearing out the first generation PER individually tuned crystals. They've been in the storage room for years and with the replacements now six years old and my working on *their* replacement, I thought I could use the room. This is the first of five boxes."

The PER, or Private Ear Radio, was a quantum entanglement device that exactly matched two special crystals in two send-receive units that communicated in a very special way. That, for the most part, acted as if the two crystals were working as one and ignored such things as solid walls, ground, and even distance to a point.

One of the drawbacks of the system was it needed to have exactly the same crystal at the send and receive points or they simply ignored each other.

That led to the need to carry crystals for anyone or any place you might need to contact. The first time Tom had tried using the system in space he had been stymied in his attempt to reach his father at Enterprises because that crystal had been damaged as it was being loaded along with fifteen others. So, the communication had been sent to Fearing Island and from there to Key West and the Swift's private broadcast network and then via fiber optic cable to Shopton.

It meant a delay of up to two-seconds each way each time something was said or asked.

Tom had decided a couple years later to create a multiplexed crystal system that held all the necessary crystals in a rotatable drum. Simply "dial" who it was you wished to contact and that crystal was used.

For version II, he had even miniaturized the crystals so the drum

containing all sixteen of the generally used ones was a sleek thirteen-inches across and six-inches long.

“Tell me more about this new version of the PER you are working on.”

“To start with, I can create the quantum entanglement using a variation on the special radios our Space Friends left for us. I can’t yet figure out their inter-dimensional mystery box that might let me make something that works across the vastness of space almost instantly, but at least *what* I’ve been able to copy can work with a synthetic, tunable crystal and get our own radios working across, perhaps, the solar system about as quickly as one second.”

Damon let out an amazed and appreciative whistle. “Sounds wonderful. Are you close to success?”

“Very. But, I’ve been wondering if I ought to give a try with that manufacturing box they left for me on Phobos when I shoved it back into position. It is supposed to be able to build most anything, and they used it or one like it when they made things for us like gravity stones and even the rockets they sent down. I just haven’t had the time to figure out how to program it for what I want.”

During Tom’s adventure re-placing the larger of the two Martian moons, Phobos, back into its proper orbit he has found both the reason—an old gravity stone that the Space Friend’s masters had evidently set on high hoping to burn it out so it could never be used by anyone other than the Space Friends—and a gift left behind by the Friends when they had to depart the solar system, presumably forever.

It was a large cube—fifteen feet to aside—with a lid that automatically rose on unseen hinges when the young inventor had found and placed his hand on an access pad. Inside had been a few objects Tom recognized, but the majority of the space was filled with... other stuff.

It was only once he had deciphered their message and realized this was a manufacturing unit.

Unfortunately, it had not come with any evident owner’s manual and so it had sat out in one corner of the main hangar on Fearing Island, covered and under lock and key, mostly since.

Damon laughed, “Maybe it’s about time you took a day out of your schedule of housecleaning and went down there to see if you can figure the thing out.”

“You’re probably right, Dad. I’ve been thinking about that and came up with one idea. Perhaps if I place something into it and

close the lid it will make another one of the same thing.” He looked at his father. “Any idea about trying that?”

“Why not? I’d say to give that a try. Take one of their radio units along with something you have made and try each one. If nothing happens, that is not the way the machine works. If it replicates their piece and not yours, then we may have found a limitation. Or,” and Damon paused as he thought over something, “what if that box is more like a 3-D printer? It needs to have the design of something, uhh, entered into the controlling computer before it can make something for you.”

“Well, if that’s so I hope they have a ready store of designs to be called up because I could never give them back the full design for the radios.” Tom sighed. “I guess a trip is going to be necessary. I’ll plan on that for tomorrow. For now,” and he tilted his head to the box of PER crystals sitting on a nearby table, “any idea where I should store these?”

Together they found a place inside one of the glass-fronted cases that contained other pieces of electronics and soon had it locked away. The final step was to enter the data regarding that “exhibit” into the computer system so anyone in the future could be directed right to that point. There was still room for his other boxes.

That afternoon Tom TeleVoc’d Bud, his best friend, to come over to the big office when he had a chance.

“Curiously, or not, I am walking past the Barn on my way to come see you and to see if Chow might wrangle me up a sandwich. Be there in five.”

When he arrived at the outer office Tom was standing there, talking to their secretary and administrative assistant he and his father shared, Munford Trent.

“Hey, Trent. I hear from a little bird that you’ve taken up competitive badminton. Great exercise. And, I hear you are excelling at it!”

Trent blushed slightly at the compliment. “Yes. I used to play in high school and college but sort of set that aside when I got into the working world. But, with the regulation court we have at Enterprises I just had to pull out the old racket and give it a try.”

Tom looked at Trent with an, “I didn’t know about that,” look but soon shrugged and smiled. “If you ever feel like an audience I’d love to see you in action.”

“Well, *that* may be months away, Tom, but thank you for the interest.”

The two friends headed down the hall to the small kitchen Chow Winkler kept in the Administration building. It was fairly narrow and long and had just about everything the old chuck wagon cook could imagine and use to make all the excellent meals for the executive staff, and special things like sandwiches for the two men standing in the doorway now.

“Wahl, hey, youngsters! What brings ya ta my grub hut? Aww, wait. I seen that hungry look in Buddy boy’s eyes afore, so I’m a guessin’ ya want a snack of somethin’.”

Bud grinned even more and Tom nodded. “Bud seems to have skipped lunch—”

“And breakfast!—” the flyer broke in with.

“Okay, and breakfast, and I only had a small Danish at a meeting around noon. So?”

Chow seemed to be thinking over what options he might offer. He suddenly brightened. “You two ever had somethin’ called a lobster roll?”

Both younger men nodded and smiled.

“Wahl then, I poached some lobsters this morning fer a lobster salad I served fer lunch an’ have at least two left over. Gimme five minutes ta pull the tail and claw meat and then mix it up with a mayo sauce an’ I’ll bring ‘em to the lab. Or, if’n ya want some refined dining, up ta the Executive Dinin’ Room.”

Tom knew Bud never felt entirely comfortable in the fancy room so he told Chow, “The lab will be more than fine, Chow. Thanks.”

“Usual drinks? Iced tea?”

Tom and Bud chorused, “Sure.”

As they ate Tom filled his friend in on his hopes for coming up with some way to use the Space Friends’ manufacturing box.

“What if it runs out of stuff to use? Then, what do you feed it?” the flyer asked.

“Then,” Tom said, stopping to consider the question—a very good one—said, “I have to believe it can absorb what it needs from its surroundings, but we will start with small things until I get the hang of how to use it.”

The trip down was planned for the following day. Both men asked their wives to accompany them with both saying they would love to come.

“It’s just getting back to bikini weather,” Sandy stated but on

seeing the slight sadness in her sister-in-law's face—Bashalli was still trying to get back into shape after her third birth—“but now I think of it, there'll be a breeze so maybe we all need a little cover up.”

Sandy was allowed to leave her day job in the Communications department because she was going to be tasked with presenting a fifteen minute talk on a forthcoming equipment change to the Communications department, all four of them, on Fearing Island.

Bashalli's job as a manager at the Shopton Advertising Agency was such that she generally worked four days a week and took one day off, this week that would be the one-day trip to the island off the Georgia coast.

They flew down in Tom's Toad jet, a Swift SE-11 Commuter that was frequently used as a demo platform for different jet turbines and flight systems. It was a smooth flight and they swooped in on the shorter runway two hours later.

After taxiing to the front of the hangar, they climbed out and stepped toward the big doors. A technician came out to meet them.

“Skipper? Something is happening with that Mars box, About ten minutes ago the top opened up and a light came on inside!”

Tom grinned. “Seems that our box must be in the know and is getting ready for me to be here. Let's go see what we might do.”

CHAPTER 2 /

FLESH AND BLOOD IN YOUR OWN BACK YARD

THE MYSTERY box had been sitting in one spot for more than a full year, visited by the inventor a total of five occasions in that time, and both times it had done nothing more than recognize his handprint on the scanner set into what Tom thought of as the front of the box. For anyone else, it sat there, impassive and almost as if ignoring them.

For Tom it lit up the pad and opened the top cover.

Each time he had climbed a ladder and stared into the incomprehensible contents of the box. There were places that appeared to be either input or output ports, places that appeared to be flexible enough to accommodate something larger under them than the measured space might say was possible, and even a few places that could be buttons.

This time, looking down with Bud at his side, he saw nothing new or different.

“As unfathomable as the Space Friends themselves?” Bud asked from over Tom’s right shoulder.

“Nearly, flyboy. But, dad gave me an idea about how this might be their version of a 3D printer. You know... select or input the design for what you want and presto, out it comes. Hank and Arv both have a number of such printers that work with anything from plastics to metals and even the one that melt’s microscopic beads of glass and fuses them into things.”

“Yeah. Like how they do a lot of the models of yours and your dad’s inventions.”

“That’s what I want to check out, Bud. But, I’m not certain where to start. Do we do something up here or down at the activation pad?”

They headed back down and as they reached the bottom the lid silently closed.

Tom was staring at the activation pad as if daring it to show him the secrets of the box. He held his hand an inch away from it, held it directly on it, and then moved it around a little. Other than the top coming back open and then closing once gain, nothing seemed to be happening.

When he was about to give up—he’d been at it for more than an

hour—another part of the skin of the box came alive. It turned from a slightly rough and wrinkled surface like the rest of the outside, and into a flat and smooth video monitor.

Tom grinned and Bud gawked. “Leave it to the Space Friends to figure out the monitor you sent them and duplicate it for this thing,” the flyer stated.

As they watched a face of one of the aliens came into the range of the camera they must have also duplicated. The picture panned down and the being’s hands began complicated motions that Tom knew was their visual way of communication. Between themselves it was likely they used telepathy for most things, but they did have a hand language.

It was complex and used all six of their digits—four long fingers and two opposable thumbs.

Tom had created a hand-held device to both translate their gestures as well as to translate his voice into the same gestures. It had worked well, if a little incompletely, when they finally visited the surface of the Earth.

“Well, I should have thought to pack the translator,” the inventor said ruefully. “If I had, this all might have been a success. As it is, I recognize a couple gestures like the first two that basically said, ‘hello,’ and ‘friend.’ Just not a lot after that. They do hand speak quite fast when they want to.”

Bud nodded. “Okay, so you have the tech to translate just not here. Do we take the box home, or come back, and I have to say it will need to be after the weekend for me.”

The inventor grinned. “Yeah, Bash is after me to spend all my weekends at *Casa Swift*, so I guess we go home early today and let everyone know we might have found the secret, just didn’t have the little box to make it happen. And, I have a Monday meeting.”

Tom motioned for the two technicians that had been standing by to place the large cover sheet over the box.

“We’ll be back day after tomorrow about the same time. Thanks, guys!” They collected their wives from the small beach area by the harbor and left for to Shopton an hour later.

The morning before Tom and Bud were heading for Fearing, Sandy came rushing into the big office out of breath and obviously excited. She skidded to a stop in front of her father’s desk, looked guiltily at the door that was just closing and retraced her steps.

“Sorry for running past, Trent. I didn’t mean to not say hello.

Hello!”

She returned to stand in front of Damon’s desk.

“And, to what do I owe this honor and rather *breathtaken* visit, my first and only born daughter?”

“Didn’t you hear? Jason Decosta is coming. Here! Isn’t it about the best news in like... forever?”

Damon slowly rose and stepped around to stand before Sandy.

“And, pray tell who or what is a Jason Decosta, Sandra?” He looked curious because he was. He had never heard of the person he had to believe was some sort of famous man. At least to Sandy.

“Daddy! You can’t tell me you’ve never heard of Jason Decosta. Really! He’s practically Hollywood royalty.”

“Ah, that explains it then, I never pay much attention to Hollywood royalty. Been in a few movies?”

“Well... no. He’s TV royalty. He’s only been the lead actor in the very best young adult drama, *My Town and Life and Loves*. I watch it all the time.”

“Oh, so you say he is coming here? To Enterprises?”

“No. To Shopton. He’s shooting some scenes out on Lake Carlopa for a new series. Something about living in the wilderness, or like that.”

“I see. I suppose you have come to ask me to ask George Dilling if you can have a few fangirl days off to lurk on shore, or worst yet, just happen to be out in one of the boats when they are shooting?”

Sandy had the decency to look a little ashamed as she nodded.

“How about we arrange for you to have a long lunch and you can go out in the smaller sailboat? You might catch a glimpse of this so-called royalty hunk.”

“But, he’s, well, larger than life!” Sandy exclaimed. “He’s a legend.”

Her father shook his head slowly and had a look of some sadness in his eyes.

“My darling daughter. Let me tell you a little something. There have been many people who were larger than life who lived that myth and it was part of their downfall. There were others who were proclaimed to be of such incredible proportions, they could never live up to that. For me, the prime example was President just before I was born. John Kennedy. When all was said and done, he was a larger than life figure in the body of a life-sized man. Just that and

nothing more. Your movie star is not only what you see up on the screen; he is mere flesh and bones and blood and personal foibles and emotions you don't see. But, with all that, he is just a human."

Sandy looked like her personal balloon had just been punctured. But, she was a smart woman and realized her father was telling her the truth. Not a truth she wanted to hear at the moment and about the man she had idolized for more than a decade, but the truth.

"You're right, Daddy," she admitted as she snuggled into his chest to receive a hug. "I would like to go out and see what they are all doing. And..." she looked slyly at him, "if I happen to see him and I happen to be what they call 'in the shot,' maybe he'll see me when he reviews the footage and wonder who that stunning blonde girl is."

Damon found it hard to not laugh.

"Uhh, Sandy, in case you haven't noticed, and I'm not saying this as anything other than a statement of fact and with love, you are a couple years beyond the blonde *girl* stage of your life. You are absolutely stunning, never a doubt, but not the ingénue any longer. Just keep your head on straight and do not make a fool of yourself. Promise?"

She nodded. "Yes, I promise."

When she told Bud that evening about the coming of her favorite TV star, he shrugged. "So, Jason made good, huh?"

Sandy was knocked on her heels, mentally, by that simple statement/question. "What in the world do you mean by that, Budworth?"

He grinned. "I simply mean that Jason Decosta evidently has made a name for himself. Good for him." He went back to eating the pot roast Sandy had made in their slow cooker. "Did you want to wander down to where they're shooting whatever epic he's making?"

Sandy, now completely unsure where this was heading, nodded.

"Well, Tom and I have to head to Fearing tomorrow morning and will be back in time for dinner, but why don't you take a long lunch and head down there. I'd ask George Dilling to clear it for you. Maybe he can even arrange a special behind-the-scene pass."

The next morning, after she kissed him goodbye and he drove off to meet Tom at the Barn where they would climb into Tom's Toad, she made certain her makeup was looking good and her hair was brushed and constrained by one of her favorite scrunchie hair bands, Sandy headed for work.

Something was going on; she knew it. George already had contacted the production company and arranged a back stage pass for her. He smiled as he handed it to her.

“You are to be at the head of the Shopton pier at eleven. Ask for Brian Feld. He’s an old acquaintance and is looking forward to meeting the daughter of Damon Swift.”

Sandy fretted and squirmed for the next couple hours before she left, driving downtown and parking in the Shopton Yacht Club’s lot, a half block from the pier.

Her head in a virtual spin at how she only had to walk up to a woman with a clipboard, ask for this Brian Feld, and was taken straight to him. He turned out to be the Assistant Director and was just finishing up a take of several boats traversing the lake.

“Very nice to meet you, Mrs. Swift-Barclay. And, I must say our star is looking forward to meeting you.”

Sandy could have fainted at that pronouncement. “He-he, unhhh, *he’s* looking forward to meeting *me*?” It nearly came out as a squeak.”

“Sure. You’re one famous woman. Anyway, I see him over by that little shed, so let’s head there.”

When she was standing within ten feet of her idol her legs forgot how to function and she sort of stiff-legged tottered forward. Jason didn’t seem to notice it as he was conferring with the first woman and her clipboard.

“Ah,” he said turning as she got to within hand shaking distance. “So, you are Sandra Swift-Barclay. Our Bud sure made himself and all the guys at St. Ignatius Elementary proud.” He tilted his head. “You ought to be in front of the camera. Gosh. Oh! I’m so sorry. I’m Jason Decosta.” He reached out and took her hand warmly and gently shaking it.

She found her voice. “You said all the guys at that elementary school. Isn’t that where Bud went out in San Francisco?”

Jason smiled and nodded. “Yep. And, he’s just about the most famous guy to come out of that little school. I mean, he and I sort of lost touch over the years and then all of a sudden, it’s Bud Barclay and young inventor Tom Swift on this adventure in space, or stepping on the Moon or diving to the bottom of the oceans or... well, you know all about that. Right?”

Sandy’s head was spinning. Her Bud, famous? Sure, he’d done some incredible things, but they were mostly with her brother Tom. She had to process this new data.

“Yeah, Bud was always sort of a forward guy and great at football and baseball, and by the sixth grade the girls were flocking round him like... oops! I probably shouldn't talk like that. Anyway, gosh, Sandra, but it's great to meet the woman behind our good old Bud.”

He stepped back and gave her an appreciative look. “Wow, my first impression of you being beautiful was right. If you'd like to have a small part, probably only a few words, in this pilot we're shooting I'd love to arrange that. You'll be a great addition to the visuals. Perhaps nothing working directly with me, but who knows?” He smiled again and made a “let's go this way” with his right arm.

She finally found her voice. “Uh, Jason? You can call me Sandy. And, I have to say this is sort of a dream come true for me. To meet you, that is.”

He smiled and told her not to believe all the industry hype. “I just sort of lucked out and into all this. I have to take advantage while I am still considered a draw for the female audience.” He shrugged.

They talked for twenty minutes before he had to go shoot a short scene that required five takes and then came back to where she was sitting.

“It's all arranged. We have a small group scene of three, well now it's four, attractive young women I walk past and say hello to. While the other three sort of freeze up, you will deliver a line something like, ‘We were watching you out there. You were amazing on that jet ski. Is that little boy going to be okay?’ Hope that is okay with you.”

He escorted her to a trailer where three chairs with make-up artists were standing around talking.

“Got one for you. Don't do too much 'cause you can see she's already a beautiful woman.”

The first woman indicated Sandy should climb into her chair. “By golly,” she said examining Sandy's skin under the rather bright lights around the mirror, “You'll take no time at all. So relax and let Alex do a small brush and lip paint job. Uh, what are you, sweetie? twenty-one or two?”

Sandy wanted to giggle. “Truth? I'm going to be thirty on my next birthday, but that's eleven months away. Thank you for the compliment.” It made her feel very good that a professional thought her to be younger than she was.

Sandy's make-up work took just five minutes. All three make-up ladies stood looking at her in amazement. “Gawd, but I wish all these girls looked this good with so little!” Sandy blushed.

She next went to wardrobe and was provided a slightly plungier

blouse that displayed what she had in abundance, but nothing like the amount of skin revealed by her favorite bikini, so she didn't say anything.

The clipboard woman came over handing her a script page with her words highlighted in yellow. "Please try to not deviate from those words, miss. We're a little behind schedule and the Director doesn't like to waste time or film on, ummm, amateurs. Sorry."

Sandy was taken to the spot and introduced, briefly, to the other three women, all young starlets who gave her a look that spoke of jealousy.

When the scene was set, the Director had his clipboard assistant "mark" the scene and he called over a last-moment direction.

"Mrs. Barclay, can you turn a little you left so we can see more of your face?" She did and he said that was just what he wanted. "Action."

The scene unfolded with Jason climbing back onto the pier from his "rescue" of a young boy. While five townspeople took the boy he stepped over to walk past Sandy's group.

"Ladies," he greeted them, pausing a moment.

"Gee, you were amazing out there. I've never seen anyone scoop up someone and rescue them from a jet ski. Is he going to be okay?"

Jason smiled his well-known smile at her. "I sure hope so. And, I sure hope I might have the chance to see you around town, miss." He touched her shoulder and ambled out of the shot.

The other three women looked at her in amazement before the call of "Cut!" came.

"Okay, lets get the camera set up for an over the shoulder with our pretty blonde. You others take a break."

Jason came back and took his spot where he'd been standing and explained they wanted a close-up of his face reacting to her statement and question. Then, one of her face as she said her lines.

"I'll deliver the 'I hope so' line, touch your shoulder and head past you. Just do what you did before with the slight head turn. Okay?"

Her scene finally completed, Jason asked if he might get together with her and Bud.

"Well, he's on one of his little flying trips today but we don't have anything planned for tonight. Want to come to dinner? Could you get there at seven?"

“Can I bring my wife?” he asked knocking one of the last imagined facts about the man from Sandy’s head.

“Sure,” she replied brightly. “Any food allergies or hates?”

“None. Uhh, I don’t know this area much so could you maybe come pick us up at the Shopton Hotel?”

It was arranged.

When Bud got home that late afternoon she told him what had happened.

He smiled and kissed her. “Yeah, Jason was always one of the good guys. It’ll be nice to see him and Jennie.” He saw the look on her face and recognized it as a combination of resignation and eagerness.

“What?”

“It’s just that I realized after he and I talked that if I want to look for someone famous to hang around, all I have to do is like Dorothy in *Wizard of Oz*, look in my own back yard.” She put her arms around his neck and gave him a very significant kiss.

Their 7:30 dinner drifted on past eleven with a lot of memories of San Francisco and “the Dreaded Saint Iggie” school and its terrorist-like nuns.

"It's a wonder Bud here had any knuckles to throw footballs with, but maybe that's what made him such a great quarterback," Jason opined.

By the time Jason and his wife got back out at the hotel close to midnight that evening, Sandy was over her schoolgirl crush and idolization.

“Just flesh and blood, and no bigger in life than my Bud,” she told herself and made a note of the air date Jason had told her so she might check out her acting debut.

Tom and Bud had headed back to Fearing Island as early as they could both get to Enterprises that morning... around 6:00 am.

Tom had his translator with him in a carrying case that included a computer to aid in recording and adding new gestures to the unit if necessary.

He’d spent an hour at Enterprises the previous afternoon to check it thoroughly. It was in good working order and he practiced a few of the gestures he could manage using two hands overlapped.

As the jet settled into its final approach, with Bud at the controls,

he was going over what he hoped to create.

His intent was to try for another of the amazing inter-dimensional radios. With only six of them ever given to the Swifts, it meant carrying a couple of them from spaceship to spaceship for use. Two were permanently at Enterprises and the *Space Queen*, Tom's gigantic replacement space station to the older Outpost in Space. One was installed in the *Challenger*, another in the *TranSpace Dart*, and the others were floaters between such ships as the *Goliath*, the *Sutter*, the *Galaxy Traveller* and one or more of Tom's small disc-shaped spacecraft.

Bud's feather light touchdown almost went unnoticed by Tom until he looked up and saw them now taxiing toward the end of the runway and the hangar.

It took them both over an hour, sometimes running a few ideas back and forth, before Tom managed to get the translations of the opening screens on the box.

Basically, it translated to:

**Greetings to our friend, Tom Swift.
We have left this device for you to use
in hopes it will allow you to some day
locate our home world. We may not reveal
that data to you but you may be able
to create a locator device.**

One day.

**Simply place your hand on this flat image
creator and then select from many known
devices. New devices may be devised and
created as you come to know the capabilities.**

Tom was a little stunned. He'd expected perhaps a little more detail in use rather than a greeting, but he now found a menu was being presented. He could scroll down and up the fifty or more images. Not knowing what any of them were other than a representation of the radio devices, he pressed that image and a series of hand gestures came up.

He had to run it through twice to get everything into his translator, but in the end he smiled.

"Got it?" Bud asked.

"Let's see if I do. Assuming I don't make a mistake, here goes for creating one long-distance radio."

He pressed the image of the radio and followed the translation of

the instructions that included making five further selections. In the end the screen blanked out for a minute. When it came back it was a single hand gesture that translated into: **Complete**

A heretofore unseen door rolled to the side and inside the cubby hole sat one of the radio units Tom immediately recognized.

“Does it work?”

“I have to connect it to a power source first, but I’m really please it made something I understand. I think I won’t tax the box any more, so let’s go grab a late breakfast in the canteen and head for home.”

CHAPTER 3 /

A DISTANT DISCOVERY

THE SPACE Friends' radio, right out of "the box," worked exactly as Tom hoped it might. His next hope was he could find a way to build just the inter-dimensional link circuit—or whatever that component was—and link it to his PER, at least this newest version.

His test was to call Ken Horton at the *Space Queen* and include a time check to the millisecond with the signal. When Ken read out the data, it checked with the inventor's.

As he practically waltzed into the big office, Damon looked up from a paper he'd been perusing online. Catching the look on his son's face, he leaned back.

"Something good, I presume?"

"Oh, just about absolutely, or at least the start of something very good." He told his father about the success with constructing a new radio, and how it had required the device on Fearing Island about one minute from the time he pressed the virtual **START** button until the door opened and he had the radio in his hand.

"Like many things, once you understand the secret, it appears to be fairly simple. Good work, Son. What's next?"

"I think I'll take the *Challenger* out past the Moon a bit and try calling home. Two times geosynchronous orbit is fine, but the PERs are only fractionally slower than this first new unit. A good couple of light seconds of space might give us better numbers to compare to the original ones."

Damon smiled at his son, "You just want to head out to space for a little jaunt, don't you?"

Tom, sheepishly, nodded. "Yes, but with a pretty good reason."

"And, speaking of pretty, why don't you make this is date in space with your pretty wife? Let Amanda watch the kids for the day, take along a pilot who can be relied on to disappear down to deck two while the two of you hold hands and stare at the stars." That was not a question, but more of a friendly order.

Tom knew it was a good idea, so he called home to ask.

Bashalli's squeal of delight told him everything he needed to know.

"When? I have to arrange for the time off."

“I was thinking on your regular Friday. We can take along a picnic lunch, unless you want me to invite Chow along to cook for us, and have a few nice hours together before I have to do some testing of a new radio. Then, we get home before dinner.”

She readily agreed to the plan.

Friday was just two days away, and Bashalli spent most of Thursday evening cooking and packing their picnic. She knew enough to not pack anything like fried chicken where little bits might break off and fly around.

Only people wearing their special one-piece undergarments were affected by the ship’s artificial gravity.

Friday morning they both hugged and kissed the three children. Amanda would see Bart get to school and Mary to the pre-school she had begun attending a few weeks earlier.

“Little Anne and I will play with her plastic hammer and that wooden contraption she believes she is building something with,” the nanny told them before giving them both a hug.

Red Jones met them at Fearing Island telling them both he had brought along some paperwork and hoped that while they just floated out past the Moon for a couple hours, they could do without him in the control room.

“I’ll be just a TeleVoc call away, but I think I need at least three hours or maybe more.”

Both the alone time—four hours of it—the picnic and then Tom’s test of the new instant radio went perfectly, and Bashalli still had a smile on her face even after they got back to Shopton and home.

As far back as the late 2010’s astronomers and astrophysicists had discovered so-called wandering planets. The first two led to the theory there could be thousands or possibly even millions of these starless planets or old moons forever moving between the solar systems being influenced by the gravitational pull of stars and even larger planets but many kept moving along.

One female astronomer said such a planet might have been responsible for the asteroid belt between Mars and Jupiter, where the theorized planet, Phaeton, would have orbited millions of years ago. The dwarf planet, Ceres, possibly had been the largest surviving component and had remained within the belt of millions of small to large pieces. It may have been Phaeton’s moon!

And, to top that theory, a few scientists postulated that the two small moons of Mars had been other pieces of the possible

destroyed planet.

But, most interesting of all the theories was that there might be as many such planets in the universe as there were suns in the Milky Way that had no home star. They were starless, created at some point but escaping the mother sun to wander aimlessly throughout space. Some were believed to have been, or would someday be, captured by a sun, or possibly a binary star system, to become one of the planets in that system.

While it was unlikely any of them had surviving organisms after the protracted periods in deep space, and only a small percentage might still have viable atmospheres—likely to be frozen—if they were fertile and had the correct building blocks for some sort of life, they could eventually host life.

It was a surprise but not a shock when Tom and Damon received a visitor in their office late that Tuesday morning.

“Come in, Bob. Come right in and have a seat. It’s great to see you down here now you’re up at the Swift Observatory nearly full-time, so tell us what’s going on in the Jeffers’ life.”

The three men sat.

Bob Jeffers had been an important man at Enterprises, once working with Art Wiltessa to perform all the production scheduling for the mega-plant, and coordinating things with the older Construction Company. While Art had kept his hand in on that—adding astronaut duties to the mix—Bob had, at first, also trained as a Swift astronaut, but had realized something when standing in the big control room of the *Challenger*.

He loved what was out... there. Planets, stars, solar systems, galaxies... and everything. Since his university work had been to get a Masters Degree in astrophysics, when an opening came to put his training to use, he jumped at it.

When Enterprises had been built, a rather small Observatory had been set in the far southwest corner of the facility, but within two years the landing lights of the runways was impeding the successful use of their 1-meter telescope. Damon suggested an upgrade but the final opinion was the Observatory needed to move somewhere away from light.

So, on the crest of a hill some eight miles out of Shopton, and shaded from that town’s lights, a new structure was built. Now, along with the 1-meter telescope, the building and four full-time scientists had access to an incredible 3.5-meter telescope, and one

of Tom's Megascoppe Space Probers.

Bob had set his work aside to accompany Tom on at least one trip out of the solar system to an exo-planet, Eris, when that planet collided with what had been Halley's Comet and was being broken apart.

"Well, Bob, I'll make a guess this is not a social call, but if it is, wonderful. We don't get to see you down here very often."

Bob smiled and rose to fill a mug with coffee from the side table.

"No. Not a social call. More of a, 'We think we're seeing something and it makes no sense to us,' call. I figure you need to be brought up to speed and might have words of wisdom. You see, like all observatories around the world, when we're not involved in studying one specific thing or phenomena out there we sweep the night sky in hopes of finding anything from an incoming asteroid to a new comet to... well, something that might excite us."

Tom looked into this friend's eyes. "And, you've found something?"

Bob nodded, but his face didn't look happy. It also did not look sad, so Tom and Damon were a little confused. They waited for more information to be offered.

"Okay. A little backstory is in order. We planet peepers have long thought there has to be another, unseen planet of some great mass but almost no reflectivity out there far beyond the orbit of Pluto. That is one of the reasons Pluto has such an eccentric orbit and not a more rounded one."

Tom interrupted. "We've all heard the theory. Have you found it?"

"No, or we don't believe we have. But, there *is* something out there perhaps another half billion miles beyond even where Eris stands. The thing is, we no longer believe it is an orbiting object. We are coming to the conclusion it is a wandering planet. Something from a very long way off that has just been drifting between major gravity centers, mostly stars, for who know how many millennia?"

He told them how the Megascoppe had been on an automatic sector sweep the week before and had catalogued an anomaly but continued on its programmed path.

"It wasn't until the following afternoon we found the data and then spent that night finding it again. As the postulated mass out there is exceedingly dim and reflects perhaps a single percent of the light hitting it, it was not easy. But, it is there!"

Tom had a flashback to two other times when something possible

could be coming into the solar system, or farther in than normal, and how the world at large had reacted mostly blaming the Swifts and their Space Friends. Few could conceive of natural phenomena that might cause this. Or, be told it was otherwise.

Actually, in the case of the placement of Pluto closer to Earth's orbit for a two-year period—courtesy of the Space Friends and their Masters—only the need to reconstruct Eris before its debris might be drawn into the main part of the solar system where some projections said large parts might pass the orbits of Mars and Earth at times when the two planets would be near had mandated action by Tom.

“Do we have any track for this... it is a planet, right?” Tom asked.

“It is. We believe it is slightly smaller than our own planet at approximately 6,400 miles in diameter. It needs further study but it is unlikely it has any atmosphere, or if it does, it will be frozen and sitting on the surface. We detect no heat so we believe the core is solid and cold. Of course,” he cautioned, “all this is based on a few days of observation.”

Damon stood. “I suppose asking about trajectory in too premature?”

“Perhaps not. If you can picture the solar system lying on its side with all the normal orbital discs spaced as they are, then put Earth aligned within ten degrees of Uranus and Jupiter, those degrees back from Jupiter. Now, rise up at an angle of perhaps fifteen degrees on a line between Uranus and Venus, which is, today, exactly ninety degrees ahead of Earth.

“This wanderer ought to come lower and lower into the plane and pass through and below it about the time it passes between the orbits of Jupiter and Mars. Mars will be, thankfully, almost completely on the other side of the sun at that time. Then, and only then do we believe the sun's gravity might more fully influence it.”

Damon hesitantly asked, “And, Earth?”

Bob smiled. “For once the news is good, at least at first. We will be far behind in our orbital path by that time, maybe twenty-two percent around our orbit.”

Damon sat back down. “So are you saying this planet will not really have any impact on the solar system other than to provide you astronomers with something never seen before and probably never again?”

Bob shook his head, now looking serious.

“Not exactly. And this is all based on some primitive numbers

and crunching things together with sticks and dirt clods, but we believe that planet will start to curve as the sun exerts more influence. That curve will take it around the sun between the orbits of Mercury and Venus and then back around where it will pass very close to Jupiter then Saturn. It might collide with one or both!”

“When and when do we need to do something about it?” This came from Damon, shocked.

“Possible collision? Two years plus a month or so. Time to do something about it? The next five months, or possibly slightly less. The thing is, one slight deviation on how the sun’s gravity affects it and everything might just be hunky dory. A two-degree lesser pull inward makes the planet miss everything on the outbound trip by a minimum of thirty-seven million miles.”

Tom asked, “Where does it go after this?”

Bob shook his head. “That is far too difficult to tell, Tom. At a guess, a very *uneducated* guess I hasten to add, it will leave and go a-wandering back out into the great unknown. As you mentioned, this is likely to be a once in a millennia occurrence. We, the community that is, would hate to miss it. Hint... hint!”

Tom grinned. “Uhh, would that be a little hint you and a few others might like to go out to see this wandering planet at some point?”

Now turning serious, Bob replied, “It’s a bit more than that, skipper. We at the Observatory think it is vital to get out there as soon as possible and find a way to ensure it deflects enough so the sun’s gravity doesn’t have the opportunity to do anything unhealthy.”

“Oh. Well, I guess you all need to start feeding me information about this new planet. Have you given it a name, yet?”

“Wanderer.” It was delivered without and irony of smile. “Well, some of my colleagues are suggesting Nomad or Vagabond, but my preference is Wanderer. It says what it does. Nomads are people with no fixed address so they wander, and a vagabond is an individual that... *wanders*. Seeing the connection?”

Both Swifts smiled.

Tom spoke first. “How many of your team do I need to plan for?”

“Plan for?” the astronomer asked.

“Yeah, plan for in a crew to go out to see what the heck is going on with your Wanderer.”

Bob thought a moment before responding to the question.

“I suppose just me so there is more room for a crew that can actually help you do something. I’d hate to pack one of the ships with useless academics. Better to have room for the likes of Hank Sterling, Bud, and even *more* real workers.”

Tom reached over and shook the man’s hand.

“Just what I was hoping you would say. I definitely can find room for you because you’re a two-in-one person. Experienced astronaut with a great work ethic as well as an astronomer and trained observer who ought to be able to help us make decisions. You did on the Eris trip!”

Damon cleared his throat before asking, “Do you have any plans, Son?”

“Well, other than taking the *TranSpace Dart* out so we get there as quickly as we can, not much... yet. I’m hoping that in the next week or so Bob and his people, and perhaps other observatories around the globe, might enhance our understanding of what we’re dealing with. And, some timing info. Then, I’ll come up with a plan.”

“If one is needed?”

“Right, Dad. If one is needed. So, Bob,” he said shifting his gaze back to the astronomer, “from what you know—”

“What *little* we know...”

“Right, from what little you know, if we just sat back and did nothing, what dangers do we opening up the planets to?”

Bob sat in thought a full minute. “Okay. Because it is approaching from above the plane of the elliptic, as we call it, Wanderer will pass down and through the plane before the sun exerts much of anything like real attraction. Until then it is more like a hint of a pull. It is at that point we’re stumped because of lack of concrete information. If this were a comet, and we see a lot of those doing the same down and through, or up and through the plane, trajectory they have so little mass the sun mostly lets them be. Of course, they are travelling a little faster than our forthcoming visitor. And, now I think about it, the sun does pull them in and slings them around and back out!”

He went on to say the mass of Wanderer, if their basic calculations were anywhere near correct, would mean the sun would exert a lot of gravitational pull that would change the path of travel. So much so Wanderer would also swing around and not just travel on past the sun at a new angle.

“And, that’s the dangerous part?” Damon guessed. Tom nodded that would be his question as well.

“That is the great unknown at the moment. Unfortunately, by the time we have a full understanding, or as full as possible, it likely will be far too late to do anything about it other than by some method of great violence.”

Tom picked up on that. “And, that could cause untold greater destruction and damage than just letting the planet swing through and maybe pass close to Saturn?”

Bob let out a small huff. “Yeah, but I calculate that if Wanderer passes inside of seventeen to nineteen million miles of our great ringed neighbor, those beautiful rings would be pulled out and probably away and that would spoil the beauty, and also allow those particles to one day crash back down onto Saturn.”

“Or, anything in between,” stated Tom.

Before he left, Bob promised to keep both Swifts informed of any new developments or calculations.

When he left, Damon looked at his son. “Immediate ideas you may not have wished to discuss with our friend?”

Tom slowly shook his head, but his eyes said he did have something he wanted to say.

“Do you recall when that mystery comet was coming in from out of the solar system, and we discovered it had a tag-along friend—Follower, I believe you dubbed it—and that we could be in pretty bad trouble if they continued on their original path?”

“Certainly. And, I recall you had a solution to that.”

“Right. My idea back then was to use the repelatron we placed up there to utilize finely crushed bits of the very object itself to be used like rocket fuel. As the repelatron shoved that matter into space as hard and as fast as they could, it produced a very rocket-like reaction.”

It had, given time, shoved on Follower enough to change its path and keep damage from happening.

When he told Bud about it over a late lunch that afternoon, the flyer grinned broadly. “Neat. Gonna get the old rock chompers back in action, huh?”

Bud meant the combination excavation and processing units for each repelatron that had dug into the surface and around the units taking up as much of the materials as they could, crushing it to a fairly uniform 3-inch size and transferring in into hoppers that acted like fuel tanks. It would be further broken up inside the unit.

They had not been a huge stretch for Tom to come up with, as

they were simply larger versions of the two such units located at the poles of Nestria, the small moonlet moved into Earth orbit by the now-departed Space Friends. They fed the atmosphere machines.

“Firstly, flyboy, we don’t know if we are going to need to do anything about this Wanderer. Then, if we do, it is likely that we’ll need a rather large field of the repelatrions and chompers, as you dubbed them, to do much of anything.” He sighed. “I suppose getting ready sooner rather than later is called for. Come on and we’ll drive over to the Construction Company and talked to Jake.”

When they arrived, the plant manager, Jake Aturian, was just stepping out of the second of three large construction buildings.

“Hey, Jake,” Tom called out as he and Bud got out of the flyer’s car.

“Well, hello right back at you, Tom. You as well, Bud. What brings you over to the old part of the company?” He had approached them to within twenty feet by now.

“Got a few minutes to talk about something that may be in all our futures?”

“Certainly. Come to the office and we’ll have some iced tea.” He looked at the inventor. “Or, will this require something stronger?”

Tom shook his head. “Not today, but it might be something to hold for the near future.”

Inside they sat in the four-seat conversation area and Tom got right to the point.

He informed the man who was his father’s oldest friend about Wanderer, about the many unknowns, and about one possibility, that being the need for a great number of specialty repelatrions and their associated excavators.

“Well, we still have the plans for those ones we built years back for moving that comet thing. Are we talking about more of those?”

Tom nodded, then shook his head again as he stated, “I’m believing we need a lot more, but they need to be larger. Perhaps three times the size of the original ones. What were they? Three-foot emitters?”

“As I seem to recall, yes. So,” and Jake paused to take a deep drink of his tea, “nine to ten foot emitters, associated power pods or perhaps a reactor power generator for them all, and those diggers. I’ve got to pull up the old plans to see just how much materials each emitter needed... unless you recall.” He arched an eyebrow at Tom.

The younger man slightly shook his head, saying, “Unsure, but it

was in the neighborhood of a couple tons per hour. In the end we had a shallow circular pit around the repelatrions running out some thousand meters.”

"Jetz!" Bud stated now picturing what this new setup might entail.

CHAPTER 4 /

MORE GUESSES THAN SOLID DATA

“BUT, MR. Swift. Damon. Why do you not want to tell the President about this?”

“Professor Heller. Please tell me if you know *everything* there is to know about this rogue planet. If you can do that, and prepare me for about a hundred possible and inevitable questions the President will ask of me, then I shall tell you, on my way out the door, you can reach me in Washington, DC. Until then, I can’t go to him, or to anyone, with suppositions and theories.” He held out his hands in a gesture of helplessness.

Heller, a man about twenty years older than Damon, nodded. “That rebuff holds a level of sagacity I had not considered. Forgive me and my haste, if you can.”

Damon smiled and reached out his right hand to place on the professor’s left shoulder. “Of course, Donald. And, please, you ought to never call me Mister Swift. Makes me want to swing around to see if my late father’s entered the room.”

The two men shared a knowing nod and both reached out to shake the other’s hand. “Agreed,” said the older man.

“Do you know anything more than you did a couple days ago?” the inventor asked.

“Not as such. We have verified this wandering planet is coming in at an angle of between nineteen and twenty-one degrees from above—relative to our position in the galaxy—the plane of the planetary orbits. Other than, of course, our small friend, Pluto.” He paused and considered something. Continuing, he blinked twice and said, “You know, I often have wondered how the so-called Space Friends managed to get Pluto inside the asteroidal orbit and then, a scant two years later, moved it so precisely back into its previous orbit that it was just in time to perform the particular magic it does as it passes Uranus and realigns the moons out there. Incredible feat!”

It was true. Just when Tom needed a great deal of funding so he could build the much larger *Space Queen* station, the Space Friends, or more truthfully, their “masters,” had not just moved Pluto into a closer proximity to Earth, they had loaded a great band around its equator with enough rare earth minerals and scarce elements that the sales of just fifty percent of what was able to be easily mined had

paid for everything and given the Swifts an increased investment balance of a further eight hundred and seventy-seven million dollars!

What they had left behind had been registered as Swift-owned property with unlimited mining rights granted for at least one hundred years.

It was a hollow victory as both Tom and Damon knew nobody would get out that far other than them for probably at least that period of time.

Now, Damon would almost be willing to trade that wealth for the specific information he and Tom and the rest of the world required in order to know just what to do about Wanderer.

“So,” the inventor stated taking a seat on the edge of a nearby desk, “more guesswork than solid data.” He looked sad at having actually said that out loud.

“Just so,” Heller confirmed. “The slightly better news is that with each passing day—our nightly observations and those of the space station—” and he pointed to the ceiling, “we are learning a lot more. For instance, two days ago we had no clear idea of the angle of approach, nor did we have a more exact speed. We believed, as of just three days ago, it was travelling nearly twenty thousand miles per hour slower than we know to be closer to the truth today. And I know that is not exactly good news, but it is news garnered from additional observations.”

Damon took in a deep breath through his nose before speaking. “Keep both Tom and me informed of anything new, and I mean that even if it happens at three in the morning. At least for me. I have to get back to Enterprises now.” He took his leave, heading for his car and the short drive down to the plant.

Coming down the last of the shorter hills overlooking the Carlopa Valley he slowed the car, pulled to the side of the road, and stopped, looking out at the scene of Shopton with the three Swift facilities standing out to the south: the older Construction Company; Swift Enterprises; and the Swift MotorCar Company. Coming soon to the southwest of Enterprises rose the beginning of the Shopton Power Plant, one based on Damon’s own nuclear reactor.

It would provide power to the entire area with a great deal of energy to spare for future growth.

The town of Shopton had grown to be more than thirty-two thousand people over the past twenty-five years since he took over the family business, yet still seemed small and serene.

Knowing this was not the first time the solar system, or indeed Earth, had faced the potential for damage or destruction from a space object did not help as he felt his heart begin to race and a lump come to his throat. He closed his eyes and took a few cleansing breaths before putting the car into gear and driving the final two miles.

If everything he held dear went away, if he lost his family—which *was* his everything—he would not be able to take it at this point in his life... were he to live.

He'd survived a terminal brain tumor, had adventures as a younger man and even in recent years, and yet he was at almost a total loss how to proceed. It was good to have a son like Tom on whom he and the world—and the family—could rely upon.

As he checked in at the Executive gate, the guard on duty informed Damon he had just received a call from Harlan Ames asking that the inventor drop by his office as soon as he returned.

"Thanks, Gerald. I appreciate the message. I'll TeleVoc him and let him know I'll be coming by in a few. Bye!"

He tapped his collar pin, sub-vocally "spoke" Harlan's name, and heard the Security chief let out a heavy sigh.

"Thank you for getting back to me quickly. We have a storm brewing and I need to clear a few things with you before I act. Sorry to be cryptic now, but you'll likely see why when you get here."

Damon, very curious, parked at the end of the front parking lot as close to the building housing Security as he could, thanks in part to what his wife, Anne, called his "parking karma." He generally lucked out and found a close in space wherever he drove.

"He knows I'm coming," he told the receptionist and she nodded with a bright smile for the head man of the company.

"Okay, Harlan, tell my wha—" and Damon stopped both in his tracks and talking as he saw the person sitting in the chair across the desk from one very perturbed Security man.

"Have a seat, Damon. I'm sure you recognize Geoff Sitzer from the observatory staff, or might I say the *former* member of that staff. Geoff, as it turns out, has both a problem with alcohol and a big mouth. Go ahead and tell the nice man who is the only person keeping me from jumping across this desk and throttling you!" Harlan was gritting his teeth on an effort to not scream at the man.

Sitzer squirmed uncomfortably until Harlan growled and made a move to stand.

"Okay. Okay... uhhh, I might have sort of, accidentally, you know,

mentioned something about that planet the big guys are calling Wanderer, to a friend and he maybe just sort of mentioned it to Dan Perkins down at the *Bulletin* who paid him a bundle for the info. Oh, man... I can't believe I did this!" His head dropped into his hands.

Damon shook his head. "I cannot believe that you could be so—" His voice faltered as his face turned bright red in anger.

Harlan reached over and placed a hand on the inventor's shoulder in a signal to let him take command of the conversation.

"What you have let out could have more, and more severe, consequences than you might ever imagine. What the hell were you thinking? Did you think this would make you a big shot? One of those 'I know something you don't types? My god, Sitzer, this could set off a worldwide panic! You are on unpaid leave until we find out just how bad this is going to become! If it's really bad you won't even get severance pay. Get out!"

The man trudged toward the door. "I can't apologize to you for this, so consider this my resignation, I suppose."

"NO!" This came from Damon. "You don't get off that easy. If this becomes a very nasty thing then I want you around and not skedaddling off to hide from it all. What you've done might not be something you *can* hide from. So, you will go home and stay there and stay sober. Harlan will detail someone to ensure that you do. *Now* you can go."

Damon and Harlan sat down and looked at each other for a minute. "I think I need to call Dan Perkins and see just how much of a good boy he is being," Damon stated. In the past Perkins had been more than willing to publish half truths and even lies about the Swifts. He'd been much better lately.

"Let me. He seems to quake a little at the sound of my voice. But, here's an idea. Let's go see Jackson and get the Legal department in on this as well."

The inventor nodded and the two men left the office a moment later.

Up in Legal, the lead attorney for the company nodded and smiled on hearing the news. "Well, then I happen to have Mr. Perkins' number on speed dial. Had to call it so many times..." He reached over and pressed a three-key sequence. He listened and then brightened.

"Why, yes, Dan. It is Enterprises calling. Jackson Rimmer on this end," the Legal man said in a sickeningly sweet tone. "Nice of you to

remember our caller ID. Do you have a notion what may have prompted this call? I am going to put you on speaker phone right now with Damon and Harlan Ames.” He pressed the button.

“Uhhh, well, yeah. I do sort of I know what this might be about, but I got the information fair and square. And, it comes from one of your own people. But, that isn’t what you want me to say, is it?” He sounded defeated.

“No. Not as such, Dan. We need to tell you something totally off any record and just for your ears. If you hold off on what you bought from a person who actually does *not* work for us but was trying to make a buck from someone who does, then we will give you an exclusive to be printable in three weeks time. Deal?”

Morosely, the Editor of the *Shopton Bulletin* asked, “Do I have any choice?”

Jackson chuckled. “Of course you do, Dan. You always have the choice to play this honestly and not drum up panic, or we can contact that very fine Federal Judge who has put you in prison, what is it... twice now?”

“Do we do this on the phone or do you want me out there?”

“We could come to you,” Jackson suggested helpfully.

“No. All things considered I’d rather this happen on your turf and not mine. I’ll be there in fifteen minutes.”

“We’ll alert the gate guard who will issue a pass. Come on in and park at the Administration building. We’ll be in Damon and Tom’s office.” He hung up.

When Trent knocked on the door and announced the newspaperman was waiting, Damon told him to usher the man in.

“Take a seat, Dan,” he said standing to shake Dan’s very cautiously extended and icy cold hand.

Without waiting for the others to speak, Damon launched right in. “What information did you buy and how much do you believe you know, Dan?”

Perkins squirmed uncomfortably before answering. “Okay. I bought a one-paragraph statement from a man named Clark Vinton who works as a mechanic at a shop on the other side of Shopton. He told me one of his drinking buddies works at your observatory and had a, as he termed it, ‘a snootful and a half the other night,’ and had said big things are afoot in the solar system.”

As he paused, Jackson leaned forward catching Dan’s eye and making him move back and away from the stare he was receiving.

“What else?” It was spoken in a flat tone and in a low, rumbling manner. It had the hoped for effect.

“Not much else other than some sort of asteroid or planet is straying in and could hit the Earth. I swear that’s all he told me for the fifty bucks I slipped him. Made me kinda mad to spend that money on practically nothing!”

“And you’ve been planning to make that front page news. Right?” Harlan stood, again causing Dan to shrink back a little. But, the Security chief simply paced in the other direction.

He turned to face the other three. “Well, the man he supposedly heard that from is an alcoholic and a man who wants a little attention now and again. Not a reliable source especially when you consider you got the info second hand. Probably third hand as the source was not involved in gaining that information; he overheard it. We all know your agreement with the court system to not publish unfounded or rumored information. Right?” When he said this last word his gaze swung harshly onto Dan Perkins.

Who gulped.

“What your fifty bought you is more a drunken rambling filled with guesses and not a lot of real data, Dan. But, I think Damon might have something to add to what you have. Am I correct, Damon?”

The owner of Enterprises nodded. “Yes. And, here is where you keeping mum about anything for about three weeks comes in. Until we know more. Do you agree to our terms in return for an exclusive?”

Dan gulped again, pondered his options for a second—he had very few of them to consider—and stated he agreed.

“Fine.” And Damon began to tell the story about Wanderer and how it was not actually a direct danger to the Earth. “But, unless we can do something about it, and without public interference and in a very brief period of time, then it possibly will strike Jupiter or perhaps Saturn and that could cause us untold problems in the future. Our solar system is a carefully balanced living thing. Put one part in just the wrong place at the wrong moment and it affects everything else. Effects this fragile planet of ours just does not need.”

Dan pulled out a notebook on which he planned to take a few notes, but a cough and slight head shake from Rimmer had him putting it away.

“Don’t worry, Dan. We’ll send you a multipage fact document as soon as we have it finished twenty days or so. We are still in the

process of figuring out what is exactly happening. No guesswork will be accepted this time around.” This came from Damon who was looking at the reporter/editor with his face set in great determination.

Dan Perkins had done and been many things since getting out of college with... well, not with a Journalism degree; he had not managed to remain in school through about the midpoint of his Junior year. Anyway, he knew his past behavior had backfired, and he was not truly a fool. He nodded to the others in the room.

“If I need to hold off on this, I will. For an exclusive. And, even though my word has meant little in the past, I want you all to understand I did learn the most valuable lesson during my two stints in prison. I never want to go back there *ever again!*”

Damon stood and offered his hand to Perkins who also stood and shook it.

“Dan. I hope as you look back you can recall how I, my son and this company have been able to forgive, after a fashion, and put behind us a lot of the... hmmm... unpleasantness that has occurred in the past. Let today start a new era. You play an honorable game and we will furnish you with, if not all exclusives, certainly enough information in a timely manner to keep your paper running. I’d add you radio station but understand that it had to be sold off to pay your legal fees.”

Dan let out a small and very rueful chuckle. It had been his using the radio station to get certain stories out quickly that had finally tripped him up so badly he spent his second sentence in the medium security facility in Otisville, New York.

It had not been a pleasant stay with him having been beaten up twice by a few of the more hardened criminals who had their stays courtesy of one or another reporter’s stories in other papers.

Before he left the office, accompanied by Harlan, he reached inside his jacket and pulled out a small digital recorder. “Here. You’ll want to erase this. Sorry but I couldn’t help myself.”

Harlan laughed. “Dan. Take a listen to what you recorded.”

Puzzled, Perkins pressed the **PLAY** button—no need to rewind anything as it was all electronic—and moaned as they all heard the sound of bleating sheep. Nothing but bleating sheep no matter where he searched.

Next, he laughed. “Figures. It is one more thing that will never happen again.”

After the two left, Damon turned to Jackson, who said, “Well,

now I suppose we've only bought us twenty-one days so I guess our Observatory folks and Tom had best get working on this full time."

"Ahh. About that. Tom is already working full time on the issues and I believe he has a pretty good idea what to do. It's down to whether our combined companies can support that effort and whether I can get the President to agree this is something that is so big it needs some Federal and international funding!"

Within the next hour Damon made three calls. The first was to his oldest friend and the man running the Construction Company, Jake Aturian.

"Yeah, Tom and I have been discussing this, and I stand ready to pump up production on what he says might be needed, but I will need to get to a couple customers and tell them of a delay in deliveries. It might be best if we had the President to fall back on so this doesn't sound like another big company promising something and then going back on that promise."

Damon agreed.

The second call was to Senator Peter Quintana, a very good friend and the senior senator from New Mexico where the Citadel was located. He was very highly placed in the U.S. Senate.

After hearing the general rundown of what was going on, he had to admit to Damon, "We have been hearing rumors from places like France and even Japan and their national observatories. Nothing solid, and a lot of, 'We wish we had more access to those wonderful megascopes the Swifts have,' but still word of this planet and how nobody understands what will happen. All agree, though, it is nothing to broadcast to the public. Not yet."

"Do I call the President or the Vice President on this?"

"Let me do some hinting and see if I can wrangle you an invite. Ummm, when will you have enough information to actually answer their questions?"

"Five or six days on both the true trajectory and as to our ability to respond."

"And, what it will cost?"

"That as well, Pete. It'll be an unfortunately high number and might be a difficult sell for anyone who only hears this Wanderer will miss the Earth. There'll be a lot of, 'So why bother?' and that is the most difficult to tell and call out. We just do not know!"

CHAPTER 5 /

BAD NEWS

BOB JEFFERS came back to the big office three days later. He did not look particularly happy when he shook Damon's hand.

"This looks like I need to get Tom in from next door," the older inventor said as he reached for his phone. "Tom," he said, "please come to the office. Bob is here."

"Right there," the speakerphone announced before clicking off.

When the younger Swift entered he saw Bob's look and immediately sat down, not saying a word.

"As you both can imagine I bear not so good news of our forthcoming intruder, Wanderer. We have been watching at every conceivable hour of the night, and coordinating what we are seeing with the folks at the *Space Queen* and their better 22-hour per day view with their Megascopes. Ours, for some reason, is not giving us as clearer a picture at the moment."

"Have you been able to come up with better tracking projections?" Tom asked as well as stated.

"We have. As before, it is coming from the relative above the plane position and will definitely pass through our orbit at about where we first imagined. Well, give or take about fifty million miles. But, it is that margin based on our new information that is most disturbing."

"Trouble for Jupiter or Saturn?"

He shook his head. "Trouble for Venus on the inbound journey and swing around the sun! And, as you no doubt recall, the whole 'Venus is fragile and could break apart with horrible consequences' thing around that probe you put back upright could very well come to pass. And, by the time Wanderer does the damage, assuming it does, and we believe it will be significant, both Venus and the Earth will be within ten degrees of alignment." He looked significantly at the two Swifts.

"Ahhh," Damon said as he rubbed his chin in thought.

Tom asked, "How long before you can confirm that possibility?"

"A week, or more likely in two. Only within a sixty percent likelihood at that point, but I'm afraid it would be another two months before we are absolutely certain. Then, it could be too late

to make any real difference.” He sighed and looked crestfallen.

“Sorry to be the bearer of the usual bad news. Damn, but I wish I could come in here and tell you something is going right!”

“I wish so as well,” Tom stated. “But, now we have more info I can go ahead and plan to do something.”

Bob’s head turned to look at the younger inventor. “Can I ask what?”

Tom told him about his desire to try the same sort of things he had when Follower had been found trailing the mystery comet and had been deemed to be a hazard.

The astronomer vaguely recalled what had been used until Tom reminded him of the special versions of his repelatron.

“Oh. Right. Spewing out little bits of the thing into space that eventually shoved it far enough to the side to make a difference. I suppose you need really good trajectory and even mass numbers to compute how much shove you’ll need to give, so I’ll just let myself out and go back and get out the whip. We’ll get you those figures in seven to ten days, Promise!”

When Bob left, Damon turned to Tom. “We both know it worked before, but that was on something potentially a fiftieth or hundredth the size and perhaps an even larger mass differential. Is it even possible?”

Tom grinned. “I hope so. But to pull it off we’re going to have to set up a second production line over here for the repelatron emitters and their anchors, plus the grinder/delivery vehicles. Then, there is the power situation. What is your opinion of bringing an air tanker filled with the radioactive, metallicized goo we put inside the power pods and cranking out as many as we need right here? It would be a lot faster than relying on the small production line out at the Citadel.” He looked hopefully at his father.

“Can you foresee the nightmare if an accident should happen and that tanker jet crashes?”

Tom countered with, “Can you think of any other way to create as many as two hundred full-sized power pods in under a month?”

Damon had nothing to say to answer that.

By the time Tom got next door to his lab it was heading beyond the lunch hour, and he found Bud waiting for him.

“I knew you’d get here eventually. I’ve ordered food from our favorite chef. Oh, hark,” he said raising a hand to his right ear. “Is

that our very own Chow Winkler I hear?" He grinned.

They heard the sounds of a cart rolling down the hall. Both knew the sound of that specific cart, one that had been in use for several years by the same individual, and had a slightly wobbly wheel on one corner causing it to shake and rattle slightly, vaguely sounding like, "Chow's-a-comin' Chow's-a-comin'."

The door banged open as the cart came through followed by a bow-legged Texan wearing not a chef's hat but a weather worn ten-gallon cowboy number. "Howdy, Buckaroos," Chow called out as he entered. "Come and get it boys. Sorry 'bout the wait, but I got a panic call from the lawyer folks upstairs. They're havin' a big conflag o' some sort with some Government people and needed victuals, pronto!"

Laughing, at the outlandish and colorful western-style shirt Chow was wearing in spite of the Wanderer situation, the boys followed the cook as he wheeled his cart into the apartment next to the lab. With both a bathroom and small eating area, it was where Tom and his father could stay when working too late into the night and even the ten-minute drive home would not be wise.

With a family of his own, Tom found it more and more difficult to not go home each night, but at least the room was there if needed.

Chow uncovered several dishes and was laying out a feast—or what passed for one for the two men. This was no kids meal with burgers, fries and cole slaw with milk or cold sodas; today's meal consisted of juicy, thinly-sliced prime rib sandwiches with creamy horseradish sauce (lots for Tom and only a tiny bit for Bud) baked potatoes with a selection of condiments for them to add, corn on the cob and huge slices of what appeared to be Chow's Boysenberry pie.

Bud looked dubiously at the food. "Chow, what the deal? We're not lawyers or government folks and I, for one, am used to your burgers—beef, rattlesnake or armadillo, if *you* have anything to do with it! This stuff is fancy squared."

"Buddy boy," the Texan drawled placing a large hand on the flyer's shoulder and easing him down into one of the chairs, "that is prime Texas beef. I told ya I had ta do somethin' fer the lawyers meetin', so I pulled one o' the rib roasts I generally have goin' and carved them up juicy twenty-ounce portions. Only had 'bout one more slab so I divided it and made san'wiches fer you two. Now, eat!" He winked at Tom.

Bud knew the former Texas Chuck-wagon cook liked to experiment and test his strange recipes on him so he rarely expected something this wonderful. In return, he kidded the older man about his penchant for exotic foods. Their friendly feud sometimes got out

of hand and Tom would have to intervene, but this time it all looked like they were in for a real treat.

The flyer bit into his meaty sandwich and grinned. “Chow, you have roasted us the best non-burger I’ve ever tasted.”

Chow threw out his chest; nothing filled him with pride more than to have his food appreciated.

Tom gave a sigh of relief. It was always touch and go when those two joked about food. He sat down and dug in agreeing around a mouthful of his sandwich that Bud was right. The meat was succulent and tender. It was an incredible sandwich indeed!

“So, whatcha workin’ on, Tom?” the westerner asked as the two boys practically gorged themselves.

Tom set part of his sandwich down, wiped his mouth on his napkin, and turned to the cook. He gave Chow a brief rundown on the appearance of Wanderer and added there might be some danger if it was allowed to just do what it wanted.

“We all are hoping that the folks at the Construction Company can build the necessary special repelatrions we’ll take up there, plant firmly and run at top power.”

“Which nat’churly means ya gotta have good grub fer those hungry workers. Count me in!”

Tom smiled. “I already have, Chow. Even though I believe you once told me you wanted to slow down. Wanda?”

Chow blushed. “Yeah. Right. Wahl, she’ll understand if’n we’re all in trouble.”

After they had eaten and Chow had wheeled his empty cart away, the boys returned to their work.

Bud sat down and asked, “How do we get everything you’ve told me about out there?”

“Other than *Goliath* and its huge cargo deck, we don’t have a lot of cargo-carrying capability. Well, there’s *Sutter*, but she’s fairly slow. I’m hoping to have two of the eight saucers we currently operate enhanced by four others within the next month and all of them would be run at top speed as unmanned cargo carriers.

“We’ll go out in the *TranSpace Dart* at its top speed and get there in a few days. We’ll take along as much as we can attach to the fins and drag along, but that will be woefully inadequate for the complete task at hand.

“I might outfit one more of our saucer ships to fly in autopilot mode with more things.”

Bud picked up on this. “So, the saucers get flown out too fast to be

healthy for people, but safe for parts and then we unload them and start building things?” Tom nodded. “Then, *Goliath* comes with a lot more and we put the whole... whatever together.”

“Right. Only, by that time the saucers will have come back for a second load of nothing but our large nuclear power pods to run things. As it is I’m thinking *Challenger* might need to be piloted out, unmanned as well, to carry a lot of other stuff.”

“Gonna be a real logistical nightmare, huh?”

“‘Huh’ doesn’t half cover it, flyboy.”

Some hours into their afternoon work session Bud felt a cold flash run across his face as he remembered he and Tom had a dinner arranged with Sandy Swift-Barclay, Tom’s sister, and Bashalli Swift.

Bud cleared his throat and reminded Tom of their date. Tom looked up from his screen and his jaw dropped open.

“Gosh, Bud, you are right. I *had* forgotten.”

Bud grinned. “Getting absentminded in your never-increasing old age, boy genius?”

Tom returned is friend’s grin. “I don’t know about that, but I do remember how disappointed the ladies get when we’re late. And, how difficult it is to get them back into a good mood.”

Bud nodded. “I thought it was only possible for fiery redheads get that angry, but your blond sister can blow up a pretty rough storm, too.”

Sandy was about one year younger than the boys with Bashalli a year older than them and while sandy and Bud started dating a few days after her sixteenth birthday, the four began double dating when Tom turned eighteen and fell for Bashalli. Now they were married, they had dinners every other week at one or the others’ house.

“Okay. Time to get ready. We had better not be late this time. Ummm, Bash hasn’t hinted at a home meal, so where will we take them?”

Bud hesitated. “Well, Sandy has mentioned some new film playing at the Shopton Odeon Theater.”

Tom nodded. “Yes, I know. Bash has mentioned it, too. Doesn’t sound like anything you or I would choose, but if it makes them happy...” Tom shrugged and left the rest unsaid.

Bud grinned. “We take them to the film and feed them popcorn and expensive sodas and maybe they will forgive us.”

“We’ll take them to a nice dinner first, *then* offer popcorn and sodas later. Bud. Check your wallet, my friend. I feel a costly evening out coming.”

When they picked up the ladies it was decided to go to the early showing and have dinner after. As Tom suspected, the theater was filled mostly with girls and women and a few bored-looking men. He exchanged “looks” and rolled eyes with a friend of his father before sitting down.

It wasn’t a bad movie, Tom had to admit to himself as they got up when the lights came on, just nothing he, Bud or most other men would be first to suggest.

Coming out of the theater Sandy grabbed onto Bud’s hand. Bashalli, seeing Sandy and Bud holding hands, took a good firm grip on Tom’s hand. He squeezed her hand, noting the chill of her fingers, and smiled at her.

Bud looked quizzically at Sandy. “So, where do you girls want to go to eat burgers and fries? Or, did you have it in mind to go somewhere classier?”

Even though the Swifts were quite rich, Sandy and Bud still needed to economize. She did not want to waste their limited funds on an unnecessary expensive meal.

Tom was second-in-command at Swift Enterprises and could afford anything Shopton had to offer. But Bashalli understood her friend’s tone. “Yes. After that popcorn and soda I think burgers and fries sound good. Maybe a chocolate milkshake?”

Tom was proud of his sister and wife. Bud had never allowed his friend to pick up the check for him and Sandy unless it was prearranged, so it was a relief to the inventor to discover that Sandy would not let Bud overspend.

About a block from the theater sat an ice cream shop. In addition to fifteen flavors of ice cream and gelato and more than twenty toppings and syrups, it also had food like hot dogs, burgers and fries on its menu. They ordered at the counter, paid for their meals, and sat at one of the only two available tables until their food was ready. Tom spotted several friends in the crowd; McMaster’s Creamery was a popular hangout for the people of Shopton.

Since they had taken the flyer’s convertible, Bud dropped Tom and Bashalli at their house—waiting for Tom to get her to the front door and to win a nickel bet with Sandy that Tom would get a goodnight kiss before they went inside—and then they headed for their home. He didn’t have to bet her again about their goodnight kiss. It lasted for almost a full minute before she released him and

opened the front door.

* * * * *

The next morning Tom and Bud arrived at Enterprises, in Bud's red convertible. Sandy drove her own car in for her job in the Communications department.

Tom went to his lab while Bud went to the north-west airfield. He was set to test small acrobatic plane that had been delivered from Swift Construction Company. With wings so stubby that some thought it might not be flown safely, only Bud and the designers knew the aircraft's secret.

Tom entered his lab and was greeted by a tall, gray-haired man. "Dad," Tom cried. "I thought you'd headed down to Washington to talk to the President about Wanderer."

The older inventor smiled at his son. "I had a fast breakfast meeting with Pete Quintana and the Vice President. Both want us to go full out on this Wanderer problem, but they want to keep as much from the public as possible. We'll brief the President tomorrow. I landed ten minutes ago. I need to go home to see your mother but wanted to talk to you first."

Tom smile disappeared at his father's words and he frowned. "Why? Is anything wrong?"

Mr. Swift smiled. "On the contrary, nothing could be better. I secured a funding package for the costs associated with your project. I also discussed the saucers and the Government purchase order we are fulfilling. They would like to have a face-to-face with you in a week or so, but understand Wanderer takes precedence."

Tom ran a hand through his blond crewcut. "No problem. If everything is swell, then I guess I don't understand what you wanted to see me about that couldn't wait until later."

Mr. Swift hesitated while he rummaged in his briefcase for something he evidently never found. "Tom, you know what Swift Enterprises means to me. I broached the subject of the overflight of the nuclear material for the power pods, and even the V.P. practically hit the ceiling. Not that we would suggest it—it is likely to be a mandatory thing—but even with security tight, word might leak out and that could do terrible things to our reputation and to this current Administration.

Bud flew the single-seat plane into the blue and cloudless sky about the time Tom and Damon were talking about the Washington meeting. Unlike many small acrobatic planes, this one was not a bi-

plane. It had a single wing set absolutely in the middle of the fuselage—top to bottom—with the wingtip-to-wingtip spar curving around the pilot’s back, and had rather long landing gear. Those folded into the fuselage at the press of a button so caused no drag on the flying characteristics.

“Okay baby. Let’s see what you can do for papa Bud.”

He nosed up leveling at 20,000 feet, having slipped on the oxygen mask from his auxiliary pack as he climbed higher above 14,000 feet. Once he got the craft level and did another full check of his controls, he performed a series of downward spirals, level rolls, climbs at various rates, and dives. The reason for starting at such a high altitude for such airplane was to leave a safety margin of at least 10,000 feet at the bottom of any downward maneuver. He never needed it! Every slight motion of the control stick set to his right rather than between his legs, or press of the foot pedals sent the little acrobat off on his intended maneuver.

As the young pilot leveled off, he said aloud, “No one builds better planes than the Swift Construction Company.”

He completed his initial list of tests twenty-three minutes later. This only left the slow flight and stability test. He reached out and flicked a switch on the instrument panel. Taking a look over his right shoulder, Bud watched as the wings suddenly grew longer. Within seconds they nearly doubled in length now making the small plane look more conventional.

This final test was to make certain the aircraft could fly just above its lowest, or stall, speed of only fifty-two miles per hour, remain steady and stable, and still perform basic maneuvers.

It passed the ten-minutes of checks with—as Bud considered the pun—*flying* colors.

After a low-level flight skimming the surface of Lake Carlopa, he landed the plane on Enterprises’ shortest runway, pulled it into the test hangar and headed to his small office to write out his report. In Bud’s mind there was no way he would give the little plane anything short of highest marks. His report would go to Jake Aturian and the plane would soon go into limited production to become another feather in the Swift’s aircraft manufacturing hat.

Halfway to his office in Hangar 6 he veered to his left.

Tom and his father were finishing their conversation when Bud entered the office they sometimes shared. “Hey, Mr. Swift, welcome back. We thought you’d be gone all day.”

Damon smiled. “Thank you, Bud. I’m glad to be back even if

temporarily. I am heading home any minute now.”

Tom grinned. “How was your test flight? We didn’t hear sirens or other inappropriate noises so I have to conclude that you didn’t smash up another plane. Or, did you?”

Bud laughed, mirthlessly. “Oh, chuckle, chuckle. It is to laugh! Actually, it flew like a dream and passed every test. You know, if you ever are of a mind to pass out outlandish bonuses, well, one of those would keep me happy for a decade!”

The fact was that father and son had discussed the flyer’s pay package the day before. They had concluded that with Bud’s thirteenth employment anniversary coming soon, he was due for a significant raise.

Mr. Swift winked at Tom and picked up his hat and briefcase. “Good news about the plane, Bud. Not so sure about the bonus thing, but how about once I get back if I tell Jake to let you keep it over at your hangar for the foreseeable future?” Bud’s eyes went wide and he nodded vigorously. “Fine. Tom, I must get home so your mother can recognize me before I head back out tonight. I leave you in charge, as always. If the things I’ve added to your workload get to be too much, call me and I’ll find you some help.”

“Thanks, Dad. I won’t let you down.”

As he headed for the door, the telephone rang. Damon paused while Tom answered and a moment later hung back up. “Dad, you need to be in on this.”

Mr. Swift frowned. “What is it, Son?”

Tom looked down at the telephone receiver. “That was the Swift Observatory; they want us to come over at once.”

“Did they say why?”

“No, but Bob said it was urgent,” Tom replied. “Potentially extremely urgent.”

The two Swift’s hurriedly drove in their own cars to the northwest of Shopton and up to the mountaintop to the Swift Observatory. They were met by Bob and Professor Heller, the head astronomer.

“I’ve called you here to tell you something new about our recent discovery. Last week we felt it was going to do one thing we’d just computed and that would be dangerous for Venus. As of this morning we believe those assumptions are wrong and our assumptions originally about the trajectory are correct. It is starting to not look good for our own system’s largest planet’s survival!”

CHAPTER 6 /

THE FILE DILEMMA

“JUPITER? WHAT is likely to happen?” Tom asked. He and Damon had entered the Observatory only to find the two men—Bob and the professor whom had accompanied Tom on at least one interplanetary adventure in the past—deep in a conference.

Professor Heller removed his thick eyeglasses. “As you know, we have a situation involving what astronomers sometimes call an orphan planet. Whether it was ejected from its parent system or formed in the vastness of interstellar space, for whatever reason this one is coming in for a visit and it does not appear to have good intentions!”

The Swifts were stunned by Professor Heller’s statement even if what he and Bob had already told them prepared for hearing the worst. “Why do you believe we are now going to have some cataclysmic event with Jupiter and this wandering planet, Professor?” Tom asked.

The older man smiled sadly at Tom. “To recap the situation you have been told by Bob here, the wandering planet is not in an orbit around a star, or in this case our sun. As a runaway planet from outside our solar system it found its way into our sun’s weak attraction at the solar system edge, and that has impacted the trajectory, or possibly it is cause even by its own speed. Now with more information and tracking data, we can see how it is being subtly affected by that gravity pull. The unfortunate upshot is that this Wanderer, as you know we have dubbed it, is showing some level of course change.”

Damon scowled. “And, you believe the data you have is enough to give us an eventual outcome?”

Professor Heller nodded but also shrugged. “The planet is nearly the three-quarters the size of Earth, or about seven-six-point-five percent Earth’s diameter, and is traveling at nearly one hundred-sixty thousand miles per hour, but will speed up as it comes closer to the center of our solar system. It is currently just inside Pluto’s average orbit. On its current course and increasing speed, it will drop through the elliptic plane of our planets before it reaches the asteroid belt. It will not hit any of them as far as we can tell. But, and this is the biggie, after it passed by Earth’s orbit, and by as much as fifty million miles, it will swing around the sun and then rise back upward.”

Bob picked up the narrative. "It will miss us again, this time by more than one hundred and seventy million miles, but it will eventually be on a close miss or impact with Jupiter's then position, or a month later with Saturn's. Either eventuality will cause great damage. If it impacts, it will smash apart great pieces of that gassy planet. Now," and he looked thoughtful, "if it only pulls off gassy materials, those will likely boil away in space. But, if it goes deeper and hits solid matter some of that could start inward toward the sun. If we happen to be in the way when that happens, we could be in some danger. Of course, if that matter simply brushes past us a couple million miles outside the Moon's position it leaves us with probability of continued life. If a large enough piece should hit, we could have very little chance of survival."

Tom took a minute to shake off his shock. "How accurate are your figures?"

Professor Heller wiped his brow with his handkerchief. "Tom, we have run the calculations a dozen times using your supercomputer at Enterprises, and each time with similar results. We cannot be accurate to the degree I believe you want for another four months and at that time it will be too late for Jupiter and possibly for us."

Tom had turned pale. "You mean we have only a couple months to make some sort of difference?" Tears of emotion formed in his eyes as he thought about losing Bashalli and the kids, something he realized was more important to him than his own life. That was another shock. "Why is our planet always in the way of these things?" he practically wailed.

Damon patted him on the back. "Take it easy, Son. A lot can happen in a few months. Any number of incredible things, wouldn't you say so?"

Tom took a breath and nodded. "You're right, Dad, and there is no better time to start than right now. If there is a solution to this problem, there is no time to waste." He paused. "Are we certain this is not one of the theorized far out planets like Eris, Kepler 186 or the other three or four out there? Oh, and Professor Heller, I will need all your data on this wandering planet."

Professor Heller hesitated. He knew Tom's reputation but the older man had felt reluctant to entrust the entirety of his data to a non-astrophysicist. But, the realization that the young man knew about the outer planets, far beyond Pluto, that technically belonged to our solar system made him want to speak freely.

He was contemplating what to answer when Damon cleared his throat. "Professor Heller, Tom is a whiz with data. In fact he is Enterprises' go to man on such data crunching and extrapolation. If

there is a way to find the truth, Tom, will find it.”

The professor nodded. “If that is how you want it, Damon, I will send everything to your lab, Tom.”

Tom beamed at his father. “Thank you, Professor Heller.”

The professor turned to Tom. “As to your question, I had thought of that and asked the Outpost to use their most powerful instruments to find those near-invisible planets. I have received verification that all five of the possibles are still out there blocking out minute amounts of light as they pass between us and the rest of the universe. This might be a hitherto unaccounted one, but its speed indicates it is coming in from far outside our sun’s sphere of influence. It is also not the theorized dark planet out there exerting gravitational influences.”

Tom thanked the man for his candor.

“Tom, the world is in your hands. This may or may not be the greatest challenge you have ever faced” declared Damon. As they left the observatory, he added, “I must get home, Tom. Use every resource of Swift Enterprises that you need no matter the price. As I mentioned earlier, the Government is good for those costs.”

After he returned to the lab, Tom called Bud and said, “Flyboy, clear your schedule. I will definitely be needing your help.”

“My schedule is clear and there are no more prototypes to be tested until next month.”

“You might be wanting to clear your timesheet for the next several months, Bud. I, and the world, may need you that long!”

When, Damon arrived home he hugged and kissed his wife. Anne Swift knew her husband and while the kiss was fairly normal, the longer hug was not. She looked into his eyes and at the lines of worry that were creasing his brow. “Damon, you look tired. Or is there more? Was your trip so difficult this time?”

Damon gave a weak smile. “No not the trip. I learned something in the last hour that was... well, unsettling.”

“What was it? I ought to know what’s going on.”

Damon nodded. “Perhaps, you are right, Anne.” He led her to the sofa where they sat. “Professor Heller at our observatory has a lot more information for us about that rogue planet I mentioned the other day. It has entered our solar system, is heading inward, and shows signs that it may *interact* with Jupiter, eventually.”

Anne Swift nodded. She might not understand the physics of it, but she knew it was bad news. “How soon will it hit? That is, if by

interact you mean a collision.”

In spite of the circumstances, Damon had to smile at his wife. “Heller believes we have fourteen months of watching that planet until it passes us for the second time, give or take a week. Then, another five months before Jupiter might have problems and then up to two years before we could be in the way of pieces of our Giant neighbor.”

Anne shook her blond head. Like Tom earlier, her eyes filled with tears at the news. “Whatever can we do?”

He smiled at her. “At the moment, I do not know. But the best and brightest have been assigned. Your son, Tom, will be working on our solution... a possible *salvation* if you will. I have faith that our boy will find a way to save us all.”

At Swift Enterprises, two dozen file boxes of computer printouts were delivered to the main lab. Tom signed for them and Bud helped move the boxes inside.

The flyer looked dubiously at the boxes. “Genius boy, I thought the data would be coming over the network as computer files. What’s all this?”

“Unfortunately, the Observatory personnel up there are very old fashioned. They do almost everything by hand on paper. Or at least typed up.” He indicated one of the boxes. “Except for that batch of handwritten notes.”

“Do you think you can protect Jupiter from any possible collision with all that? Isn’t it going to take more than six months to just read through this?”

Tom ran a hand over his blond hair. “I honestly don’t know, Bud. I’m going to need to repurpose a scanner to input everything into our computers. If I can get it working correctly, we should have this lot cataloged in a week. Then I can do the research I need.”

Bud stared levelly at his friend. “Tom. Isn’t the Construction Company getting on with the job of building the repelatron emitters and the power pods?”

Tom gave him a weak smile. “Yes it is, but that might not be enough. I have to understand all the physical dynamics going on. So, I’ve heard some people see the world sitting on my shoulders and I have an impossible task to not only get through all this before I can attack the real impossible task, I have to do something to convince the general population this is not an immediate ‘Earth is in peril’ situation. Just... it likely will be in the future. No pressure, huh?”

He suggested that Bud go to see Chow Winkler and get them both very tall coffees. "It's going to be a long afternoon and evening, I'm afraid. Bash is already informed and she is, as I understand it, peeling Sandy off the ceiling and getting her to calm down."

Bud, knowing his wife and her sometimes volatility, grinned. "Better Bash than me, I guess. Back in a few."

While the flyer was away, Tom opened a secret drawer in the wall and removed a large, flat file. Rifling through it he came to the smaller folder he was searching for and pulled it out. The drawer slid silently back into place, and he sat down at his desk with the folder.

By the time Bud returned he was hammering away at the keyboard of his desktop computer calling up file after file from the "supercomputer" in the basement that consisted of more than three hundred of his L'il Idiot type of computer all slaved together and surrounded by giant banks of data storage digital drives plus a wall of traditional hard disk drives that were used as temporary data holders.

Bud set the inventor's cup next to his monitor where he would see it once his concentration was anywhere other than the screen in front of him.

Finally, seven minutes later, Tom blinked, saw the coffee and picked it up. His fingers told him it was still fairly warm so he brought it to his lips and drained the large mug.

He turned to see Bud smiling from his favorite tall stool next to the drafting board. "I appreciate that, my friend. Come on over and take a look at what I've found."

Bud came over and stood to Tom's left while the inventor called up a stream of files, explaining the basic function of each circuit diagram he had located and finally turning his face up to smile. "And that, Bud, along with about two days of solid programming I'm going to be doing while you unpack and sort all those papers into logical piles, is how a scanner designed to turn large drawings into pictures the computers can share will be able to character recognize what it gets in real time, with about one hundred percent accuracy, and then create files based on each set of papers. And, name them logically and date stamp them according to the date on the notes."

Bud, whose eyes had glazed slightly, shook his head. "So, if my pint-sized aviator noggin gets part of what you just said, your scanner thingie will sort of look at everything and then type it all into a data bank so you can find anything with a few key strokes?"

“Well... sure. Oversimplified a bit, but primarily true. Optical character recognition has been around for decades, but this is as good as typing things out myself. But where I can type only about fifty-five words per minute, the programming will scan and check and file at a rate of about fifteen thousand words per minute!”

Bud’s whistle of amazement told Tom the idea had fully registered and his friend was appreciative of the power of the new process.

“First things first,” he told his friend. “For today I need to double-check the already double-checked figures from the Observatory.”

The boys went to work. Tom used a scientific calculator on his tablet computer to roughly check each figure on the eleven pages of printouts detailing the highlighted findings. A computer check would follow if he found anything deviating from what Heller believed.

Nearly four hours later he leaned back in his chair, rubbed his eyes and ran his right hand through his short hair. “Bud, I’ve checked it all and it’s only a plus/minus of one percent that Jupiter will not be hit.”

“Not good then?”

Tom shook his head. “If we can use the repelatron trick to shove Wanderer really hard starting in no more than two months when it is just beginning to cross the plane of planetary orbits, we could see this one percent, or up to a couple thousand miles of possible gap, go out to something akin to ten million miles, about forty times as far as the Moon is to us. It would even miss all the Jovian moons.”

Bud opened his mouth to speak when Chow entered with his food cart. “Hi Buckaroos. The sun’s headin’ fer the barn and it’s well past dinner time so I fixed ya somethin’ ta see ya through the evening. Come and get it.”

Tom nodded to Bud. “Well, time certainly got away from me. No sense in starving. Let’s see what Chow has for us tonight.”

“I’m so hungry, I could eat anything,” Bud declared.

Chow narrowed his eyes and looked at Bud suspiciously. He was trying to discern if this were just a statement or a challenge. “Buddy boy, I have rarely known you to eat my food without a put down. Ya havin’ a fun at me?”

“Nope. I am honestly looking forward to what you have under those covers.” Crossing his heart he added, “Even the condemned ate a hearty meal before walking to the gallows. What did it matter to them if it were poisoned?”

Chow frowned and looked at Tom. “Is Bud sick? And by that I mean in the haid?”

Tom attempted to look innocent. “Don’t mind him, Chow, he is a little pessimistic at the moment. We’ve got a little problem... no, change that. We have a gigantic, huge and impossible problem that is getting us both down.”

Chow set the table in the apartment next door without saying a word. He knew if it were right for him to hear about something, his young boss would tell him.

“Skipper,” Bud said as he took his seat, “do you think there is a way to stop that planet from hitting Jupiter other than the repelatrons?” Realizing he should not have said anything, he froze and then noticed that both Tom and the cook were frozen in position as well. “Sorry!”

Before Tom could answer, Chow cleared his throat and spoke. “What planet ya talkin’ ‘bout, Bud, and why is it gonna to hit Jupiter? We talkin’ ‘bout that wandering place?”

Tom touched the older man’s wrist. “Chow, it is very confidential. If I tell you, it must not leave this lab. In fact, other than we three, dad and I suppose mom and Sandy, not even the President of the United States knows about how bad this could become yet. He will by ten tomorrow morning, though, when he and dad meet at the White House.”

“Son, ya know ya can trust me. I have a top security ratin’,” the cook said. “On top o’ that, half o’ what ya tell me is so durned complicated most o’ the time I don’t understand it, and if there’s one thing I don’t do, that’s gab about things I don’t understand!”

Tom nodded. “Have a seat, and I’ll try to explain this. As you have heard, the Swift Observatory spotted a new and mysterious planet coming into the solar system at pretty high speed. They call it a rogue or lost planet. Professor Heller and Bob Jeffers up there call it Wanderer because it has no orbit path around any sun, and just wanders around the galaxy—maybe even outside the Milky Way—as it is pulled and tugged by stars and planets it might encounter. The bad news is on its current path it will swing around the sun in a few months and almost certainly hit Jupiter many months after that unless I can find a way to move away from its current path.”

Chow pursed his lips. He searched for something to say that might have meaning, but he settled for, “I’m confident you will save that planet, Tom.”

Tom smiled at the balding cook as the man stood up to uncover their food dishes. “Chow, with you and Bud believing in me how can I fail?” What he didn’t tell the westerner was that if Jupiter was hit, the debris could be a danger for Earth. That was information even the President was going to be told ought not be shared with the

general public.

The boys quickly devoured Chow's meal of pork and dumplings stew, and after the cook left the lab, Bud looked at his brother-in-law.

"Have you any ideas about how successful the repelatrions might be? I mean, is there enough time to build them, get them out there and get them running?"

Tom shook his head. "We do not have a spaceship big enough to carry everything. Our largest ones, *Goliath* and the *Sutter*, are not speed buggies, so we might get them moving out with the first units off the line and then rush out with the *TranSpace Dart* with the next stuff.

"As for setting things up, if Jake and the two crews over there and here at Enterprises make things the right way, assembly will be a snap. And, it is likely we can run even the first few as soon as possible and keep adding more units as they are readied."

"Then, it's not hopeless?"

Tom shook his head. "No not hopeless. I mean, we're safe from direct collision from Wanderer. I do have a good feeling about the successful outcome of this. I just need to understand what the Observatory folks believe they know so I don't make a big blunder. In the meantime, keep coming up with any wild ideas. Something in there you or somebody might say something that holds another potential answer."

Bud frowned. "Do we have the time to test any of the other ideas?"

"We have almost no choice, Bud. Some of what I think of right now could take us the full two months we have just to get a start on before it could be too little too late."

"Why is that?"

"Distance we can travel and the speed at which we can do that. We have to meet the planet as soon as possible to have any influence over it. The longer it takes us to get there and get things working, the less likely we are to being able to do anything meaningful. Somehow I feel that point needs to be while the planet is still beyond Jupiter on the way inbound. Not sure why, just that I do. The only problem is, I think we will get there about the time it passes the asteroids.

"In two months this Wanderer will be getting pretty near the orbit plane of the planets. Too bad that planet isn't at least ten percent of the way around the sun right now, or more, and won't be in the direct path of anything other than a potential brush with a few

asteroids farther out as it leaves the solar system. But, it isn't. I believe getting as far out as Jupiter in the time available is doable, but getting there is only half the problem. We must be able to take enough of the repelatrons with us to change that planet's path."

"Is that going to be possible?"

Tom shook his head yet again. "Honestly, Bud? I've got *absolutely no idea!*"

Three days later Tom completed his scanner and software and Bud spent the day feeding nearly a quarter of the files into it. Hour-by-hour the servers at Enterprises began to fill with the results. By midnight, both men fell into chairs, exhausted.

But, at least for Tom, the battle was not finished. He had about three more hours of writing the search program to strain through everything and bring up certain pieces of information.

He was tired and as Bud got ready to leave, the office door opened and Bashalli came in with a small cooler in her right hand and a bottle of water in the other.

"I thought you could use some company," she said as Bud nodded and excused himself. "So, Amanda was up, I could not sleep and she suggested I bring you some of the dinner we had tonight. And, this..."

She set the two items down threw her arms around his neck pulling him down into a passionate kiss.

A minute later when they surfaced, she smiled at him, saying, "I see that was appreciated. Now, for a very late dinner."

CHAPTER 7 /

BUILDING FURIOUSLY

BUD FOUND Tom getting ready to drive away from the Administration building a few days later and tapped on the hood of the inventor's sleek sedan.

Tom gave his friend a grin and motioned with this index finger. "Hop in unless you have to be somewhere in the next hour or two," he invited the flyer. With a smile the dark-haired man who was not only his best friend but his partner in adventures opened the door and climbed in.

"Where're we heading?" he asked as he buckled his seatbelt and the car began to move to the main gate.

"To see a man who is building the impossible in far too brief a time and without anything approaching our receiving funding, yet."

"Oh. Well, if anyone can do that it's Jake and his folks!"

With a small sigh, Tom replied, "That's what it is going to take on this one, Bud."

They drove in silence until the car approached the front gate of the older Construction Company and both men leaned toward the driver's window so Patterson Johnson, the normal day guard, could see their faces. He already had their TeleVoc pins' information on his screen.

"Morning, Tom... Bud. Nice enough day for it, whatever *that* is," he greeted them.

"Yeah," Tom agreed. "Do you know if Jake is anywhere near his office?"

The older man scratched at his right cheek. "Think I saw him ambling along toward shed three about twenty minutes ago. Wouldn't hurt to drive down there I guess. I can call for him if you want."

Tom said to not bother and he and Bud thanked the guard who closed the window of his small yet incredibly well armored guardhouse and they drove on.

To call any of the construction buildings a shed was to go back to the early 1900's when Barton and the first Tom Swift built the first of what had become a large construction location. That first property had a small office building and a shed that was about one

hundred by fifty feet in size. Today's buildings were tens of thousands square feet, each, and there were three. It was when they began outgrowing those Damon Swift had designed and built Swift Enterprises just a couple miles down a once mostly disused country road.

They parked near the big front rolling doors in time to spot the manager, Jake Aturian, coming out.

"Well, look who is here?" the manager stated as both young men climbed out and came over to shake his hand. "What's new, Tom?"

"Do you by chance have about an hour for me, Jake. I have a lot more info on that *situation*," and he heavily emphasized that word, "brewing and I really need all the help you and your folks can give me. And, a status report."

Having known Damon since they were both teens, and knowing Tom since before the boy could walk or talk, he realized this was a serious situation... one to not be made light of.

"Sure. Come on and drive me to the office and we can sit for as long as you need."

Once they got out and entered the front room of the office building and Jake had alerted his secretary/assistant they would need peace and quiet—and agreeing that a pot of coffee would not go amiss—the three men entered Jake's office.

It had once been Damon's office and was about half as big as the huge one the two Swifts shared at Enterprises, but was still rather large.

Sitting down, Jake asked Tom to tell him what was happening.

The inventor spent ten minutes—interrupted for thirty-seconds by the arrival of coffee and mugs—telling the company manager what new information he had about the planet Wanderer and what it was more likely going to do on its trip into and out of the solar system.

As he ran out of information, Jake nodded. "Right! Tell me if there is more we need to do and when it has to happen, and I'll get to our larger customers to tell them to expect some delays in deliveries. Although, I've actually started that ball rolling but need to give them definite time answers."

"It might not come to all that, but what I have in mind is going to take a lot of man-hours, Jake. More than we both thought before. It is nothing you haven't done before, but not on this scale."

Tom described his most recent thought of creating at least sixty large repelatrions, perhaps now needed to be some eighteen feet

across, along with the necessary mechanic and electronics to take in materials that would be scooped up and delivered to hoppers, crushed, digested and fed into the emitters, and then thrust with great energy into space.

“If not that large then we will need about fifty percent more of them.”

“With the larger dish we ought to only need the original five or six dozen. My idea is to have one automated excavator for each five emitter setups. So, sixty repeltrons and a dozen excavators for starters. Everything running on power pods with the diggers getting a pair of the size twos, and the ‘trons using number fours. One each plus a few spares. So,” he began looking at Jake, “tell me what you think.”

“I will as soon as you tell me when these have to all be rolled out through our doors.”

Tom blushed a little. “That’s the not really good part. To make a difference in the trajectory of the planet, I believe I need to get the first set of twenty up there and starting to run in five weeks.”

Jake paled. “Ye Gods and little fishes! That means I need to reset what is coming out from at least building two between today and tomorrow.” He stopped and both of the others gave him a minute to collect his thoughts. “Okay. We can do this as long as the Citadel folks can start providing the power units starting in eight days. I’m hoping the excavators are going to be like the ones we build all those years ago for that mystery comet and its heavy companion. Am I close?”

“Almost spot on, Jake,” Tom said. “Just these will feed more emitters per unit and need to be able to roam perhaps up to a mile away and get back with full loads fairly fast.” He told how he hoped to get a second production line going at Enterprises.

It was agreed that Tom would provide updated specifications and mechanical drawings of both types of machines to be build by end of day the following day, Friday. Jake would have his people on overtime to reconfigure the middle building to start making components and assembling units of both types over the weekend. And, he promised to get the site at Enterprises mapped out by Monday afternoon.

When Tom and Bud left, Jake was slightly shaking.

“I hope all our customers understand the absolute importance of our putting off delivery,” he told them.

“After tonight’s announcement by the President, flanked by the

V.P. and Peter Quintana, anyone who does not understand that hasn't been paying attention!"

The young men drove away moments later.

On entering the shared office Tom could tell his father was in conversation with the Production manager of their nuclear power and research facility, the Citadel.

"So, that's the whole story. Ahh, here's Tom who can correct me if I am wrong on those pod sizes."

"If dad told you size twos in about the two dozen range and size fours at sixty units, he gave you the right info." The woman on the other end of the video call nodded.

"That he did, Tom, with two and five spares. Can I get your opinion—not to be shared but for my own peace of mind—what are the chances we'll come out of this okay?"

Tom nodded and sat down next to Damon. "Sally. If we do nothing at all we are never in direct danger or line of fire from this mystery planet. What could happen, and a lot depends on how it is affected by a trip around the sun just about even with the orbit of Mercury, is that it could brush up against or even smack into Jupiter on its way back out. That could be dangerous to us as anything coming in from that sort of collision would be eventually drift our way as we get into the absolutely wrong part of our orbit. We are only trying to avoid a possibility, but we have to jump on this.

"Did dad tell you we would like a tanker load of the metallicized reactive gel and we'll build the cases and load them out here?"

She nodded but looked nervous. "I'm not certain how difficult it is going to be to do that... legally."

Damon spoke up. "Don't worry about that. I am going into a video conference with our President, his number two and Senator Peter Quintana in eleven minutes. They will get us permissions, but you need to get enough of that plus the inner workings of the rods and mechanics to control them to us beginning in less than two weeks. Or, we say the hell with rules and fly it down, over the Gulf of Mexico, around Florida and sneak it in at night from the East Coast to Shopton. Can you do that?"

Her jaw set and her eyes blazing, she ended their conversation with, "I damn well have to, don't I!"

* * * * *

“We interrupt regularly scheduled programming on this network for an important address from the President of The United States who asks that all American citizens not change their channels and to listen to this momentous address. Ladies and gentlemen, the President...” came the sonorous voiced announcer as nearly every network and many independent channels suddenly switched from what had been on at nine Eastern, six Pacific Time.

The picture changed from a still frame of the Presidential Seal to the man stepping up to the podium. On his left was the Vice President and to his right, Peter Quintana. The video feed put their names on screen under them.

“My fellow Americans and also our good neighbors to the north in Canada who are also seeing and hearing this address, I must tell you some things you may find uncomfortable, but ultimately will succeed with all, and I must emphasize that word, *all* our assistance and efforts.”

He went on to factually describe the appearance of Wanderer and to make certain to say five times in a three-minute section of the address that Wanderer was ...”*not going to hit or even brush closely the Earth.*”

He outlined what the Swifts were going to be doing, in general terms without bogging the address down with details of the mechanics of the thing. He did warn all news agencies and reporters who, in the past, had seemingly attempted to rattle sabers and get up a good, often undeserved, panic among the more easily convinced members of the public.

“If you so much as print or utter a word on air that this is dire, dangerous, deadly, or any other permutation of those sentiments, I shall bring down the full might of the Federal Bureau of Investigation, The Central Intelligence Agency and all state and local law enforcement on you. Just,” and he took a breath to calm himself, “be warned this is not a situation where you can stir an empty paper bag and pretend it is a fully-loaded hornet’s nest.” He gave an emphatic nod to the camera.

He introduced the V.P. who made a one-minute speech and appeal to business to be aware some goods and materials coming from Swift Enterprises would be going on a Federally-mandated hold until the Swifts built what they were already starting.

Peter Quintana, a man whose appearance just about anywhere was assuring and peaceful, unless he was angry, stepped up and spoke for nearly two more minutes stating his direct contact with the Swifts and telling everyone, “I will be in Washington about half of my time until this is finished and half the time in Shopton, New

York, working side-by-side with Damon and Tom Swift and all of the fine ladies and gentlemen of their organizations and reporting directly to the President at least,” and he glanced at the top man in the U.S.A. as he said, “four times a day.” The President nodded his agreement this was the understood schedule.

“We all understand that a lack of information can be as deadly or at least as dangerous as incorrect information or even ignorance, so I appeal to you all, heed what our President has said. Do not panic, do not try to get others to panic, and above all, to those who might seek to profit from a situation such as this, don’t. Don’t think about it and do not act on your evil impulses. You will be sought out, incarcerated and might find your very lives ruined should you decide to ignore this demand.”

The address lasted seventeen minutes, about as long as a psychologist agreed the current public could stand before their brains tuned out if not them actually turning their television sets off.

There was no question and answer period suggested or tolerated as the three men at the front of the White House’s Press Room turned away and left through the wide double doors at the back.

The announcer’s voice came back on and told the audience whatever programming they had been expecting would appear in a few seconds, before the sight of the empty platform and retreating politicians faded to black.

As was fairly standard, most televisions began showing three to four minutes of commercials.

If nothing irritated the people at home, it was the stupid and inappropriate ads at a time like this.

Damon and Anne at their house, Tom and Bashali at theirs, Bud and Sandy sitting in their living room and the Prandits, including Moshan and his lady friend, all sat in silence. Nothing said was new to them, but the gravitas imparted in the situation by the President and the two others was stunning.

Of them all it was Damon who spoke first. “I believe we now have an official Presidential mandate to get this entire thing done and over with!”

Anne turned to him searching his eyes for something. “Is it really safe for us? This isn’t something you just don’t want to bother me with?”

Now, her husband of more than thirty years laughed. “Oh, Annie, my dearest friend. Unless what our son—you do remember Tom is

an amazing genius at getting these things done, right? Unless you believe him to be a liar, everything he and I have seen points to even a small correction in the flight path of that planet is going to make everything okay. According to the Observatory, it will never come back once it heads out and will not even reach another star system for about five hundred years.

“By that time Tom will have conquered faster-than-light travel and he’ll go fix things again!”

Now, Anne joined her husband in a laugh. She found him in her arms moments later giving and receiving a kiss as passionate as any one shared on their honeymoon.

Practically overnight, half the employees at the Construction Company turned their efforts to the creation of parts, electronics and assembly of—first—the twenty-foot-long by seven-foot-wide, six-foot-tall excavators that would be self-driving, self-seeking of appropriate materials to dig up and carry on an endless loop of dig, carry, crush, dump, drive back out and dig again. All steps were necessary to feed their assigned repelatrions that would be built later on and all would be transferred via spacecraft to Wanderer.

While this was going on, Tom arranged for both the creation of and shipping of the metallicized nuclear gel from the Citadel to Enterprises where it would be packed into a series of nuclear power pods the Construction Company would also make.

The fly in the ointment came in the form of protests both in New Mexico as well as Shopton by misguided individuals who seemed to insist that the mere presence of the gel was tantamount to dropping hundreds of gallons of radioactive waste over grade schools and hospitals.

Nobody should have taken their cries seriously, but it did attract the notice of a few reporters who were desperate to make a name for themselves and to ignore the orders of the President.

To both Tom and Damon’s anguish, most of the protesters, those not fast enough or smart enough to leave when ordered and the FBI and local police showed up, were arrested and taken to jail cells.

Similar protesters gathered in New York City and Chicago and even in San Francisco. All were dissuaded from continuing their actions by local officers.

In all, about thirty people continued their protests and only two people were injured when arrested and those were through their own misadventure and struggles with police.

Both were young college students who had been egged on by radical professors.

Neither sustained any life-endangering injuries but both found themselves expelled from their respective schools for violating the orders of the Chief Executive of the nation.

Neither of their professors stepped forward to admit their involvement.

Two nights later, the President again interrupted television all over the country to tell people. “Stop protesting. This is not, I repeat it is *not* any governmental attempt to flimflam the public. This is a legitimate problem and shaking placards is not helping anybody!”

There were some disruptions in the assembly of components when an entire batch of a particular memory chip purchased from an overseas company turned out to have problems. This had a domino effect in that it affected build times, assembly of other components requiring either those chips or had their own circuitry that absolutely had to be matched with specific chips in order to function at peak efficiency, and other issues.

Most things could be overcome given a day or less, but the memory chip problem put things behind by several days until Zimby Cox and Hank Sterling flew Tom’s *Sky Queen* to South Korea, and visited a company that had stated they could supply a replacement for the other chips from a different manufacturer. They picked up enough of the newer, compatible chips plus an overage of one hundred percent just in case of any failures.

Their return within twenty-four hours sparked a flurry of testing and matching of memory to processor chips that required an additional day, plus a few hours, before assembly could restart.

Both Tom and Damon were kept busy between the nearly constant checks, reworking of some minor and major design elements, and in keeping Peter Quintana informed of what was happening.

“I have to tell you, Damon,” the senator admitted over a quick lunch one day, “if ever anyone in government had any doubts about you Swifts and your organization, this emergency that really isn’t an emergency is showing them what you are made of!”

Damon nodded, but told the politician, “You do know it will turn into an emergency later on if Tom’s plans to not come to fruition, don’t you?”

Peter paused and then nodded. “Right. Misspoken comment. What I meant to say, and forgive me if I sounded as if I were minimizing all this, is that what some people are still trying to turn into a world-wide panic and emergency—if only in their own minds—is not something worthy of intense worry on the part of the general public, at least not today. You and I and our top two men in DC know how vital it is to get this right, but we all have to appear as if this is all well in hand. And,” he added seeing Damon might have an additional comment, “all the big wigs in their seats of power know that you and Tom will ultimately be successful!”

Damon decided to not say anything but took the last bite of his chicken salad sandwich.

“I’m going to take a reconnoiter trip out in the *Dart*,” Tom told Damon at lunch. It will take that long to get the first of the equipment sent up on *Goliath*, and we really need some close-up observations.”

Damon nodded. His son had it all in hand.

Within two weeks, coinciding with Tom’s requested schedule minus the two days of delays, at least a pair of the excavators were nearing completion and more than triple that number of the smaller power pods were finished, fueled and tested.

A week later the first ten of the repelatrons were being built as the inventor arranged for the giant *Goliath* cargo spaceship to be brought over from Fearing Island and landed on a hard-packed field between Enterprises and the Construction Company.

A convoy of heavy-duty trucks began bringing finished devices to the landing sight where a leased crane with enough extension to get things to the cargo deck waited. One by one the initial two excavators were loaded and strapped down on opposite sides of the platform allowing three of the repelatrons with their materials handling hopper systems to be loaded and attached to the deck between and to each side.

Six repelatrons and enough excavators to supply them plus a couple more were ready to go. And, so was just about everyone concerned, from Damon on down, knew the first flight could not be far off.

The Construction Company would continue to crank out more of everything and the thought was to pack as many pieces of only partly assembled repelatron units to the top carrier and the outer

deck of Tom's *Challenger* and send it under automatic guidance so it could accelerate faster than a human crew could withstand.

Once everything launched it would arrive within eleven days of Tom and the *TranSpace Dart*.

All that was missing were the final power pods to energize and operate everything Tom wanted to take to Wanderer.

CHAPTER 8 /

A SMALL SIDE PROJECT... AND A BIG EXCURSION

TOM HAD FRETTEd and fussed over a great many small—some bordering on insignificant if the truth were to be admitted by him—details as he awaited the first of the repelatron and excavators to be completed. Before he could take a “load” out to Wanderer, he needed to have about one-fifth of the total numbers ready to go.

This would minimize the total trips necessary. Two for the *TranSpace Dart* and for *Goliath* along with sending out an unmanned pair of Tom’s smaller repelatron-powered space saucers and the *Challenger* with the smaller parts. He wasn’t certain why he wanted the saucers as they would not be very capable of transporting cargo, but somewhere in the back of his mind was telling him they might come in handy.

Damon watched his son sitting at his desk in the shared office, worrying the younger man might be pushing himself too hard.

“I hate to be a father, Tom, but I believe you need a little side project to take your mind off all this, and also to let the men and women who are working their... *fingers*... down to a nub to see this is a success. Plus, you have two days before you take off in the *TranSpace Dart*.” What he did not state was that nobody knew the final course or possible encounter for Wanderer. It might all be unnecessary!

Tom looked over at his dad. Giving out a sigh, he shoved his chair back a few inches and stretched while seated. “Got any ideas for your first born?”

Damon smiled. “As a matter of fact, it is something you mentioned a couple years ago and never did anything about it. Think back to about New Years back then...” he prompted the curious younger man.

Tom thought for nearly two minutes before he believed he realized what Damon meant.

“Ummm, are you talking about the *Kangaroo Kub* conversion?” he guessed. His father’s smile told him he had come to the right conclusion.

“It really ought to only take a week or so for you to do the design, and you can do some of it as you take the *TranSpace Dart* out to Wanderer at top speed for a recon of the planet. I can’t and won’t order you to do that change, and I do realize the atomicars you have

been carrying in the *Sky Queen* and *Super Queen's* hangars take up more than ninety percent of the slack, but it might be a nice addition to our stable of aircraft. Even as a civilian offering.”

What the younger inventor had once come up with was the idea to convert the small, one-man jets that could take off from—by being pushed out of the hangars in both giant aircraft at an altitude of at least three-thousand feet above ground—and land inside, the built-in hangars and to give them almost vertical take-off and landing ability. But, like any conventional jet, should the pilot want or need to land in a very crowded spot, it was currently impossible.

If landing or taking off from the ground, the power to weight ratio of the jet meant it had a short take-off and landing, or STOL, capability. What it could not do was lift straight up under its own power.

Tom had drawn up some design possibilities to work within the current body of the two copies of these planes normally carried in his two giant jets. He had also created a more straightforward version of the jet that was slightly larger and had a more powerful turbojet engine that would be a bit more practical than the other conversion.

He headed over to the workshop of Hank Sterling to have a little talk. On the way the TeleVoc'd Artie Johnson of Propulsion Engineering asking the younger engineer to join them.

“I’ll be there in fifteen minutes, Tom,” came his answer. “Just finishing a meeting with Dianne. See ya!”

Hank, who had been in on the preliminary design work for both versions of the new jet sat quietly as he and Tom waited. At least, Tom had told him the reason for the meeting and he was going over what he remembered in his head.

“I’m here,” Artie announced as he opened the outside door and stepped in. “What’s up?”

“Well, something that goes up, but Tom wants it to go up in a different way,” Hank stated with a sly grin.

Artie slid out a stool from under the workbench and sat down. He looked very curious about what that last statement might mean, but it sure sounded like something he wanted to be a part of.

Tom looked at them both and began to explain.

Since Artie had come to Enterprises years after Tom had designed both of the first generation aircraft for his *Sky Queen*—the aforementioned *Kangaroo Kub* and the small, two-man helicopter known as the *Skeeter*—he went over the history for both of them

and the reason he believed one aircraft might serve both purposes.

“But, the time has come to admit the *Skeeter* has a few too many limitations. It has been a great little aircraft, but it can’t carry a lot or go very far. We can get almost that same capability from a Wasp. Atomicars can also give us much of its capabilities, but the one we carry in the hangar is a generation three and that doesn’t have the speed I sometimes wish it did.”

Artie brightened. “So, you want to make the *Kub* go faster and have VTOL capabilities? Not happy with its STOL abilities?”

Giving both of the other men a nod, Tom replied, “I do. So, between us I would like to propose we redesign the *Kub*, give it a more powerful engine and perhaps one that is a bit more fuel efficient, and then give her the gimbaled thrust ports to point them straight back, also down and even slightly forward to move the jets backwards. What do you think? Hank?”

The big engineer looked at some point on the wall over Tom’s head before saying anything. “Part of the issues will be dictated by the power plant. Part of them by how much larger you can accept the jet being. At a guess, I’d say the fuselage is going to need to be widened by at least a foot—six inches of hot, high-powered thrust on each side, so we can have not just the rear ports that can swing down, but for balance I’d want to add a pair of them up front. Artie? You have the engine stuff.”

“Ahhh. For the turbine thing, Dianne and I, and a couple of the others in P.E., have been playing around with a more powerful, slightly smaller—well, at least in diameter—high bypass turbine.” He reached to his side to bring out his tablet computer. “Let me show you some of the specs and a tests we did.”

Once he set the tablet on its built-in stand and found the right first file, Tom and Hank looked through the specifications. Both men were amazed.

“And, that is actually two inches less wide and just five inches longer?” Hank had to ask not believing his eyes.

Artie nodded and smiled. “Yeah. It’s thanks to technology enhancements. And, since we are using Durastress-coated magnetanium blades that can be twenty percent thinner than regular blades, even with an extra two sets inside in the front, the entire thing weighs in about fifty pounds lighter than what was built for the first generation *Kangaroos*.”

“And, more powerful? By how much?”

“Up from thirteen hundred pounds to nearly nineteen hundred

pounds. Each!”

Tom and Hank had to sit back and digest this new information. Artie added to their considerations.

“Plus, it doesn’t bog down with back pressure. If things get too compressed inside the combustion chambers, a small bypass valve opens for no longer than one second at a time to bleed off the excess into the normal bypass area while keeping max thrust coming out the back. So, Tom’s idea of using ducts to take a lot of the thrust out and down at the back and then send maybe thirty percent to the front will not cause the turbine to slow down. Well, as long as the total of output duct is within twenty percent of the current exit width.”

An idea came to the inventor’s mind. “Can a single engine support four outlet ducts and still lift the *Kub* plus a pilot of up to two hundred pounds?”

Now, the propulsion engineer’s face fell. He shook his head. “Sorry, Tom, but it will take a pair of them running to give that sort of lift. Heck. The current engine is actually underpowered for the *Kubs* as they stand today. Sorry.”

“Nothing to be sorry about, Artie. It was my small design that kept us from using a larger turbine to begin with. I guess this begs the question, can two of them be run side-by-side within a single outer cowling?”

Hank looked at his young boss. “Where is this going?”

Tom explained that he would be willing to redesign the *Kangaroo Kub* to make the fuselage from the cockpit back wider to allow for the pair of turbines. The only issue was whether they could safely be run, for all intents and purposes, naked inside the fuselage or if they each required extensive outer materials for safety.

“Do you mean sharing even the bypass area?”

Tom nodded. “Yes. If possible or practical. And I would want them to counter-rotate to avoid torque spin.”

The trio moved over to one of Hank’s computer stations and began by calling up the current design. As Tom described changes, large and small, the pattern maker put them in, soon coming up with a design that was about thirteen inches wider at the midpoint and just nine inches wider at the back.

“It’s looking like this new *Kub* might be capable of breaking six hundred in forward flight, as long as we can come up with a savings of about fifty pounds from somewhere in the fuselage.”

Tom thought about it a moment. He stated, “We have never had an ejection seat in the *Kub*, and that one we did for the military

weights in at about sixty pounds less than the seats we did install. How about if we replace the seat with at least the frame and maybe even the ejection mechanism, we already have the blow-away canopy, and that saves us the weight!”

Just a day later Tom and Hank met again to go over the redesigned jet. The wings and the front end would remain as is; it was everything from under the back of the wings to the front of the horizontal stabilizers, and under them that was different. Less than four feet, but four feet with a very noticeable difference.

“I love how you flared out the back end to accommodate the pair of turbines,” the big engineer complimented the inventor. “Looks like that is the way it always has been!”

To make certain they achieved maximum thrust it would be necessary to have each engine shrouded inside a Durastress tube, but both men accepted that as a fact.

Tom grinned and agreed. Because they already had the basic airframe, it had only taken a few tries in the CAD program to come up with a very usable set of changes that would allow the jet to function as Tom wished it could.

“I routed the left side forward exhaust up and over the turbines, kind of in the dip between them, and then other side under them. Everything stays balanced that way.”

Tom’s smile told Hank he understood and agreed to that change.

Following his father’s suggestion, Tom, Bud and a small crew took off for Fearing Island the next day. It was still nearly a week off from the first meaningful delivery of the necessary equipment to take to Wanderer—even though *Goliath* was loaded and ready he wanted the *Challenger* and at least two of his saucer ships to go in a convoy—and Damon had wondered aloud a few days earlier about whether it might be worthwhile to go take a pre-look at the planet.

While they were gone, Hank would see that the changes were made to at least one of the Kubs so Tom might test it when he returned.

“I’m only suggesting a very high altitude one orbit trip and then slingshot back home,” Damon said. “Enough to get definitive answers to several questions about the rotation and any atmosphere. Perhaps possible landing areas. I’m afraid our terrestrial equipment is still having a bit of trouble discerning those things. Even the Megascope up at the *Space Queen*. For some

reason it keeps sliding out of the focal point before they can get a good visual marker so they might check the next time they get things focused.”

Tom’s forehead scrunched up. “Should I try to come up with something for the Prober?”

Damon’s head shook. “No, and the reason for that answer is the Prober works very well on other bodies. The folks up there,” and he pointed toward space, “are of several opinions, with the ‘It is a very bad magnetic storm in orbit,’ being the favored one.” He shrugged. “It might be a heavy magnetic core. You should not land but make a single slingshot pass around then come home. The ship’s sensors will give us answers we seem to be missing from here.”

Tom nodded. He would prefer to make several orbits of the mystery planet, but knew in his heart his father was right.

At least, he and the crew would only be away from home for a total of nine days given the incredible speed the *TranSpace Dart* could achieve using the micro black hole he’d discovered a couple years before.

Bashalli and Sandy accompanied their husbands to the island base and stood together, holding hands, as the *TranSpace Dart* lifted on its repelatrions and arrowed into space.

“Well,” sighed Sandy, “there go our men. I say we celebrate by stopping over in Manhattan and having a bit of a shopping spree. I’m positive Bud would tell me it is okay,” and she muttered under her breath, “if I had asked.”

Bashalli wiped a tear from her right eye that threatened to spill down her cheek. She always was the more emotional of the pair, but had resolved to try to be more brave.

She nodded. “You are a bad influence on me, Sandy. Let’s go! I think Bart is in need of some new clothes for his next bump up in grade school. I haven’t found anything I really like in Shopton and Oswego is just so far away...” she smiled to herself.

“Great, then let’s take the Toad and land at LaGuardia and take a the new rail link in.”

As Tom and crew got closer to the pick up point for the mini black hole that would be their source of propulsion, the women were just stepping into a light rail car below the B terminal building where they had been allowed to park the jet.

* * * * *

The *TranSpace Dart* headed out from orbit before a half hour had elapsed mostly due to Bud's excellent piloting and practice he had gained over the last couple of years.

"On the way out and we'll be passing the good, old Moon in eighteen minutes," he announced.

And then, Earth's largest satellite was behind them and Bud swung the ship onto its intercept course. It would take them on an angle up and over the orbits of Mars, the asteroids and even ten million miles above Jupiter's orbit. As usual, they kept up constant acceleration—the same physics that kept the black hole pulling them along as they shoved it away also overcame inertia so they did not feel any adverse reactions from the fast speeds they traveled—Tom and Bud watched as their speed climbed from a few thousand miles per hour to almost a quarter that of light speed.

Six hours later Zimby Cox's head popped up between them announcing it was time for a changeover.

"Time to give up the seats, skipper! Red and I will take the next six and then you two can come back. No fair wandering around down there, so get a nap in."

Tom first, from the copilot's seat stepped into the gap between seats and climbed down the narrow ladder to the upper living level. Zimby nimbly raced up taking that seat before Bud came down to be replaced by Red Jones.

Less than half an hour later both men were sound asleep.

When Tom awoke five hours later he used a recyclable pre-dampened cloth to wipe down his torso and also to run it over his hair. The combination antibacterial action and a fast-drying non-polluting base liquid made him feel fresh again.

He slipped into a clean shirt and left his cabin only to find that Bud was stepping from his cabin at the same time.

"Lunch," stated the flyer. "I'll make whatever Chow slipped into the freezer."

"If there is one of his lasagnas, then I'd like that," Tom stated, "unless there is just one and you also want it, In that case, maybe one of his Irish stew trays?"

Both were available so Tom had a lasagna and so did Bud.

By the time they finished and placed the trays and bamboo-ware in the cleaning station, it was time for them to take back over upstairs.

Bud headed up first and would now take the pilot seat from

Zimby. That changeover happened three minutes later once all information had been related.

Tom came up as Red stepped down saying he'd get it all from Bud. "Unless, you have something special for me?"

Red shook his head. "Nope. Just that we've crossed half light speed as of twenty minutes ago and all is looking fine and dandy!"

"Great. Go have some food and hit the rack," Tom suggested.

Up and in his seat he scanned the gauges, readouts and status for the ship.

"All looking great, skipper," Bud told him.

And, it was.

The next changeover came on schedule but this time neither Tom nor Bud felt like sleeping. It was one of the bad things about a six on and six off schedule. You really needed eight hours of sleep, but it was difficult to get any after having just awakened six or so hours earlier.

So, they both had a snack and headed downstairs to the living quarters and the comfortable seats in the middle of the space. Putting on headphones, they both used the ship's radio to call back to Shopton.

Bud used the normal PER system—albeit the much smaller and tunable one Tom had devised—while the inventor used the unit he'd produced from the manufacturing box left him by the Space Friends.

"So, dad," he reported, "this unit seems to be the real deal. I'm detecting no delay in receiving your voice once I stop. And you're sounding really clear. How about me?"

"The same, Son. I'd have to say that machine did it all right. So, give me a quick status and then I'll have George transfer this to your house."

Three minutes later Tom heard a pair of clicks indicating the call was being transferred from the secure radio channel to a normal phone line.

He and Bashalli spoke for eight minutes before one of the two other crewmen they'd brought along approached Tom with a look of concern on his face.

"Sweetheart? I have to go now and do some ship's business. I love you. Give the kids a hug and kiss from me. Oh, and we ought to get to Wandered in about two more days."

When the call was finished he turned to the tech.

"Yes, Gene?"

“Ummm, skipper, we have a small problem with the air filtration system that I haven’t been able to overcome. We’re not in danger, but if we can’t fix it in the next eight or ten hours I’ll have to tell you we need to slow down, do a turn, and head for home.”

Tom launched himself up from the comfortable seat and headed for the access door to the equipment level just below them.

Gene stepped through first and headed down the narrow stairs.

In the room, and with the lights on, he pointed at the readout for the part of the system that scrubbed CO2 from the air and replaced it with a little oxygen from a large cryogenic tank.

“Ahh,” Tom said. “I see. And, I believe I know what has gone wrong. I made some changes between the last time this ship flew and this one. Hang on.”

The inventor got down on his knees and leaned under the equipment monitor. In a moment he was on his back sliding farther under and asking for a couple of tools.

“Multi-wrench and a circuit tester for starters, then be ready with a size ten Torx screwdriver.” As the first tool was placed into his outstretched hand he thanked the tech.

It only took three minutes before he asked for the system to be reset. As he lay under things he heard the circulation fan stop then start back up again three seconds later.

“Hey!” exclaimed Gene. “It’s showing full function. Great! How,” he asked as he helped Tom slide back out, “did you do that?”

Tom grinned. “Not much to do, but I realized one of the new circuit boards was a real bear getting it inserted and locked down. It had, courtesy of the small vibrations we get on take-off or landing, come slightly loose. The computer sensed that and shut down some of the circulation equipment.”

He stood fully up and stated that he ought to have related the possibility of a problem to both technicians.

“Sorry.”

When he got back upstairs Bud was at the upper level calling down about his desires for the meal they’d have before taking over.

“Pizza?”

“Nope. Fully fledged Italian sandwiches on French bread is the closest we have.”

Tom eventually shared one of the large sandwiches with his friend.

* * * * *

Thirty-nine hours later, with Tom and Bud remaining in the cockpit for an extended shift, the *TranSpace Dart* approached Wanderer still slowing down from their near light speed to just enough velocity to manage to be captured by the planet's gravity for their swing-around.

This was possible only because the faster-than-light ship could slow down without performing a swing-around of a farther out planet, like Saturn.

Below them was a planet that appeared to have no atmosphere or a hint of a frozen one at ground level. It was exhibiting an unusually high magnetic sphere surrounding it up to an altitude of about one thousand miles, but that seemed to be fairly stationary.

Because the planet seemed to be tilted on a ninety-degree angle to the rotation of the solar system's planets, their approach was over one of the poles.

"We're not going to see a lot unless we go against your dad's wishes and stay in orbit for a day or so," Bud opined.

Tom shrugged. "Yeah, so we get what we can and head for home. At least we know why the space probes can't get a good look."

As they departed eighty-three minutes later they knew there was some small level of permafrost at the poles, but the one facing more toward the sun was beginning to melt.

And, that the planet had a rotation of some sixty hours and about nineteen minutes. That would almost certainly give them a better time period for correctly firing the repelatrions. That, in turn, might help spell success!

On the way home Tom tried to make some sense of what they had gathered, but all he now knew was they would need to set things up about ten degrees down from the sunward-facing pole to have the best results.

"That way," he told his crew as they crossed back over the plane of the asteroid belt, "means we will get more and better effect from the repelatrions over a longer period each rotation. It also means the repelatrions will have to be reconfigured to track the correct angle and always face that way!"

CHAPTER 9 /

SOMETHING GOES RIGHT (FOR A CHANGE)

TOM AND his crew returned with two days to spare before the scheduled first ships' take-off. In total they held just over the first twenty percent of the repelatron and power pods and excavators that had been constructed at, or delivered to, Enterprises and were loaded into the three smaller ships, almost ready to go.

And, although the inventor knew the appearance of a ship as tall and imposing as the *Dart* at Enterprises could, and would, cause excitement among the local population, he landed just to the east of the main building cluster.

It would make the loading much easier as nearly everything to take was right there.

Challenger would take off from Enterprises first and rendezvous with the other ships as they all passed well beyond the Moon's orbit.

Because of its lack of internal cargo ability, the *TranSpace Dart* would follow with a limited amount of power pods attached to its fins about a day later than the other ships. Hank Sterling, Art Wiltessa, their astrophysicist, Bob Jeffers and their construction crew of nine would be in the fast ship and arrive several days before anyone or anything else.

"Are you certain you don't want or need to be in that first ship, Son?" his father asked as they discussed some finer points of the forthcoming mission.

The younger Swift nodded and stated, "That team will be performing all the front end work of selecting the best location, surveying it and staking it out so we just start planting repelatrons in the correct spots once I get *Goliath* and the majority of this first batch out there."

The *TranSpace Dart* had been readied to carry what it might on the outside mounts of its four enormous fins, but this would mostly be four of the larger power pods plus a foursome of the Straddler personal transportation devices he had designed to replace his original repelatron donkey floating platforms. More like a space cycle, they came in one, two, and six-man configurations and had a small Attractatron in the nose to grab and move objects.

They would be needed in the setup of the repelatrons on Wanderer because only the Straddlers, working in pairs, would be able to pick up and lower the large devices to the ground. Then, they

would be used to space out the repelatron "farm," as Bud dubbed it, to the proper distances.

Tom told his father he believed this would be in a square with six hundred feet between each repelatron.

"Remind me of the arrival order, please."

"Okay. *Challenger* is on its way. The *Dart* gets there in about three days and sets down. Even though they leave a day later than the rest of us, they get there five days ahead. *Goliath*, which Bud and I are taking, actually takes off third after the two unmanned saucers filled with the smaller power pods and replacement tools for our installation. Those get to Wanderer a day ahead of me, but that's okay. Between them and *Challenger*, that frees the *Dart* to race back here to pick up more things as well as letting *Goliath* come back on autopilot, and fast, for another large load.

"We'll all sleep in the *Challenger* and take our meals there as well."

The *TranSpace Dart* rose silently and rather slowly to protect its outside cargo the following morning just minutes before the sun rose in the east. Everyone thought it best to do it then and before people in Shopton—and several hundred space junkies parked all around the perimeter of Enterprises—woke up.

Many were disappointed when the giant needle-like ship was not there once they rose and took a look. With the honking of car horns indicating their displeasure, most cars were gone before 7:00 am.

Later that same morning, Tom, Bud, Chow, Arv Hanson, and the team of workmen boarded the *Goliath* and strapped down. In the case of the less aerodynamic repelatron dishes, they had been given a wrap in Durastress fabric.

Mr. and Mrs. Swift, along with Sandy and Bashalli arrived in time to shake hands, give and receive hugs and even kisses from spouses before they took the elevator up to the cargo deck and then the internal elevator to the crew spaces at the top of the central spire.

Everyone knew if Tom and his people failed, the Earth could face great danger in the future, but they also knew if anyone could avert disaster it was Tom Swift.

When one final cargo jet arrived from New Mexico at Enterprises ten minutes later, and quickly transferred its cargo, it was time.

As he waited for the go-ahead command, Tom thought back to something his father had asked twenty minutes before it was time to

board.

Damon took his son aside. “Tom, will you have time to explore Wanderer? I only ask because this will be the first real time we’ve had the opportunity to do something like this. It must be totally secondary to your mission, but... well... once-in-a-lifetime opportunity and such?”

“Dad, with delivery of this first equipment looking like it will be two days earlier than my original schedule, and Doc’s acceleration couches to protect us, I hope to put on a little extra speed when we are all sleeping and arrive early. If the other shipments come off like this, we ought to have some spare time at the end, or at least time once things are turned on and a few of us stick around just in case of any necessary adjustments.”

All his father did was smile.

“So,” Tom continued, “look forward to getting images and samples from more than just the immediate proximity of the shove farm, as Bud said he want to call it now.” He gave his father a shrug and small grin.

“First priority is to get the work team surveying the location and burying the repelatron mounts. The rest of us will do the unload and move things to the various sites with the largest six-man Straddlers or maybe even the excavators. After that it ought to be smooth sailing for setting up. So, if you can shepherd Jake and his folks, and I know they are working all out as it is, then *Goliath* and even the *TranSpace Dart* can come out at top speed with more. I really do not want to have more than a couple days lag once this first group is ready to go online.”

“What about your small repelatron-driven saucers?”

It had been something the younger inventor vacillated over, but had set aside in favor of the larger capacity of the other ships, especially *Goliath*.

“Hmmm? I suppose if you can get one more ready with the extra power pods inside then I can take as much as you can send. If you can manage to stuff a pair of emitters and those pods in the other one of our cargo-capable saucers, then send it on autopilot to come to a beacon I can set in orbit.” He smiled. “Not a bad idea, Dad!”

“The old brain cells are still good for a few things, Son.” They hugged before Tom turned back to Bashalli.

She had tears in her eyes, but he knew they were normal for her at a time like this. They didn’t signify fear for his safety, just sadness that he would not be with her and the children for up to a month.

“I know you will be careful, Tom, but I want you home quickly. This time I understand what could happen if you do not do this, but someday you must teach others to be as smart and as unselfish as you are. I love you.” She went up on her toes and kissed him on the right corner of his mouth before he turned into a more meaningful kiss.

Both Tom and Bud had trouble disentangling themselves from their wives, and Zimby was still stuck in his girlfriend’s embrace, but the time had arrived for the crew to get aboard.

The other men were already sitting in the vehicle. All except for Chow who was on the phone with his wife, Wanda. She had stated she did not wish to see him depart, but had been affectionate the evening before. He had arrived at Enterprises for the flight with a silly grin on his face.

It had changed to one of loving care as he finished his call and hung up.

Tom was hugged by his mother. “Good luck, Tom. Please hurry home.”

“Don’t worry, Momsie. Bud and I are old hands at space travel.”

Anne nodded. “Of course I know that, but you *do* understand that I am a mother. Right?”

Tom grinned and gave her a quick peck on the tip of her nose. She turned away before her tears would become obvious.

Sandy and Bashalli gave their husbands final kisses—somewhat longer in the case of Bashalli as she could barely contain her love for Tom—and waved as the two entered the elevator.

The ride was only one minute and just long enough those on the ground would get a good view of the car before it curved over and above the single repelatron monster dish.

It was the Tuesday of week nine since the President’s speech. Tom lifted *Goliath* from the ground and headed skyward.

In minutes, the ship was above the atmosphere in the blackness of space. Tom, Bud and Arv had been in space before, but in the lower level and watching on the big screen there, a pair of the workmen—Sid Green and Mac Davies—were speechless. Tom had decided not to stop the ship in orbit but to race out to the intercept point with Wanderer where they would rendezvous in thirteen days.

Outside the densest portion of Earth’s atmosphere, the huge ship increased speed to three thousand miles an hour. By the time it was at two hundred miles it was travelling at twenty thousand miles an hour and still moving faster.

They continued constant acceleration for twelve hours; it became obvious that the inertial dampeners were being taxed but Tom wanted the first part to be fast so they could afford to take an acceleration break every few hours to recover.

Doc's acceleration couches, basically self-forming gel beds that stiffened at the press of a button to hold each man in place and to nearly wrap him in soft comfort, worked to a point, but as Tom sped up the ship to twice the force of gravity, even they could not make the men breath easier or not feel the forces pressing them deeper into the surface of the couches.

After two more hours and with their speed up to two hundred fifteen thousand miles per hour, Tom eased back to a 1-G rate and made an announcement to the men in their couches below the command deck.

“Okay. We're taking a break from the pushing and while I'd like to push on again in about an hour, if anyone needs more time let me know.”

Nobody said they needed more time, and Tom was happy he had decided to send Chow—who as the oldest of them—on the *TranSpace Dart* so he would be spared the pressure.

But, the tough, older one-time ranch hand got up and made the others coffee and cocoa before he brought a cup of each to Hank and Zimby sitting in the small control room of the *Dart*. There was barely anything to be felt in that ship and he loved to be part of any adventure.

Poking his head into the small control room he asked, “You two hombres need any food? I kin fix up a couple san'wiches if yer in need. I didn't see you with any food before we left Shopton, Jest thought I'd ask.”

Hank looked at this friend and nodded. “I don't know about the Zimby here, but if you have any bologna and mayonnaise and mustard and perhaps a leaf of lettuce, I could go for one of those.”

Chow went over his mental list of foods, and he had to shake his head. “Sorry. No lettuce in the chill box. Wouldn't be too good defrosted anyway. Take it without the green?”

“Sure, Chow. It'll taste great.”

His copilot agreed a bologna sandwich, something his vegetarian girlfriend did not believe was real food and so she bought it only once a year as a treat for him, sounded nice. “So, make it a pair for your pilot and copilot. Umm,” Hank turned more serious, “how are you really holding up with the acceleration? I do mean *really*,

Chow.”

“Honestly, I feel pretty darned good, only a little tired. I think after I feed ever’body I’ll take a little nap, but don’t you worry about old Chow. Okay?”

Hank nodded. “Okay, Chow. We’ll all try to give you more than just an hour; take all the time you want. I know for a fact you were up before dawn doing your food packing. Go. Sleep.”

“I thank-ee kindly, Hank. Even though I’m one tough son-o-a-gun, Wanda’ll tell ya I can sorta overdo it a bit. With all o’ you lookin’ out fer me, I’ll make this trip and many more ta come!”

As the older man departed, both pilots both wiped the start of a small tear from their eyes.

It took five days for *Goliath* to pass the orbit of Mars. Another four days brought them past the asteroid belt. Rocks, some big as the island of Manhattan, floated through space. Due to their high speed and the position of Wanderer, Tom had decided months earlier to arc over them to make for a safe passage for the ship.

As they cleared the last of the asteroids Tom told his crew they had just one more day of accelerating. “Then we start to slow down so we eventually come into a looping orbit around Saturn right on time to see Wanderer pass her. Once our speed has reduced sufficiently we should be able to work without needing the couches. The inertial dampeners can handle the stress.”

He also explained they would circle the ringed planet twice as they got into better orientation to come in and get a good orbital path around Wandered.

“I want to survey the planet from above and find out if the others picked the best spot for the repelatrons.” He reminded them the planet rotated on its side. “Even though I have faith, we only saw a small part before and it looked mostly flat when we spun around a couple weeks ago.”

“What if the best spot on the planet is just mountains?” Slim asked who was currently sitting in as copilot.

“Well,” the inventor began slowly, “that is a possibility I don’t look forward to. If it is that, I suppose we have to get the excavators online fast and have them start to dig out a plateau for us; Maybe even a couple of them depending on how soft the native soil is.” He stopped a moment. “Boy I sure hope that isn’t the case. It would put us behind schedule. Not disastrously, but I had hoped we’d get things running early.”

* * * * *

“So, why’d we take a roller-coaster over them Ass-te-roids?” Chow asked Red Jones they approached Wanderer. Even at the distance the rocky objects passed “under” the ship, the sight of them on the monitors had affected the Texan quite a bit. He also asked about why they had begun to move downward on the screens.

“Well, Chow, what with Wanderer still higher than the orbits of the planets, we needed to end up millions of miles above that plane, and by plane I mean—”

“Yeah. I understand all that. Like a big disc ‘round which all the planets move. Go on.”

Inwardly, Red grinned. “Fine. Since we needed to end up above things, it made sense to go high.”

“Okay... I got it. So, when do the others get out here?”

“For the unmanned saucers and *Challenger*, they come in to land in three days. As for the *Goliath*, that can’t slow down as fast as we can and still have things safe inside for the crew. The skipper figured out they need to use Saturn to swing around so we will then head down to a more normal level and safe speed.”

“Will it add a lot ‘o time ta the trip fer Tom an’ Buddy?”

“Not too much. Perhaps eighteen hours in total. A sort of safety margin, that’s all.”

It had satisfied the chef and he ambled back toward his kitchen space a minute later.

In the *Goliath*, one of the newbies to space travel, a technician named Cameron Light, asked about their flight over the asteroids.

“Couldn’t we have just traveled through them, Tom?”

“If we tried that we would have been faced with two options, Cam. Our first choice would have been to slow down so much that it would have required a full week or slightly more to get through, and even then the automatic systems of our saucers would have to have been manned at all times.”

“Oh. Lots of weaving and dodging, I guess. That wouldn’t have been too good for the *Goliath*, then. Would it?”

“No. Even if time were on our side, I would not have done it for the other main reason. Too many of the asteroids are very dark, having little reflectivity, so the RADAR and all sensors would have been working overtime, along with the crew, to keep us from coming too close to anything. In the end, we had to do it this way.”

“I suppose I have a lot to learn about space, skipper. So, I’ll sit back and enjoy wherever the ride takes us and get ready for the

assembly work on Wanderer.”

He left Tom right after that to go to his room to study some of the spec documents.

As the ship began its slow down, they passed within twenty million miles of Jupiter’s orbit. The planet was still a hundred million miles back in its orbit but was still quite a sight.

Jupiter was the largest planet and fifth from the sun, yet it still appeared relatively small in the vast distance, shining almost as if it were a small star.

An hour later Bud and Tom were sitting having a snack and watching on the monitor to the side of the kitchen.

Trying to sound like Chow, Bud stated, “Now, that thar’s a sight ta rival anythin’ even big, old Texas has ta offer, Buddy boy. Gives me the shivers thinkin’ how huge that is!” The flyer closed his eyes as if he expected to get a swat from his friend.

Tom surprised him when he gently said. “You’ve proven what a tough old galoot you are and can be proud, old-timer.”

The two men laughed but it was plain to them they were both thinking of the westerner and his heart attack and general health. As gung-ho as Chow was, he sometimes over did it.

Over in the common area, two new men were asking Mike Jayston, their communications expert, why they weren’t heading straight at Saturn. Or, even to Wanderer.

“It’s like this. Space travel is not like shooting a gun at a stationary target, unless you are leading a flying one. Since the planets are all in motion you need to aim for where your target planet will be when you arrive and not where it was when you left Earth. Or even where it is this minute. With three days to go, Saturn—our swing-around spot—will travel about three-point-three million miles in its orbit around the sun by the time we get there, so that is the spot Tom has us heading for.”

“Ohhh,” the two men chorused.

“As for going to Wanderer, the skipper wants us to have as much non-acceleration or deceleration time as possible and still get there quickly. He figures Saturn will give us the correct speed and slingshot us the right direction, so all we need to do is slow down the final day and get there more than a full day sooner than if we tried going straight to our target.” He looked at them and could see they understood what he was talking about.

“Good,” he told them before getting up to use the bathroom. He

had heard from others that often things popped up in space trips to unknown places and was happy to hear that something was going right!

CHAPTER 10 /

“BUT...?”

TOM HAD made thousands of such calculations and had rechecked them all; some back before take-off, and some each time he was allowed to get up from his acceleration couch. Now they were coasting and would make their first swing around the ringed planet in another five hours, every hour he recheck his findings and made a few minute course changes that kept them in perfect alignment.

Almost by the minute Saturn grew bigger and brighter on their monitors.

Chow was standing near the monitor by his kitchen of the *TranSpace Dart* staring at the wide screen. He stared at the giant planet. Soon, he felt more than saw Hank coming up to him.

“So, do you think we will ever land on Jupiter? She’s a right perty planet, even at this distance.”

The engineer smiled. “I think not, Chow. Tom told me there are just too many unknowns and possibly no solid place to land much less step out on. Sort of like the trip to Neptune that is mostly liquid. Anyway, the winds would make a Texas twister seem like a gentle breeze! But, maybe one of her moons.” He thought about Damon Swift’s Jupiter Skimmer that had gone to the gas giant a couple years earlier, skimmed just hundreds of feet above the semi-solid surface and brought back incredible samples. Nothing in them pointed at a solid spot to land anything.

Hank grinned. “Chow on Earth, you weigh in at something like two-twenty or so. On Jupiter you’d be five hundred seventy pounds or more. That would be a heavy load to carry around even for you.”

“You razzing me, or is that true?”

He nodded. “It’s true, Chow. On a giant planet, even one made up of gases, the gravity would be stronger than on Earth. And, Jupiter would be a lot more than, say, Saturn because it is more dense and larger. Of course I’m figuring those figures off the top of my head. What do you weigh these days?”

“Two-twenty,” the Texan said flatly. “Good guess. Ya ought ta go into the carnival weight-guessin’ business!”

“Okay. Maybe as a fall back career. If you could get a horse out here, it would be two-tons-and-a-half, easily. You’d both sink out of sight in a second!”

“As Buddy Boy says, Jetz!” The older man shivered. “But, since we ain’t stoppin’ at neither Saturn or Jupiter, what about this Wanderer place?”

“According to what the Observatory was able to tell us and based on a few measurements Tom was able to take when he circled around it, my guess is about ten pounds less as on Earth. It is slightly smaller and looks to be about the same density as back home. But there is apparently no atmosphere so we will have to wear spacesuits as if we were on the Moon. Don’t worry about their extra weight. The ones we’ve brought along are a new design. Each one weighs only about fifteen pounds and you’ll be wearing your regular clothes and a jacket underneath them because they are clear. The suits and their breathing apparatus is a little like the hydrolung suits. Just with these suits you wear a pair of small cylinders on your back that includes your breathing gases and some spare oxygen. The suits recirculate the air so you don’t have to change tanks except every twelve hours or so.”

Jupiter grew smaller as Saturn grew larger until Tom announced they were moments from making the final slowdown to go into their first orbit.

“We’ll remain outside of the rings but I think we’ll pass by at least two of them by less than the distance to the Moon back home. Be ready for some impressive sights!”

Tom and Bud took the two command seats for the maneuver leaving everyone else a chance to stand and stare.

Bud called down and suggested everyone get into their acceleration couches for the maneuver. They all scooted down to the lower level and complied.

“Do we need to make any adjustment in our positioning for the repelatron burn?” the copilot inquired.

Tom looked over the instruments and made a decision. “A very slight one, flyboy. Go ahead and point the big ‘tron three degrees left of original position and give me a one-second burst at half power.”

The flyer set things up, looked over his panel and announced readiness.

“...and do it... now!”

A slight shock ran through the ship as the repelatron beam reached out and pressed against the moon Dione, likely to be the second largest and a very dense object. It took the press from the big repelatron without moving but the *Goliath* changed course almost

imperceptibly.

Tom looked at the results and smiled. “Spot on, Bud.”

For now, the inventor told himself, something is going absolutely right with no surprises.

He would be proven slightly over-optimistic but not for more than five weeks.

On their third—not the originally planned second—orbit, the big repelatron at the back of *Goliath* fired off a three-second burst pushing against Triton, largest of the moons. Three seconds later it pushed again, this time against both the planet of Saturn as well as another of its moons, Dione, that had obliged them by coming back around and being in the right position just at the horizon of the large planet.

Moments later Tom announced they had broken free of Saturn’s gravity.

“The best news is we didn’t have to punch any holes in the rings because everything was in such great alignment. So, everyone, we are now officially pointing for approach and a landing on Wanderer. We’ll take one final slow down push from Jupiter in about... oh... nineteen hours and then coast for another twelve before we need to get back in the couches for an orbital insertion slowdown burn. Enjoy the freedom while it lasts.”

About the time they got to within one million miles of their target, Bud looked at Wanderer on the big screen and asked Tom if there might be some sort of atmosphere.

“Why”

“Because I am seeing some blue down there. That usually means water and that would say there is air.”

Tom shook his head. “Not this time. That is some sort of mineral deposit spread out over what might have once been an ocean.”

“Oh. I thought it would be something like that.”

The two men spent the final two hours before going into orbit around their target in the control room discussing the mission ahead of them all.

“So, professor. How do we get around and all over Wanderer? And, how do we get the repelatrons and excavators to the surface and in position?”

Tom reminded his friend the *Dart* brought along four of the

largest Straddlers with them as well as three of the smallest model. Originally built for the Moon and to replace the less stable repelatron donkeys, the smaller repelatron powered aircycles could operate in any gravity situation up to 1.3 Earth gravities, carry two men—three in a pinch—at speeds approaching two hundred miles per hour.

The best thing about the large model was they also included a powerful Attractatron in the nose allowing the pilot to grab hold of nearly anything and to lift it—always depending on the gravity they encountered and the overall mass of the object.

These were definitely not as powerful as Tom's Attractatron Mules—the orbiting machinery keeping the areas around Mars, the Moon and the Earth clear of incoming objects—but they would do the job on Wanderer.

“We'll need them to get around between the units and I also want to be able to do some exploring once we get things set up and running. That's why the smaller ones. After all, Dad and I agree we need to stay around for a minimum of a couple days once the last ones are activated until we are assured things are okay, and Wanderer is behaving.”

Bud nodded. “Right. And, moving enough to do the sort of good we're up here to do.”

“Uh-huh. So, I figured since we are going to need to keep at least one of the saucers on the ground as a resting spot and the *Dart* will be going back with *Goliath* to pick up the rest of the equipment, we have to have something to get us around.”

“I'd ask why not the six-man ones, but I have a feeling they are too big and will be needed pretty constantly for all the moving of the repelatrons and such, huh?”

“Yes, they are.” Tom looked at his friend as he mentioned, “We will need to load the larger ones back on *Goliath* before she leaves for home the final time. She'll leave before the rest of us do along with the *Challenger* and first saucer.”

Bud's forehead scrunched a little as he thought over the matter. Finally, he asked, “So, if we have trouble with any of the Straddlers do we leave that one behind? Aw, forget that. What about our using the smaller ones?”

The inventor shook his head. “Not sure if they are going to be a lot of use during set-up, although maybe for you or me to ride out to see each unit. I was actually thinking how nice it would be for you and me and maybe even Chow to ride the Straddlers and see what's

around our repelatron plantation... within a couple thousand miles or so. Dad wants us to get some samples and videos of this planet. I figure it'll give Chow a real thrill to be back on the open range."

"Yeah, and not like the sort of wide open cooking range on the cover of his latest cook book."

They both chuckled at that.

After making another series of checks and calculations, Tom adjusted their directional position and then set the huge lifting ship in a 180-degree pivot so their repelatron was in the proper position.

As they came closer to Wanderer Tom got in contact with the *Dart* to get a status check.

"Well, we have good news but... we also have some not good news, skipper," Red reported. "The good news is we got here in one piece and set down in the spot that looked to be the best. The not-so-good news is it did not hold our weight so Hank decided we needed to come back up and try again."

"But, you are still in orbit I see."

A sigh came over the radio. "Yeah, we are. We set down in five spots and had the same results. Now, there is nothing like pockets under the ground, it is just the regolith down there is deep enough it will cover the bottom of the ship and none of us want to be in a situation where it sort of settles down and sinks a bit. We were waiting for you to come check things out."

Inwardly, Tom also sighed. His thoughts went to the old saying, "The best laid plans of mice and men..."

Finally, he cleared his throat and responded, "Okay. We'll be in orbit in a few hours. I may have a plan but it will add to our time before getting anything working. The good part is the looser soil there may make it easier to feed the repelatrons. I'll report back when we are half an hour from orbit."

When he did, Tom had a thought about how to handle both the locating of the proper site as well as how to offload equipment without any danger to the larger of the ships.

He felt that if the *Dart*, with its wide yet relatively thin fins had troubles, the ship's landing pads—about eighteen-inches across—of *Goliath* were certain to sink. How much? He really did not wish to know.

"So, my idea is that we park the ships that are going to sink at the lowest orbit we can, then use both the saucers as well as the large

Straddlers to haul things down. If we properly scout and mark the sites, it can be done in single rather than staged flights. What does everyone think?" he asked after he and Bud transferred over to the *Dart*.

All around him were faces of men pondering what this would mean, but all of them quickly came to the realization that this could be done.

"I figure it will take us days rather than hours to do the unloading, but the setup time per installation will be about halved. The net result is the nearly three days we are ahead of the original schedule I set out, will become two days late. Still and all, we can do this and make the difference we need to!"

He brought up a new schedule for work describing how each shift of workers—just two of them—would be working nine hour periods at first—for about one-and-a-half Earth days—but these would reduce to six-hour ones as soon as *Goliath* was unloaded.

"Bud is going to take on overall command of the action while I study and compute just what the time difference is going to mean. I am really hoping that we only have to run the repelatron for a day or so extra to make up for this unforeseen delay."

Hank smiled and raised a hand.

"Yes?"

"I suppose as there is no atmosphere we can head down a lot faster than we would be able to back home."

"That's right, but because of the mass each Straddler is going to carry on its nose, I'd like to keep it fairly slow so nothing breaks free."

"Gotcha, skipper. I'll let you and Bud set the pace."

With the total of five ships in orbit and within an area of five miles, Tom suggested a seven-hour rest period while the first team began unstrapping and hauling things down from the deck of *Goliath*.

"I have the feeling we can set the saucers down. Lots of surface area and pretty light so they ought to stay right on the surface. In fact, now I think about it, everyone except for Bud can stand down for a couple hours while we take one saucer down and scout out the favored locations."

He and Bud arranged for one of the saucers to approach to within fifty meters before they used maneuvering backpacks and headed over.

The best and safest way in was through one of the lowered triad

of landing gear. Inside leg one's bay was the entrance to the airlock.

In minutes, their backpacks now taken off and sitting between some of the power pods, Tom told the ship to give him full voice control.

"Also, bring up two seats near area center but not if there is anything they will touch."

Two seats were available for them thirty seconds later.

As Tom took them out of orbit, Bud had three of the forward screens (relative to their seats as a circular ship capable of travel in any direction had no true front) lowered and displaying their direction of travel.

As they came down from their current orbit point, Tom told his friend they needed to make about two-thirds of an orbit to get to the first location,

"We will keep a good eye out for alternates."

Both men were a little surprised at how few mountains or any elevation more than possibly a few thousand feet could be seen.

As the saucer got lower, Tom directed them toward what appeared to be a plateau some one hundred meters above the surrounding ground.

"Is that wide enough?" Bud asked.

Tom shook his head. Not by itself, and I really don't want to spread out our installation too far, so let's mark that in the computer and move on. We really need about eight or nine times that area."

On they moved at a speed capable of getting them to the first suggested area in thirty minutes.

Twice more they spotted flat(ish) areas that might be candidates. One was almost as large as Tom wanted, but it had a big problem.

"There is not enough area around where the repelatron's need to be mounted that would be near the perimeter, flyboy. No area to dig up and no repelatron!"

"Nuts!" Bud exclaimed. "I guess we just head on to point alpha or whatever we're calling it!"

Tom agreed and picked up their speed getting to the primary location in eighteen more minutes.

He brought the ship to a halt at an altitude of one mile and let the computers do a fast RADAR survey. It came out to be sufficient by greater than a twenty percent oversize.

"I suggest we check the next one and compare the results. One of

these is going to be our main target, Bud.”

It would turn out their first target area was a better choice. Location two was on a gentle slope and that would mean more energy expended by the excavators heading up, making their power pods require about ten hours in each thirty to recover enough to continue the mission.

Tom knew that was not going to work.

“It’s location number one, Bud. Let’s go back up and tell the others.”

CHAPTER 11 /

THE WANDERER VISIT (#1)

“I INTEND to get the *TranSpace Dart* down to within ten miles of the surface of Wanderer,” Tom announced. It was one of the best ways he could think to compress the offloading time and gain some of the time back that otherwise might be lost. First the *Dart*, then *Goliath* would make the powered hover.

But, before that, the saucers would go down and unload followed by the *Challenger*. Then, one saucer and the cube-in-rails ship would head as fast as they could fly back home for another load.

The other saucer would remain in case it was required.

“We want to be finished with this first part before the planet drops down through the planetary plane,” Tom announced. “The landing location is to be right in the middle of the projected field you can all see on the monitor.” He pointed to the screen and all the men nodded. We only have four days to set up the first set of repelatron rigs before the planet crosses the solar system plane and we have to get the first units running.”

He grinned at the assemblage. “We can do this, you all know. Right?”

Statements of, “Yeah, “Sure,” and “Damn right!” echoed through the room.

“Skipper? Once we get this first batch running, do we need to stick around?” This came from one of the new technicians.

“No. We all go home for the second load. *Goliath* will launch as soon as things are activated and we have one hour of good run time.

“We head back as quickly as possible and, while the *TranSpace Dart* is holding station in orbit—with the black hole attached—we get *Goliath* loaded and bring up what we can fit on the *Dart*, then she takes off coming back here while we fully load *Goliath* and the *Challenger* for their unmanned trips back. All crew will be crammed into the *Dart* so we get here faster than the others and will be immediately ready for their arrival.”

Bud held up a hand. “How soon after that does *Goliath* arrive?”

Tom nodded. “Well, it should arrive fifty-three hours later and go into orbit. I have a little thing Dad is working on to help us.”

Tom described a portable landing pad made of semi-stiff Durastress panels that would be attached on one of the fins of the

Dart. Once on the ground it would be wrestled and unfolded into a support *Goliath* could safely land on without the danger of sinking.

“We both figure that a pad just five feet wider than each of the landing legs will support the ships long enough to safely unload them. And, with that, all I have to say is we now get to offloading this first batch!”

A small cheer went up through the men. They were ready to go.

He could spot the concern in Doc Simpson’s face, so he decided it was necessary to address that. They were having a video conference one hour after they had reached orbit; this capability was something Tom had discovered the Space Friends’ radio units could support.

“I realize we are in for some possible cases of exhaustion, and that is why after the first two work periods, we will take six hours off. I have calculated most things and believe we still can get the repelatrns we have so far up and running in time, and in the numbers required, before the deadline to make a real difference hits.”

Doc nodded. “Okay. Just make certain your people actually do rest. No video games and no horsing around. Sleep if possible and good nourishment. You follow that and I’ll support the around-the-clock work with whomever might challenge that.”

When he got off the conference, Tom sought out Hank.

“I’d like you to take the first group out. Bud will take the others and your teams will overlap by about fifteen minutes so we can just keep moving things. Do you have the placement map in your L’il Idiot?”

Hank said that he did and had studied it extensively during the previous hour.

“I think we can have everything from the *Dart* down on the ground in about three hours and then come back and get a good start on *Goliath*. I’d like to suggest one Straddler team concentrate on the *Challenger* and the saucer.”

“Great idea.”

Balancing on its tail, and using the miniature black hole to hold it steady while the repelatrns in the tail held the weight, Hank’s team suited up with full maneuvering backpacks. Even the men who would be piloting the Straddlers wore one in case they needed to fly away from their “mount.”

With the engineer floating some hundred feet off the bottom of

the tail, Art Willessa moved his Straddler into position away from tail fin number 3. There were all alike but Tom knew if there was a problem in any fin or with any piece of equipment it would be faster for people to think of the fins as numbered clockwise from the one holding the elevator.

“Stand by for me to get the right grip,” Art radioed.

“Umm, Art? Knowing how those repelatron discs and electronics are balanced, might I suggest taking hold about fifteen percent above the center line?”

Art’s laugh could be heard by all. “Absolutely, Hank. In fact, once I ease things away, can you check your load computer and tell me if I need any adjustment?”

“Of course, Art. My plan all along. Go ahead and release the mounting clip, Tom. Art has the first package in hand.”

Inside the control room Tom pressed the spot on his auxiliary monitor that released the five-point mounting spot on Fin 3.

“She is loose,” he reported to the men outside.

“And, I have full control of the package,” Art reported.

“I’d like another Straddler to accompany Art down for this first piece just in case there are any unexpected things, like a loss of the Attractatron,” Tom requested.

Cameron, the tech, who was on the next flying machine over from Hank raised a hand and the engineer radioed him to go ahead and fly in formation with Art. “Stay with your nose pointing in the right direction and maybe twenty feet off, Cam.”

“Roger.”

As the two Straddlers with the first of the repelatron dishes—plus the bulky electronics package attached to the underside—began to slide down and away, Tom sat in the control room, worrying.

The planet was heading inexorably toward the sun, but all signs pointed to it missing the Earth along the way, and that was not all good news! Indeed, if this mission was not a solid success, the likelihood of a Jupiter or even a Saturn encounter would spell possible doom or damage to the Earth.

All this was known to the inventor and it all continued to bother him.

He monitored the pair of Straddlers as they headed farther and farther down until Art reported they were just a thousand meters above the moderately wide plain that was their destination.

“Uh, shipper? I forgot to ask if these just need to be set at the center while the survey team comes down or do you have some sort

of spacing mind?”

“My thought is to place what we have as close to dead center—which I see you are within about a hundred feet of, so that is fine for now—and then we load the survey team in the saucer that has their equipment and send them down. Your load is the proof we can do this from this altitude. So, drop it off and come back up.”

Three minutes later the first delivery was made and both men and their rides were heading back up.

As they stepped out from the airlock and into the common area, Tom met them.

“So, how was it?”

Both men grinned and Art replied for them both, “It is an amazing sensation to be plunging down toward the surface with zero friction from an atmosphere. Sort of spooky, but very fun. I think we both had to keep our sightseeing in check to get that dish down, but it goes down smoothly and there is little reason to double up on the Straddlers.”

Cameron nodded. “Yeah. Both on the view and the ability for one Straddler to handle a load; at least the size, weight and balance of a repelatron dish.”

Tom nodded. “Exactly what I’d hoped. Now, when it comes to the excavators, we are going to triple up to distribute the weight. We’ll slave two of the Straddlers to the first one so there is no balance issue. Go on and take a break while Bud finished getting the saucer down and the surveying work underway. We all ought to be able to start up with the next drop in about two hours.”

Flying down in the saucer, Bud and his three-man surveying crew were approaching the surface.

“Well, from up here it looks pretty good and flat,” he said to the others. I guess we’ll see.”

He concentrated on landing them in what the computer had determined to be the center of the eighteen-mile-wide plain. With an average spacing for the repelatrons of 9,200 feet or about one-point-seven miles, the array of sixty-four would cover nearly three-quarters of the open space allowing for a good margin around the outer units for the excavators to have a lot of materials to dig up.

The saucer settled to the surface where Bud told his crew they were going to sit for five minutes. “Then, we get out and check for settling. If we aren’t sinking—and Tom believes we are safe from much of that—we do the survey thing.”

As they waited, each man checked his equipment and computer. All was in fine working order so by the time Bud climbed out of the airlock and down the short steps to the surface, he felt confident the work would go quickly and smoothly.

The wide pads—which also housed the trio of repeltrons to power the ship—had indented no more than about a quarter inch. Bud got on the radio.

“Tom? We’re on pretty solid ground. Barely a dent. We’re going to proceed with the mapping and marking!”

“Great, Bud. How far away from the first drop are you?”

“Well, without a laser measure in hand, I’d say about ninety feet. Why?”

“Because that is close enough to call it dead center. Make your measurements from that point. I’m sending down the first bundle of anchors and two men to start installing them once you get the next four places marked.”

It was an easy yet very manual process. Bud stood with the center marker, a special laser measurement and radio signal device. The other three then took off in three directions, ninety degrees from one another. As they walked, their radio receivers responded to the precise signals from the central unit to keep them walking in straight lines. Get off it and the solid tone began beeping higher if they wandered to their left and lower if to the right.

The laser measurement reflected off small panels on their backs.

When the central unit determined they were near the correct next spot, they received an automated command to slow and then stop. That was the place where their first markers went in. A quick blow with their hammers and the signal stakes not only went into the ground, they activated and began sending their position data every sixty-seconds.

“Great work, guys,” Bud complimented them twenty minutes after they began. “Now, everyone turn ninety degrees to your right and we’ll go set the next group.”

The process was primarily the same only the guidance program had to be adjusted for this new movement on their part.

Art, who was now beginning to walk toward what would be the planet’s north, asked, “Can you remind me, or us, why we didn’t bring another person so we could do all four directions at once, Bud?”

The flyer chuckled. “Well, according to Tom, Duanne will eventually make the turn, and a little extra walking, that completes the box. An extra man would have to take a much different path

than you three. Anyway, it all comes out to be fine in the end. Uhh, I'd say we get these next markers, that will be seven in all with this center one, and have you each come back for a break. I'll radio Tom to see if he wants to wait on bringing down more equipment and getting started. I know he's got someone coming down with a Straddler and a nose load of our self-seating anchors in a half hour."

The three outer men continued on their new tracks, making minor adjustment on the way. Duanne had to maneuver around a single rather tall rock in his way but was soon back on his exact track.

The three opted for one more placement walk before returning for a rest.

Now, between them, they had a full ten anchor spots marked with each one broadcasting its position so they could be homed in on easily.

With the arrival of the first ten anchors, that two-man crew began placing the self-drilling tips into the soil at the appropriate spots, activating the anchors, and then watching as they self-balanced and drilled into the semi-hard soil. Nine feet down of the twelve they would travel, each found more rocky soil and that helped solidify their positions. As each halted, a series of horizontal angles pushed out setting the anchor in place.

It would take much more than the pressures created by the repelatron to move the anchors; the best part was, when desired, the process could easily be reversed and the anchors removed to be used again.

As the second shift was brought down by Bud, his team were just completing their nineteenth placements. It had been decided to bring the next group down and then for Bud to fly to drop off each new man while picking up his team.

"Pretty certain the next team can get at least eighteen and possibly twenty-one spots marked," he told Tom as they spoke briefly before the saucer headed back down.

Tom had a decision to make. He could either devote his teams for another full double shift to the pacing off and marking of each location, or he could give them a rest break and then start ferrying down, setting up and testing each repelatron. He decided a bit of parental guidance would not go amiss.

After describing things to his father, he asked a simple question. "What would you do?"

Back at Enterprises, Damon was grinning. In his mind he knew Tom had overcome a great obstacle with the landing issues for the

larger ships, and was currently back ahead of schedule.

“I’d give everybody a rest and then go back and install what equipment you have. Get the excavators running to dig up and park enough materials to feed the repelatrns for a couple days as each one is readied to go. But first, get *Goliath* unloaded and on her way back. Jake has enough of the set-ups to cover her deck and is even creating a second story platform so you can get a double load out there. It won’t be everything, but it will bring you up to seventy percent of what all you eventually need.”

Tom thanked his father before being switched to speak with his wife.

Bashalli had many good things to tell him including how Bart had succeeded so much at school, they wanted to move him forward two grade levels and also engage a special teacher to challenge him with more advanced studies than the grade school was able to provide.

“Mary is Mary and has started playing with Anne as if the baby were her personal doll. She even asked me to show her how to change diapers. That stopped,” she giggled, “on her seeing the first full one. Well, at least she shows an interest.”

Tom told her he would be traveling back with the *TranSpace Dart*, but it would only be a one-day visit.

“My darling Tom, I will take what I can get!”

That evening, as half the crew ate in the dining area of *Goliath*, Chow approached his young boss.

“So, mind if this old cowpoke asks ya somethin’, Tom?”

“Ask away, Chow.”

“Okie-doke. So, how did the other ships get out here all on their own and how will ships like this *Goliath* git back in one piece? We’re gettin’ kinda close ta the ass-tee-roids an’ I know how we had ta come in over ‘em.”

“Remember all the electronic stuff you saw out on the workbench back at Enterprises?” Chow nodded. “You’ve been up in my flying saucers several times, right?” Chow nodded again. “So, that particular ship has been where I have worked out any kinks in a good auto-piloting computer and program. Bud was assisting me that last week before we all took off building and testing a final circuit board along with a special 3D headset. I have been able to make the saucers, or ships like *Goliath*, totally remote controlled with the pilot comfortable in a special chair any place in the world and the actual ship flying though air and space. It will feel like he or

she is right inside the saucer.”

The cook looked like he was pondering something. He finally asked, “Jest how’ll that pilot know what’s going and an’ what ta do?”

“Firstly, the pilot won’t have to be on duty all the time. Maybe just fifteen minutes two or three times a day. They will be back on the *Space Queen* since she has the line of sight we need. As for how they’ll know what is right to do, I intend to impart just a little inertial tilting to their seat to give the pilot a feel for cornering and that sort of thing. They’ll feel like they are there and through the headset they will see everything a live pilot would if they were in that ship.”

Chow scratched his bald head. Earlier, as he served, he had set his cowboy hat to one side.

“Okay. I know about that remote controllin’ o’ things like bitty airplane models, but you say yer tryin’ ta get it so anybody can jest sit in a chair in some office or even at home and fly that saucer thing o’ yers?”

Tom nodded and said, “Precisely. The military has been flying recon and even fighter/bomber drones for decades, but recently have had troubles with hackers. I had to come up with a totally unbreakable security system so only the authorized flyer can have and keep control, but you’ve got the gist of it.”

The cook picked up his hat and fanned his face with it. It wasn’t that he was hot, it was just one of Chow’s things to do while he pondered over something.

He suddenly brightened. “So, what if’n ya made a small robot with a camera and all that, and sent it up to the Outpost. Could ya remote control and use that ta talk ta anyone up there an’ then have the little feller climb back in and fly off?”

“Well,” Tom started slowly as he thought it over, “that’s not exactly what I have been thinking, but it is something I am going to make a note of to investigate.” He made a quick note to see if that was something to add to his work crew for Wanderer.

“The skipper could make it all roly-poly like you used to be and call it a Chow-Bot,” Bud stated, straight-faced.

Chow smiled. “I’d be right honored if ya did that, Tom. But, make the little feller slimmer like I am these days if you please. Well, you need to get back ta the food. I warmed some apple pie and it’ll be cold afore ya get to it if we gab any more.”

“Can I ask a question?” Bud inquired.

“When do I say no?”

“Right. Good. So, we go back in the *Dart* so we’re fast and no acceleration couches, and we’re there for the reload of *Goliath* when she arrives, so why are we only staying a couple days? I thought there’d be five, maybe six days back home.”

Tom shook his head. “First, *Goliath* heads back a day before we leave here. Then, at her top speed she can make it back pretty quickly. We get home maybe fifteen hours before she does what with having to carefully park the black hole at the Lagrange point closer to the moon. Then we de-orbit, land at Enterprises and are there overnight.

“A team will refit her, resupply what we need, and attach a couple more Straddlers to the fins.”

The flyer’s face frowned. “Uh, how do they all get back home? I thought you could only fit one per fin— Oh, wait. They come back on *Goliath*, right?”

The inventor smiled and patted his friend on the shoulder before rising to head for his small room.

Sitting in his cabin, Tom stared at the image of the mystery planet below them. In his heart he knew Wanderer was heading inexorably toward the sun, and all signs pointed to it not encountering the Earth along the way; the same might not be said about Jupiter... and not in a good way!

He felt a chill run down his spine.

CHAPTER 12 /

TOM SWIFT AND THE PLANET OF DOOM!

TWO DAYS after they had started, and with all hands nearing the exhaustion point where—Tom knew—Doc would have mandated a halt for a minimum of twenty-four hours, the initial setups of repelatrions, excavators and the associated feeders were well underway. In fact, only two units were still to be assembled and installed.

Hour after hour the teams had worked getting the anchors drilled in, and taking advantage of their progress to continue on to survey point and install enough for half the remaining units, the second team then began setting up the first of the repelatrions.

Tom, Bud and Hank had decided to not mention that they were a few hours ahead of schedule while there was work left to be done. It might only serve to cause a slowdown in the pace. That was a natural human tendency; fill in the allowed time.

It was still going to be a race to finish before Wanderer would feel the push from the assembly of repelatrions and hopefully be moved such that it passed the giant planet, Jupiter, followed by a wide berth with Saturn and ended with the possibility of saving the Earth from destruction.

As things turned out, it was a good thing to have some extra time. One of the power pods developed an intermittent electrical fault and it took Tom three hours just to trace the problem to the mechanism that steadfastly refused to lower the rods deep enough into the gel to create ample power. In the end he had to unpack the spare unit and take that power pod out and hook it up to unit number 9.

Five hours were lost on all of that, but the others kept up their installation work and before the third full day had passed all the units brought up had been set up, tested and provided a fill of their hoppers by the pair of excavators and given a one-minute test run of the outer units.

Tom had everyone get into the saucer ship and took off for low orbit well out of the line of fire for the repelatrions while the test was going on. Before landing he did a small triangulation of the position of the planet and detected no shift in its position or trajectory.

He hadn't expected there to be measurable results but had hoped, in the back of his mind, that something might be registered.

The important thing was everything worked. Tom did need to

spend six hours working out a few bugs in the software allowing the excavator units to be fully autonomous and to deliver materials to each hopper in time for continuous operation, but he succeeded. A test of the pair of them now on the surface showed them to be capable of checking in with each repelatron, deciding which one or ones required some additional feeding of raw materials, and accomplishing that dig, crush, haul and dump.

In the *TransSpace Dart*, which had been raised—like the *Goliath*—into a normal orbit of about one hundred miles, Tom dropped into his seat in the lower living area, mentally exhausted. He knew the others were as well and so when the time came that everything was complete, and all had been ferried up in the saucer, he called for another rest period. This time for just six hours.

“I only am giving us that time while I get *Goliath* ready to head back to Earth. It would appear a little elf of some sort already prepped *Challenger* for the trip, so we are sending her back starting in fifteen minutes.” He glanced at Hank who had the decency to look away to inspect one of the walls. The inventor grinned.

While *Goliath* was being prepped for flight, Tom decided that an aerial survey of the grid might be in order and so he and Bud headed off planet in the remaining saucer. With the ability to hover, the saucer spaceship was an excellent way to view their handiwork.

“I’m only detecting one of the units off by even a yard, Bud,” he announced on checking the readouts.

“Which one?”

“Number two in row two as counted from the north line. It is about one-point-three yards off perfect placement.”

“Oh. Is that bad?” Bud asked.

Tom had to laugh. “Not at all, Bud. Not at all. All calculations show that we had about fifty-three feet of leeway on each and every placement. I’d say plus or minus two percent is exceptional!”

Tom and Bud high five'd each other.

As they headed back to the others, Bud said, “Tom, I was beginning to think we would never finish this first part in time.”

“You know something, Bud? Deep in my heart I knew we could do this, but between you and me I won’t be happy until we set things off, give this planet a complete shove out of our harm’s way, and can get home. I don’t even care if it’s to a hero’s welcome or just a hug and kiss from Bash. As long as we make this happen, I will be satisfied.”

Bud smiled and nodded. “Me, too. Except for the Bash kissing me part. I’ll take Sandy’s luscious lips on mine any day of the week.”

“Any night as well?” Tom asked with a raised eyebrow.

Bud had the decency to blush mightily.

Once the second ship launched Tom did announce a twelve-hour halt before any testing of the entire first field was attempted. This would give both of the auto-piloting ships a chance to get far enough away so they would not be inconvenienced.

“We find ourselves with a little spare time, men. I want to thank each and every one of you and to let you know that at the end of this break we will be preparing to set off our array one unit at a time and increasing to full power until we are satisfied everything is running smoothly. Then I will triple check the positioning and aiming, and make necessary changes, of course, before we set the entire array into action. From that point it is back to Earth for a reload and then we will get back out here to find the other ships will be in orbit.”

“Once we get the entire repelatron farm, as Bud has been calling it, installed and running,” Zimby Cox asked, “then is it a set and forget sort of thing?”

Tom shook his head. “No. While a lot of us can head for home at that time, a small group of us, including me, will remain behind for at least two days. I also believe we will all take off before we set the farm into action and watch from the safety of orbit for a day or so. Then I hope those who will stay can come back down and do two things. Rest some more and explore this planet.

“I know you all want to go home as soon as possible so time on the planet for the remaining team will be kept to under two days. Also, I hope you all realize that during that time Wanderer will be moving closer to Earth’s orbit—no longer on any collision course with anything in our solar system if things work right—and that will shorten our eventual trip home by half that number of days.”

“Do we set these first units on high before we leave?”

The inventor shook his head. “Nope. We will head out and send back a signal to turn things of once we are a million miles away and while the *Dart* is traveling relatively slowly.”

The first set of repelatrons were anchored in their grid pattern, and once the first test finished the crew personally checked the stability of each unit. All was in perfect order. Each installation contained a small, specialty computer—one of Tom’s L’il Idiot line of microcomputers—about the size of a box of stick matches, that controlled a powered swivel mount on the repelatron dish. Aim and adjustment at a single designated point over the duration of the repelatron firing was mandatory and would need to adjust minute

by minute.

It also worked in conjunction with all the other computers to communicate between them and the suitcase-sized master computer Tom had already set up in a protective tent close to the southern edge of the area. That, in turn connected to a small antenna that followed the sun around the sky on each planetary rotation. With a slow rotation of slightly more than sixty hours, it did not need to move quickly.

The last of the current team took off fifteen hours behind the *Goliath* and would pass her about half the way back to Earth and *Challenger* an hour later.

Once the *Dart* was about a million miles straight ahead of Wanderer, Tom pressed the **ACTIVATE** switch. The master computer performed a check, with each placement reporting in full readiness, and then it fired off the array.

From their vantage point, the crew watched as minute streams of particles, looking to them like motes of dust reflecting the sunlight, came shooting out and away from the planet. There were not nearly enough of them to make any real difference, but Tom understood the physics.

It was like using a droplet of water on a rock every second or so. It might take hundreds or even thousands of years, but with each new drop more and more of the rock eroded and after a while, the stone would be gone.

It was what he hoped for with Wanderer. Push a little today and by the time the entire field of five dozen emitters were in action, they would be making the planet move away from its trajectory of doom.

He knew they would need to shut down the current units once they returned and this early firing would more than adequately overcome that loss of time and pushing.

The power pods would be sufficient to run the array at full power for up to five straight hours, one hour more than the minimum time Tom's computations said it absolutely must be under full power for each period of pushing. It was followed by a recovery period of about seven hours. This would be repeated four times each Wanderer day. During the extra time the field would not be in a position to make any positive difference.

"When we get back home, do we get the day to relax or do you have other things we all need to do?" asked Bob Jeffers. "I only ask because I could use the day to input my current findings up at the Observatory." He looked hopefully at the inventor.

“I’d say that constitutes a day of non-relaxation, but I also think we are going to get a few days of doing not much or anything on the trip back, so you have the day to do whatever you wish.”

Tom returned to watching Wanderer and taking measurements each hour for as long as they could. Which, at the *TranSpace Dart’s* increasing speed, was just the first six hours. It wasn’t the first time he thought about having a megascope space prober added to the ship’s instruments. Having one would have allowed him to keep watch on the planet for nearly the entire trip.

The bulk of the trip home was spent, by the inventor at least, in communicating with various people and departments at Enterprises and the Construction company. Of course, that was between twice-a-day talks with Bashalli and also some serious father/son discussions about what daddy was doing and not home with Bart!

The ship passed within half a million kilometers of both *Goliath* and *Challenger* and right on schedule. Computer-to-computer checks showed both ships operating a peak performance so Tom opted to let them continue on their own.

“If there’s any doubt, skipper, I’d be happy to go over to one or the other and pilot them back manually,” Hank offered.

Tom smiled. “Not an issue, Hank, but thanks all the same.”

As the ship approached the Moon, Tom decided to go with the standard drop-off of the micro black hole at the Lagrange point before heading back to the Earth.

Once that maneuver was complete, the *TranSpace Dart* plunged back toward the globe below only slowing down as it came to within one hundred miles of the first atmospheric friction. Eleven minutes later it lowered to the ground on a specially reinforced pad at Enterprises.

Waiting for them were a number of family members, but the ones Tom spotted first were Bashalli, Bart and little Mary standing with her brother holding his hand.

Anne would still be at home with Amanda, the nanny. Tom thought, given the time of day, she was likely taking a nap and he would see her when she woke up in an hour or two.

Also in the crowd were Tom’s sister, Sandy Swift-Barclay, and his father.

After giving and receiving both a passionate kiss and several hugs with Bashalli, Tom turned to his father.

Damon was all smiles.

“I am happy to announce that Jake and his people have worked like gangbusters and will have all the remaining units for you in just three days and not the four-plus we all believed. The only thing that will be late is the extra excavator and about a dozen of the power pods. Unfortunately,” and he drew in a deep breath, “somebody down in D.C. got wind of our bringing the special gel out here without giving the Senate a chance to debate the matter to death, and threw a real fit. As of yesterday we have been specifically prohibited from shipping it outside of New Mexico except in fully completed pods.” He looked at his son and rolled his eyes.

“How far behind does that put us?”

“I had the remaining shells shipped out there yesterday morning and they have begun the filling process. Another four days before we get them approved and shipped back.”

Bashalli, who had been hanging onto Tom’s arm while this conversation was going on, asked, “Does that mean you have to stay here for an extra two days? Not that I mind... but...”

Tom turned to her. “As much as I want this all to be finished, the truth is once *Goliath* gets here it will be loaded with the majority of the repelatron units, *Challenger* with all the power pods and the *Dart* with all the smaller bits. So, the basic answer is yes. It does us no real advantage to leave with the *Dart* before the rest of the stuff is on its way. So,” and he turned back to his father, “I believe I’d like to give the entire crew two days off and then we set a take-off date and time.”

“I understand from the telemetry you left the first units running full-time.”

The younger Swift nodded. “Yes. Anything they can give is a plus at this point. I figure they might give us a degree of difference overall.”

Everyone from the mission went home. Even Tom. Bud was gone almost before his shoes hit the tarmac as Sandy grabbed onto him and tugged him toward their car.

“Come on, Mr. Spaceman. Let’s go home and get in some serious cuddling!”

Bashalli had overheard this and she smiled hopefully at Tom. He smiled back, not because he’d heard the comment but because his beautiful wife was smiling at him.

Together the four Swifts headed for the family sedan, and Tom helped get Bart strapped into his booster seat while Bashalli attended to their daughter.

“You know, daddy, I can do that myself!” Bart stated in a very serious tone.

“I *do* know that my brilliant son, but it is state law that an adult must check the security of these straps. How do you think your mother and I would feel if we didn’t do that, and some other car hit us? If you got injured we’d be miserable!”

Bart touched his father’s forearm and nodded. “I know, daddy, but I just want you to know I do know how to do it myself.”

As he slid into the driver’s seat, the inventor glanced at his wife. She was still trying to stifle a giggle at their son’s statement.

The following morning Tom slept in until nearly nine while Bashalli rose at seven-thirty to help get the children up and Bart ready for grade school along with Mary who had made a slightly early start into kindergarten.

When he finally came downstairs, Amanda had taken both of the kids to their respective centers for learning and was back having coffee with Bashalli, both women laughing at what the nanny had just told her.

Turning to Tom, she repeated the story.

“Bart was very silent and introspective on the way to drop Mary off, but once she was inside, he tapped me on the shoulder and told me that you had been gone to move one of the planets into a special place where he and Mary and Anne would be safe. He called you a hero. He’s very proud of his father.”

“As we all are,” Bashalli added standing up to give Tom a hug and kiss. “Breakfast? Oh, and your father agrees with me that you stay home today. Enterprises tomorrow if you wish, but he told me to tell you he has everything in hand and that if you come in to nose around that means you do not trust him!” She raised both eyebrows and tilted her head in a way that told him she would accept no argument.

He held up his hands in mock surrender. “Eggs, over easy and some of those little hash brown cakes you get.”

She shook her head. “Eggs, yes, even if I still have problems getting the over easy part down so I do not break yolks. Pre-formed hash browns, not a yes. I have already shredded some potatoes and they have been rinsed and are ready for the pan. Give me ten minutes.”

“I’ll take the eggs any way they come and the fresh potatoes sound great. I’m going to the office, the home office, and check emails then I’ll be back in here in six or seven minutes,” he

promised.

Amanda looked at him. “I’ve been told it is okay with Bashalli to go drag you back out if you spend too much time. Just so you know.”

Tom grinned and left the room.

There were two emails requiring a return but he left them open and headed back for the kitchen arriving just under the seven-minute mark.

“Two more minutes before I put the eggs in.”

And, four minutes later his plate was set on the table where he picked up his fork and devoured everything, even the two pieces of brown toast she’d also made.

By the time he finished and helped rise the plate and fork and get them into the dishwasher another email had arrived, so when he returned to his desk to answer the first two he noticed it and clicked it open.

As he read the contents, he began shaking his head.

“Oh, dear,” he muttered as he re-read the four sentence note:

Tom Swift!

This is the only warning you will receive.

You are meddling with the laws of Nature and she will wreak her revenge on you and your family.

Be warned and stop what your doing on our friendly, visiting planet.

Or, you will die!

HE PICKED up the phone and dialed Harlan Ames's number. As he waited he forwarded the note to his Security chief.

"Already got it, Tom. Eight minutes ago," Harlan said instead of saying hello or asking who was calling. "One piece of good news is the FBI has given us permission to use their TMID system, pronounced 'timid' by the way, to see if there are any known groups of people that might have sent that."

"What about all the routing code that is hidden in the message?"

Harlan sighed. "People are getting pretty good about spoofing other header info so it is looking like that is a dead end. Anyway, the TMID scans an email or physical letter and checks syntax, spelling and even sentence structure against a huge database. That misuse of 'your' rather than you're might be a giveaway. If they get a match, they go right to the known source."

"Well," Tom said, "if they do get something when will we know?"

"I'm waiting for them to get me an assigned one hour code. You see, there are some groups out there with hackers who try to break into these sorts of systems to erase their own bad materials. So, to combat that, the Bureau changes their access codes frequently and then only for a single user and single use. I ought to have what we need in fewer than five minutes. You go back to enjoying the family and I'll let you know."

With that, Harlan hung up before Tom might ask any more questions. The inventor also hung up.

As he rose, Tom was startled to see Bashalli standing in the doorway looking sad. He reviewed what he had said on the call and could not find anything he'd vocalized to worry her.

"Do not look at me as if you have done anything wrong, Tom," she reassured him. "It is just I have seen that look on your face before and know that it does not mean anything good. Can you tell me?"

She came over to him and sat in his lap placing her arms around his neck and snuggling into his chest.

"Another crackpot sent me a threat, is all it is, Bash. Harlan already had seen it and is on the case, as they say. He said not to worry until he find out more." It was only a small lie but it seemed

to make her feel better.

“Then, we shall have a good day with Anne and when Bart and Mary come home we will have a good afternoon with them. Right?”

He nodded and leaned down to kiss her.

It took Harlan and the FBI the rest of the day to get back to him, but the email turned out to be one written to a very recognizable formula and by an extremist who lived “off the grid” in Arizona.

“The FBI agents who went to his house found him outside and his generator was running. It took a moment for him to decide if he ought to shut that down first; he did not. He evidently tried to run inside and get to his computer but the agents that came in from behind his property beat him to it. In case you are wondering, the email he sent you and about a dozen more he’d sent earlier today were still in his ‘files sent’ folder.”

“So, this was not some organized threat, just a crank?”

“Well, there is someone behind him supplying him money to send these things, but he is the only outgoing source anyone can find. With him in jail this could stop, or it could shift to a new stooge. And, ‘stooge’ is exactly the way they described him.”

When Tom quietly told Bashalli the good news later that evening she teared up and smiled at him.

“I am so glad, Tom. Not just for you but for our children.”

A second call came three minutes later from Harlan.

“Well, it would appear an old acquaintance is behind that little threat email you received. Does the name Jaston York ring any bells?”

Tom thought about it. Somewhere in the back of his mind the name seemed familiar to him. Then, in a flash it came to him. “Wait. Do you mean the man who used to run the Quik Battery Company?”

York had been trying to create a battery to compete with Tom’s own, and already announced, Solar Battery when the inventor was building his Outpost in Space. Quik had sent a single battery up dangling under a helium balloon that had burst as soon as the *Sky Queen* approached it, and York was lightning fast in filing a lawsuit.

He lost when Tom proved, with witnesses, that they had not approached within more than a safe distance and that when all was said and done, the package had a proximity device that blew a small explosive squib in the balloon all the while taking pictures of whatever had come near.

Years later Tom's mother, Anne, would be instrumental in York's personal downfall.

"Sure, now I recall the weasel."

"Weasel is putting people like him in a good light, Tom, and does a disservice to weasels. Once he was exposed over this and that sodium battery your mother was involved in uncovering, he filed for bankruptcy and everyone thought he'd had slunk off into the bushes.

"Turns out he formed an alliance with a very small ecoterrorist group out of Montana with York fronting money he had, well, let's just say he'd *removed* it from Quik before disappearing. The man responsible for writing the emails is named—" and Tom heard a page or two rustling on the line—"oh, here it is. Donovan Smarte. That is with a trailing e."

The discussed what the FBI had done, mostly arresting Smarte, impounding his entire computer set up and the equipment he used to disguise his hacking and messages.

A recent change in the law regarding hackers would apply and he would spend at least twenty years in prison.

"They believe one agent spotted York leaving the area as they were arriving so they are after him as well. For now, problem resolved."

Everything at the Construction Company was going very well. Repelatron dishes, aiming equipment and the last of the anchoring bolts were near completion. However, final assembly was paused for the excavators while everyone waited for the power pods to arrive from New Mexico.

The Citadel was not holding back on their production, but they had been hampered for three days while the U.S. Government official pondered what to do about the shipment of the metalized gel necessary for the production of electricity. At first the final shipment had been intercepted by strike aircraft out of Elgin Air Force Base in Florida.

The base commander called Damon personally to apologize.

"Mr. Swift. I know you and Tom did yeoman's service when you refurbished our runways and saved us and the Government millions upon millions of dollars, but I received a mandate from the U.S. Senate. Suffice it to say I am personally having the shipment safeguarded in a secured building here on base. Your aircraft will be taking off—without the tank—in about an hour."

“General, while I understand the concept of following orders, I hope you have more than adequate backup for those orders. We have a senior Senator’s assurance that the order was not properly passed and the woman responsible will be censured. I do not want you to be caught up in all this if it can be avoided.” He opted to not tell the man the gel had been replaced already in New Mexico.

The Air Force man thanked Damon and agreed that the orders had to be verified.

That had taken an extra day and even then the Senator managed to invoke another forty-eight hour hold.

It finally took a Presidential Order to release and shipment the get up to Shopton.

But, the delay had taken place and put everything behind schedule.

“Here’s the maddening thing,” Peter Quintana told Tom and Damon as he sat in their office on that final hold day. “That incredibly obtuse woman sat in a committee hearing and outright lied to eight other politicians when she told them she had been informed by you, Tom, that a delay of up to several weeks was just fine.”

The two other men saw the anger rise in Tom’s face and his father placed a hand on the younger inventor’s forearm.

“It will be over tomorrow and Pete and the President will handle that other Senator.”

After taking a very deep breath in through his nose and letting it out in a huff, Tom nodded. “Okay. There is nothing to do but ask Jake to put his crews on overtime and overlapping shifts to get things complete. Peter? I’ll assume you can and will back us up on about half a million in overtime and rush fees?” He raised an eyebrow.

Peter Quintana was a very savvy man and knew the actual expenditures would be much, much less, but he smiled. “Yes, and I will ensure, via a very well announced and broadcast press conference tomorrow morning what Constance Witherspoon has let the taxpayers in for and how she misled—I can’t come out and specifically state she lied even though she did—and that her delay is likely to cost even more for all of the runtime and replacement parts now necessary. Can I state this could run into several million and even then it might not have the necessary results?”

“Every hour of delay past midnight last night, our original take-off time, puts the end results in more and more jeopardy. I’m not

going to look you in the eye and lie and say we are now in truly deep trouble, but it might be necessary to build an additional six units to run even longer up there to get the same end result.”

Damon concurred with his son. “It might add ten to twelve million to the bill, Pete. In the end, just not immediately.”

When Peter left for Washington he had received several pages of costs and a letter from Tom detailing what each four-hour of delay might add to the project.

The press conference, held jointly by the President and the Senator—with the Nebraska Senator Witherspoon there by Presidential mandate—was held at noon the next day.

“Everyone in this nation and the world with any access to television, radio or the Internet will be painfully aware of the very short timeline under which we are living. The planet, named Wanderer by the scientific community, that has entered our solar system must be move from its current path into a new one that will not allow it to damage or destroy any of our planets or even any of the asteroids out there,” the President told the cameras.

“Unfortunately, one U.S. Senator,” and he pointed to the surprised and rather dismayed woman to his and Peter’s left, “Senator Constance Witherspoon of Nebraska, decided to take in upon herself to provide fellow senators with falsified information and to hold up the build process of the absolutely mandatory power generators by ordering that a shipment of a rather harmless gel be intercepted by the U.S. Military.”

Witherspoon looked as if she was about to faint.

“In point of fact, her action is now costing the U.S. taxpayers upwards of ten or even twenty million extra dollars, and I have been assured by the people who actually know about these things, it might be a little too late by the time things get back on track.

“So, and I do not say this lightly, soon-to-be-ex Senator Witherspoon is about to be arrested on my order and held pending final charges of national and international treason, lying to Congress and to my office of President.”

He looked at Peter Quintana and nodded before stepping away and the New Mexico Senator stepped forward.

“I am Peter Quintana and I am the special intermediary between the U.S. Government and Swift Enterprises and all the other companies owned and operated by the Swifts. Now,” and he took a pause more for effect than anything else, “I have been assured there will be cost overruns on this because of the Senator’s misguided

logic or even outright attempt at *sabotage*,” and he hit that word harshly causing her to have her knees buckle a little, “can be mostly ameliorated by the exceptionally hard work of the Swift people, but only just.

“Every additional four hours makes things worse and worse. As you all have been told on many previous occasions, the Earth is not immediately imperiled, but if that planet is not veered off its course, it will likely hit Jupiter or even Saturn or, god forbid, both! If that happens in about eleven months, then we have troubles because we will be in the way of things coming inbound for the sun.”

The event only went on another three minutes with the President restating that nothing would be tolerated that caused any delay or incited panic.

“Tom and Damon Swift can and will do this, but they must not be hindered.” He motioned to a pair of uniformed officers who swiftly came in on both sides of the disgraced senator, handcuffed her and moved her off the stage. The picture faded quickly to black a second later.

Tom and Damon, sitting in their office, turned off the telejector and the 3D image that had been floating in front of them and leaned back.

“Well, Jake tells me he had already put on extra man-hours to try to give you an extra day and he will have the main batch of equipment ready in thirty hours. So, midnight tomorrow ought to be your target.”

“Thanks to you and Jake and Peter and the President, I think we have a good shot at this.”

The metallicized gel arrived at ten that morning, before the press conference, along with the thirty power pod shells—now with all their inner working installed at the Citadel and half of the pods charged with gel—and the others were in the process of being filled, slightly pressurized, and tested even before three that afternoon.

As each one was finished and put through its three-hour test, they were transferred to the area where the repelatrions and the smaller number of excavators waited.

Employees took each excavator out to the unfinished area between the third large construction building and the far, south end of the property to give it an hour run.

Repelatrions were such a well-known factor that only circuitry checks and a quick start and stop of the conveyor system were

necessary.

Then, in small groups running through the night and until about seven the following evening, they were transported to Enterprises where they were loaded and launched first on the *Challenger* and then *Goliath* before the final loading of the *TranSpace Dart* with all the spare parts and pods.

As quickly as the first two ships were filled, they took off.

The *Dart* would follow in another day and still get to Wanderer a day earlier than the others, but Tom wanted that time to give a thorough check to the units they had left running there and to offload and organize their spares and supplies.

“Will you be gone as long this time, Tom?” Bashalli asked him that night as they lay holding onto each other.

“It’s likely to be a few days longer, Bash. I’d mentioned that Dad wants us to do some exploring but not until things are up and running.”

Her face scrunched up in thought. “Oh. But, can’t you do that while the others get things running?”

Tom shook his head. “No, not really. I need to be right there in case anything unforeseen comes up. If I am even an hour or two away it could spell disaster. So...” and he kissed her forehead, “I promised dad I would only spend about one day exploring. We took up some very fast Straddlers so the two or three of us staying behind, and before you ask that will be Bud and maybe Hank, so we can travel about ten percent around the planet and then come back in time to leave right between firings of the repelatrions.”

She snuggled into his chest and must have been satisfied with his answer because she was soon snoring lightly.

When he awoke at seven, she was already downstairs making, to his surprise, fresh buttermilk biscuits. She had never made biscuits for him.

“Those smell like my mom’s,” he commented as he came into the kitchen. Amanda was sitting at the breakfast table having a coffee and she looked up at him with a shrug.

Bashalli turned to him and smiled. “That will be because this is her recipe and she taught me to make these while you were gone this last time. Sit, have coffee, and wait. Bacon gravy is also coming.”

As he was taking his fifth bite, Tom knew his wife had mastered Anne Swift’s recipe and techniques for making flaky and steamy biscuits. Her bacon gravy, not one of his mother’s, was also really

good.

Once he arrived at the office, Tom told his father about breakfast.

“You know, you mother first made me her biscuits the morning after we moved into our first house after she finished school. That little place down in Florida with its all-too-small kitchen and fussy stove, but she did it. Not bacon gravy, though. No, she made sausage gravy but forgot to add the flour so it was oily and milky. I learned to smile and then suggested she review the recipe to see if there were places she might make it more her own. Ten minutes later she was crying in my arms apologizing for messing things up. She was spot on perfect from that day on. At least as far as her gravy.”

They talked about the forthcoming flight and checked in with the Communications department to see how the first two ships were doing.

“*Challenger* and *Goliath* are right on track and on schedule.”

After thanking the man at the radio, Damon turned to Tom.

“Jake has a surprise for you. He called about ten minutes before you got in. He’s built a pair of *extra* extra power pods just so you have ample spares.”

Tom agreed this was very good news. “And, just in time. I was getting frustrated,” the younger Swift admitted.

With Amanda watching the three kids, Bashalli joined Tom for the final seven hours before takeoff. In the past her assistance running check-off lists had proven invaluable.

Each time she read out an item, Tom or one of the technicians made certain the object or setting was correct. Twice she pointed out items that had slipped through the cracks and Tom was so glad to have her there. Not just for the lists, but because he was reaching a point in his life where protracted journeys no longer came easily to him.

It was the same for Bud.

Sandy had come to be with him and also tried to be of some help with what he had responsibilities for.

Like Bashalli she was an old pro at the process so she and Bud just worked seamlessly getting all the new power pods and circuitry boards counted, ensuring each was strapped down. Not so much for takeoff as for any time the ship went weightless.

This was not often since both the system of small repelatrions would come on automatically whenever the micro black hole was

not actively attached, but also because that system did not work on inanimate objects. Just on crew members wearing a special body suit under their work clothing.

All too soon to suit either of their wives, the time for final kisses—at least for about three weeks—came and both women had a hard time letting go.

As he tried to gently break her embrace, Tom had to remind Bashalli, “I always come home. Always. And,” he stated softly with a hint of mischief in his voice and eyes, “you get better and better with the welcome home celebrations!”

She smiled. “I enjoy the welcome homes, but I hope for the day when they are only at the end of the work day. I love you, T Swift.”

“And, I love you right back, B Swift!”

CHAPTER 14/

CARE AND FEEDING OF A REPELATRON FARM

TWO HOURS later the micro black hole had been retrieved and “connected to the ship by the Attractatron. Minutes later Bud announced, “Everything is absolutely correct, Tom. Time to punch the accelerator, I guess.

Tom nodded and scanned his readouts. “I concur, Bud.” He touched the button to broadcast throughout the ship. “This is Tom. We are now hooked up to our drive and ready to leave. As usual, everybody into your couches and strap down until we get a half hour or so underway. Anyone unable to comply either let me know in the next sixty seconds, or shout out to someone else.”

There were no reports so Tom told Bud to get them underway.

As usual, the combination of the great drawing power of even the small black hole, barely a foot across, was enough to yank the ship forward. Of course, the Attractatron kept it at a set distance by shoving against the permanent buildup of space debris that had long ago formed around the impenetrable blackness in the center so they were never in danger of getting too close.

The secret was to start out just at the farthest distance from the hole they could get a grip so acceleration was slow and smooth.

That was a relative term as they were up to fifty thousand miles per hour within the first three minutes. They felt nothing because the balance of black hole and Attractatron effectively cancelled inertia for all on the ship.

Three hours later Chow climbed the narrow ladder up to the small cockpit with two cups of hot coffee.

“I know yer both gonna be relieved in another five hours, but fer now, and since it’s perty late and all, drink up. If’n ya need anythin’ ta munch on, lemme know. I’m gonna hit my bunk in about a half hour but kin wrangle up anythin’ ya like.” He looked hopefully at Tom and then at Bud.

The flyer spoke first. “Well, what with Sandy not letting me go for more than the time to go to the bathroom, I forgot to eat anything since about five. I’d love a sandwich. What have you got that’s handy?”

“Got some sliced beef an’ chicken salad an’ liverwurst. Any takers?”

Tom nodded as he looked at a specific readout. "Liverwurst on white bread with some mayo, please."

Bud made a face. "I don't see how you can eat that. Then again, I don't see how you can eat liver and onions!"

Chow harrumphed. "Ya don't know good eats, Buddy Boy. No offense ta yer filly, but Sandy Swift-Barclay jest ain't known fer her ability at the stove. Sandwich board neither. One o' these days I'll serve ya liver and onions cooked the *right* way!"

Bud gulped at the thought. "Well, maybe someday, just not today. I'll take chicken salad on whole wheat if you will, please."

Sandwiches were delivered within four minutes and Bud made another face as Tom bit into his sandwich.

With a sigh, Chow disappeared back down the ladder.

A bit more than four hours later Hank came up between the two offering to take over a little early.

"You both did a full shift getting us off and out to pick up our little friend. Let me and Slim take over now and you two get some sleep."

Neither Tom nor Bud argued the matter and five minutes later, with the change-of-command handover finished, they entered their small cabins and climbed onto their beds. Both men were asleep in minutes.

Half the crew were pilots who also had skills as technicians and engineers. About the only one who had little or no real space piloting experience had been a last-minute replacement of their usual radioman. For this trip Duanne Dimmock was substituting for Keith Woeltje, the Korean radio operator and electronics wiz.

Duanne was a very hard worker and could double as a copilot under normal flying conditions. He was not formally trained in spaceship operation, but Tom had spent enough time allowing the man to watch and test the controls of the *Dart* that he was a welcome addition to the crew.

The trip took slightly less than a day shorter than the previous trip out. This worried Tom a little because he had calculated the difference to be just twenty-two hours.

Bob Jeffers told him it was to be expected. "The last data you have is likely to be before the sun started trying to yank our visitor in. On the positive side," he added seeing this had not mollified the inventor, "on the way back out it will slow Wanderer down again and the net result will be arrival near the asteroid belt will be within an hour or two of when we believe it to be."

“Okay, but in the meantime, my calculations were for a planet passing Mars and then the Earth at a certain time. This is going to mean we have to get things set up faster than I’d planned and get specific units powered up while we work on the opposite side of the repelatron farm. Now, I’m considering doing these in quadrants or at least concentric square rings.”

“What about your plans to take us off planet for the firing up of everything?” Bud asked.

Tom’s mouth set in a determined grimace. “We might not have that luxury. As it is we need to come in for a landing inside of about a two-hour window because that is the time the repelatrons are naturally deactivated because of the angle of rotation of the planet.”

The two friends talked into the late part of their off-duty time about everything that needed to go right and on schedule. Mostly, this included the need to push everyone to work slightly faster and longer hours than Tom would want to normally.

“Everyone understands that, skipper. They won’t complain or let you down!”

Tom groaned. “Great! Now I feel like I am already asking them to do this as a favor to me, not the people of the Earth.” He looked particularly miserable and for some reason that made Bud laugh.

Startled, the inventor looked at the flyer. “Huh? What is so funny?”

Bud chuckled a few seconds more. “They are not doing for you, Tom Swift. They are doing it for themselves, their loved ones, and for everyone. They do it gladly because they respect you and know you will be right in there with them. As will I. Golly, but don’t let this get around... these are some incredible people on this ship!”

He asked Tom to go over the steps so he had them straight in his mind.

Tom went back through what had already been done and what was still to do. It was a fairly long list of items to be accomplished, but in the end, what was to come was slightly easier on a per installation basis than the first go-around.

“We have all the anchorage points ready and that means no surveying to do. Just installing, testing and then firing them off in a sequence I still need to compute.”

“And, how long do things need to run?”

“At this point, up to four weeks. Perhaps even another few days if we get the planet pointed in the necessary direction and a wider margin of safety. Then, if the new trajectory proves to be of a

sufficient change, we can disarm the array. If the first cycle does not fully do the trick, the pods be given three full days to completely build up another charge then be fired a second time once the planet passes Earth's orbit. After that, Wanderer's position would not be favorable for using the repelatrions for a side shove."

It still might be possible to use the array a third time to accelerate the planet using the sun itself as their shove point, causing Wanderer to move into slightly a different path, one that would not endanger any planet in the solar system.

The inventor, and everyone else, really, really hoped the first complete field shove would do it!

The observatories facing Wanderer would watch for changes.

On their first trip, Tom had already tested the new instantaneous radio made by the mystery box of the Space Friends and it had proven to work just as quickly in sending and receiving as any of their radios, but he had not given an adequate test to the PER unit on the ship. Now, he used that radio to contact Enterprises and to have a talk with his father.

"Thanks, George," he told the head of the Communications department who had personally answered the call.

"A pleasure, Tom. Wait a moment..."

"Well, hello, son. George tells me this is a PER call. Since that unit has only had a small test, let's hope it holds up. I have a lot to tell you and I'm sure you have a lot to tell me."

They spoke for more than an hour going over everything Tom was now planning. Once, Damon asked to have his son hold while he brought Doc Simpson in on the conversation.

After hearing Tom's reasons for longer work periods, the physician was not completely happy with the plan but could not say the five days of nearly sixteen hours work per twenty-four hours was going to be dangerous.

"I would just caution you to keep a good eye on everyone, but especially anyone up there we all might consider to be a newbie. I'd have a serious briefing with the entire crew and assure them it is okay to come to you personally with any problems they are having. Fatigue, disorientation, and even giddiness, which could be a symptom of something dangerous to them or others. Much better to do that than have grumbling between one tired man and others get away from you."

"Understood, Doc. I'll be certain to do just that. Thanks!"

“One other thing. If you find any spots where you can give one person a couple extra hours off, rotational of course, try to do that.”

The call ended so Tom headed up the ladder to the cockpit to take over for the forthcoming landing maneuver.

First, dropping off the micro black hole in an orbit they knew would keep it safe, the *TranSpace Dart* dropped under complete control downward approaching the surface fifty minutes later.

“I’m setting us down about a quarter mile from the outer anchoring points,” he announced to the crew. “This is near where our other two ships will touch down in about two days. I want a complete personal check of each unit we’ve left here. For that to happen, I will deactivate all units, repelatrons and excavators, in one hour. In the mean time, everyone get something to eat, do the bathroom thing, and then get ready to leave the ship.”

Everybody assembled in the shadow of fin number two, not that any particular fin was immediately distinguishable from the other three other than the one situated next to the elevator.

Zimby, Bud, Duanne and Hank offered to hike over to where the Straddlers had been parked. In eight minutes they were on their way back.

Tom held another briefing for the crew.

“We are going to go out, two men per Straddler, and check the current units. I want a complete electronic check made and anything out of perfect noted and reported to me. We brought enough spare parts this time to pretty much reassemble a complete repelatron, minus the dish of course, and an excavator.

“I am hoping we do not need to go to that level of work. I deactivated things before we reached orbit so there will be no chance of any accidental firing.”

Five minutes later he finished with, “So, here are the self-contained diagnostic computers. One per man as I believe each time you set down one should be plugged into the covered socket, press the green button and give it two minutes. Then, unhook and repeat with the other one to verify results. That’s all!”

The teams mounted their Straddlers and headed out.

Tom remained behind monitoring each team and noting their progress. He had to grin as each team lifted off for their second pair of units to check all within about nine seconds.

One by one they came back nearly three hours later except for Bud and a tech named Chet. It had fallen to them to check the existing excavators.

As everyone else waited, Hank briefed the inventor on what they'd found.

"Not all is great, Tom," he suggested. "A lack of atmosphere is definitely not running to our advantage for incoming objects."

He explained how at least one of the repelatron dishes had taken a small impact and another unit nearby had taken a deflected hit near the bottom of the hopper.

"The second one is fine, but we are going to need to do something about the hole in the dish."

"How bad?" came Tom's question.

Hank held up his thumb and forefinger on his right hand about three millimeters apart. "Like that. At least the hole is. The surrounding area about an inch out must've melted a little because it is pushed back about twice that far."

They discussed what to do about it for a moment before Bud and his tech came back. The flyer had heard only the last part of the discussion.

"What about one of the little patches we keep in case of a hull breach? You know, they self-stick and are made of durastress so they won't dampen the repelatron signal. Or am I missing something?"

Tom shook his head. "No, Bud. I think you have made the best suggestion. I was contemplating mixing up a shapeable epoxy and using a putty knife to smooth it out. The great thing about the hull patch idea is the stickum is meant to resist the cold of deep space exposure." Turning to Hank, he suggested, "I'm going up to see if we might also have a problem with our saucer we left in orbit, Come on up and we'll break out a couple of those patches. If you don't mind, could you go out and do the installation?"

His engineer's grin was answer enough.

Bud, always ready to land a hand, offered to accompany Hank to the unit requiring repair and the two of them rode off ten minutes later.

While they were heading off, Tom was using the instruments in the cockpit to send the recall signal to the saucer. Because it was mostly around the other side of Wanderer it took more than eighty minutes to come in for a landing.

Tom was waiting when it touched down just seventy-five feet from the closest fin of the *Dart*. He rose on his Straddler and headed over moving up and around the domed shape close enough to reach down with his foot and touch the hull in most places.

It seemed as pristine as it had coming out of the Construction Company shed more than two years earlier.

“How’s she looking?” Bud asked as Tom removed his suit inside the *Dart’s* lower compartment.

“Great. She has not been touched by anything I could see. I even went inside and fired up the system to give her a check out; all green lights on the panels.”

Bud looked slightly puzzled. “So, ummm, why did we leave one of the saucers here once they delivered their loads of stuff?”

The inventor smiled at his friend. “Mostly because I’ll need something to use once we complete the installation to go straight up and do a survey to see we are all aligned correctly. Then,” and he nodded, “When everyone heads for the sky and we set off the entire farm, I’ll need to go out to a point about five million miles and get an accurate position for the planet.

“If you remember, I took one before we ever landed. I need to check to see how much push we are getting and whether or not we have to run things longer than anticipated to overcome the delays that person in the Senate stalled us over the power pod gel.”

Zimby, who had just popped his head up into the cockpit asked, “What’s going to say we’ve succeeded, skipper?”

Tom pondered how to answer the question. There were so many possibly ways to measure. Finally, he said, “Okay. Pretend this planet is on a kid’s slide, right at the top. So, align a marble along the right side and put a beach ball right at the bottom also on the right side. If nothing happens to the marble it will slide down and then bounce off the ball. That’s the possible Jupiter or Saturn collision we want to avoid.

“If, however, you give the marble a nudge just as you let it go over to its left, it will get to the bottom of the slide about the time it almost touches the left side of the slide, and comes off missing the beach ball. That is the amount of shove we need to impart to succeed.”

Zimby nodded but did not ask anything else., He soon thanked Tom and lowered himself back down the ladder.

“That’s a pretty good analogy,” Bud complimented his friend.

Tom blushed slightly. “It was Bash’s. When I told her about tangents and fractional deflections, she thought about it and that night, as we got into bed, she asked if it was like a slide. Once I thought about *that*, I had to admit she’d hit it.”

Bud laughed. “Then, we are both married to geniuses. Sandy

asked me if moving the planet was like giving a little side nudge to a billiard ball. When I told her yes, she hit me on the arm and told me to stop trying to make explanations so difficult for the average person to understand.”

They grinned at each other before Bud excused himself to go check on Hank’s repelatron patch.

Right on schedule, *Goliath* and the *Challenger* touched down with the final equipment.

It took nearly two full shifts of eight hours each to get everything unloaded and staged for installation, after which Tom called a six-hour rest period.

But, at the end of just three hours the first shift reported they were rested and ready to go.

“Besides, skipper,” Hank stated, “We are still a little behind schedule. This’ll help us catch up. My team is ready to go.”

And so, with the bulk of the work down to moving each repelatron unit to its preset mounting spot and getting it connected to its anchor, all the heavy-lifting manual work necessary, by the time the other team came down more than sixty-five percent of the work had been accomplished.

“Guess my guys get off easy,” Red told Bud as they got ready to go.

“Yeah, but we also have to drive out the other excavators, give them a test and then have them load all the new hoppers so Tom can set off the rest of the array for his one-hour test. It’ll likely take us the entire shift.”

“Then” came a voice from behind them as Tom walked over, “we get ready to move out so the field test can happen. And, everyone in this oncoming shift gets a break.”

The others nodded before finishing up getting into their suits and checking each other’s air packs and connections.

The remaining work went well with the exception of several of the final units to be built having intermittent problems. These came up in the initial testing and it was decided to not move out and fire up the field until Tom could track down exactly what was going on.

Once he got out to the first unit and opened the protective hatch, the dismay the inventor felt was evident on his face.

He closed that one and went to the next where he found identical problems. The same with the next and the next.

Tom flew his Straddler over to the *Dart*, went up the elevator and into the cockpit where he placed a call back to Earth.

It was near midnight at home, but he felt his father needed to know.

“So, son. How are things? And I hope this late call is a good one.”

Tom’s pause gave the older man a nervous moment made worse when Tom finally spoke.

“We have four of the repelatrions that were sabotaged, Dad. You have to get to Harlan and the Jake Aturian and tell them. Someone poured some sort of blue sticky fluid on the master circuit boards. Right now they are intermittent but I believe within a couple hours *they will be full inoperable!*”

CHAPTER 15 /

FULL FIRING TIME!

WITH FOUR of the giant repelatrions out of commission, Tom had no choice but to take the fastest ship, the *TranSpace Dart*, back to Earth and to bring back replacements.

True to his prediction, the circuit boards that had been tampered with practically dissolved within three hours of his inspection. That, in turn, allowed some of the liquid to drip onto other components areas ruining just about everything inside the electronics bay of each unit.

His call to his father set everything in motion and both Damon and Jake Aturian, following a brief side conference, agreed that it was something they could accomplish while Tom and Bud were on their way back.

The rest of the crew would remain in the *Goliath* and *Challenger* where they would take off several hours later and run the nearly-full-field tests.

Before taking off Tom suggested, “Go ahead and run everything for the six days it will take us to get back. At least we’ll have the majority of the units pushing all that time. And, everyone get a good rest. Once we return I want the new units installed within an hour and then you all head for home.”

Red had a counter proposal. “How about we do all that up to, but not including the heading for home bit until we have a full field of units up and running at maximum capacity?”

He gave it a moment’s thought and then Tom agreed. “Thanks! And, I’m leaving the Space Friends’ transmitter with you so you can get back to Enterprises with anything else you find you need.”

As the *TranSpace Dart* lifted off the surface of Wanderer. Tom and Bud were beginning to feel a sense of dread. Neither one mentioned it until the following day.

Bud broke the ice. “Skipper? What if more of the newest units have been sabotaged in some way we didn’t see the effects of?”

The inventor nodded before reaching for the PER headset. “Tom to Wanderer team. Tom to Wanderer team. Come in, please.”

Duanne Dimmock’s voice came over the earpiece. “This is *Goliath*, Tom. It’s Duanne. What can I do or who do you want me to go get?”

“Hi, Duanne. Can you get Hank, please. And, if he’s asleep, either Red or Zimby will do.”

“Hank’s awake and down having his lunch. Hang on...”

A moment later... “This is Hank, skipper. How can I help?”

Tom explained about his dread feelings some of the other newer units might have also been subjected to sabotage. Hank promised to send everyone out in the following hour to check each unit, including the first ones installed.

“I should be able to give you a report in about two hours. Talk to you then.”

When the radio came back to life, Tom had another problem to worry him. The ship’s main radio, his new PER set, seemed to be having a problem maintaining a solid line of communication.

“—ipper? It’s Han— ver...”

“Hank, you are not coming in very clear. How to you read me?”

“Lou—nd clear. No—akups. Before thin—et any—rse, we ha—more bad unit—over.”

Tom looked at Bud before asking for a repeat. “Was that no problems or some new problems?”

“None. —ero. I rep—no bad—”

“Okay, Tom responded. “I’m hearing that you found no more units that have been fiddled with. If this is true, do not respond, but call my father and tell him. I think my PER is having a problem.”

There was no return call so he figured his assumption was the correct one. Next, Tom changed crystals and made a call out back to Enterprises.

After three minutes and a pair of further attempts, he shrugged and told Bud, “I think we are not going to talk via the PER. I’ll send out a regular radio message to tell them we are on the way but likely cannot communicate.”

As he expected, his signal was not answered immediately. After all, it was still forty-one minutes of transmission speed until the signal would be received.

One hour and twenty-three minutes later his father’s voice came over the speaker in the cockpit. Tom had gone down to take a quick nap so Bud recorded it and sent a response.

“Tom, it’s dad. I know you won’t hear this for some time, but we

have been in contact with Hank and his folks. He assured us of just having the four bad repelatrons. I told him to take off and get things running at full steam. I hear this was your suggestion anyway. Jake is working like mad getting five or six units built and Harlan is on the case. He believes he can trace this trouble back to someone who made a surprise inspection on behalf of the U.S. Senate. Might have been an imposter. He'll find out who and where they are and take action. Good luck and I'll not expect much more of a response than to acknowledge your receipt. If you need anything, call."

Bud made the decision to let Tom sleep at least another hour.

He did, however send a message back to Wanderer using the regular radio. It would only take seven minutes to get there. Even so, the timing would not allow any return signal to arrive before he knew they would be setting off the array, but it would notify them Tom had spoken to his father.

Signal received, Hank and half of his team had already taken off and headed for high hover at about 1,000 miles up and 500 miles to the south of the repelatron "farm." Red would get off the planet in the *Challenger* three minutes later.

Before leaving the surface where he would activate the countdown, Hank had decided to stage one final test of the repelatrons to ensure all were working. The ten-second firing had come off with no troubles and so thirty minutes later and flying in formation a quarter mile apart, the two ships moved to a position just over the horizon and Hank sent the firing order to the field of working repelatrons.

Within a minute everyone looking at a screen could see traces of the pulverized planetary materials heading out in a nearly straight alignment. Tom had set the outermost units to spray their streams a degree off of directly out and believed this would overcome and tendency for the planet to start a slight wobbling.

Hank next called back to Enterprises where the duty radio operator promised to get a message to the appropriate people.

"Mr. Swift left us a message to only wake him up if anything was wrong. Otherwise, he promised to be in by seven. Do you think this can wait?"

Hank chuckled. "Sure. Good news can wait. If we have anything bad to report we'll get right back to you."

He then made a radio call to the *Dart* to tell the two men there about the success and suggested they only respond if there were questions or special orders.

Bud received this and only responded with a single short phrase. “Got it!”

Tom had been having a troubled nap so he got up, splashed some water on his face and headed back to the cockpit.

“Oh, you’re up early, Tom. We have a report of a great firing up of the farm, and your father sent this.” He reached out and pressed a button replaying the radio message from Damon Swift.

Tom settled into his seat and listened. “That’s good. Go ahead and take a break, Bud. I’ve got this for the next few hours.”

The flyer nodded and unstrapped himself before heading down the ladder.

The *TranSpace Dart* passed the turnaround point and began slowing down. As it passed the point where radio calls only required sixteen minutes each way Tom and his father held a lengthy conversation. In reality it would have happened in two minutes, but the delays...

“So, Harlan is hot on the case. It seems the Senatorial visitor was supposed to be the personal assistant to that same Senator that stalled us. She claims *he* was working on his own and *she* had nothing to do with anything he might have done, but when the FBI took the man in, he claimed it was she who put him up to it and even arranged for the tour.”

“Has he confessed to the sabotage?”

“He claims she gave him a vial of the blue liquid and told him to dribble some on as many pieces of equipment—hidden so people might not see it until it was too late—as he found.”

“What is going to happen now?”

“Now, the FBI and a Senatorial oversight committee, featuring our friend, Pete Quintana, will call her into their form of inquisition. No matter what, she could face anything from reprimand to jail.”

Tom asked about the manufacturing of the replacement equipment.

Damon said things were rolling along and ought to be complete fewer than two days after he and Bud landed.

“You’ll get a little time with your wives and then have to head back out. I am so sorry this is delaying the completion of the project, but I’ve inquired with the folks up at our observatory and they tell me they are seeing a slight change in the trajectory. Too early to know if it is enough, though.”

Tom responded with a, “Yeah, I guessed that would be the case,” and signed off.

Turning to Bud he shrugged.

“So, looks like we won’t know until we know sort of thing, huh?” the flyer asked.

“Truer words, Bud, truer words.”

Bashalli and Sandy were waiting along with Mr. and Mrs. Swift when the *TransSpace Dart* touched down on Fearing Island.

Tom might have preferred to set down right at Enterprises, but the last time he’d done that the locals had flocked outside the walls—some of the younger ones attempting to scale the walls much to the displeasure of Harlan and the Security department—while a few either called into the local radio stations, the police and State Police, and the *Shopton Bulletin* to voice complaints about how they felt endangered.

Of course Dan Perkins at the newspaper had been sorely tempted to turn this into a, “We all must panic” situation, but he remembered the restraining court order still in effect and called Damon instead.

“Damon. It’s Dan Perkins. I just wanted to see if you’d be interested in a sampling of the calls and emails we’re receiving about Tom’s Giant spaceship?”

“Anything you feel strongly about reporting, Dan?”

“No,” the man had sighed. “You know I can’t.”

“Well then, what you are getting is likely to be what we are getting. It isn’t news and the ship will be gone by tomorrow.”

And, that had almost been the end of it. Except the police had asked for a week’s fore-notice before it occurred again, and, “...could you bring it in during the night so people don’t look up and think Martians are invading?”

This time it was a non-issue.

The Swifts and Swift-Barclays hugged and kissed and shook hands all around before heading the quarter mile to where the *Sky Queen* was waiting.

Damon offered to fly with Anne Swift sitting in the copilot’s seat while the two couples shared some alone time back in the lounge.

It was a fast flight with touchdown at Enterprises just before 5:00 that afternoon.

Tom, along with Bashalli and Damon, headed for the shared office to check with both the Construction Company and Harlan Ames.

As far as the building of new units, Jake was able to give Tom good news they would be finished about six hours ahead of schedule.

Harlan had some news for both of the Swifts.

“As it turns out, Senator Constance Witherspoon was a fangirl of the former and now late Senator Grimsby. I know that name will strike a few chords with you both and likely to be sour ones at that. Anyway, she admitted in an investigation that she had, and I quote, ‘possibly influenced my associates to do something untoward at one of the Swift industrial locations,’ end quote.”

Damon was instantly angry. “Might have? *Might have?* Damn the woman and her misplaced sympathy for the man who made political tempests out of nothing at all. I have no remorse the ex-Senator is departed from both Washington DC and from this plane of existence!”

Tom was shocked. He had rarely heard his father this angry.

“Does she have any realization of how she might have endangered each and every life on this planet?”

“She is self-righteous and even indignant that such an accusation could be made. But, and I am certain Senator Quintana will call as soon as he understands Tom is back, if temporarily. He will have some more news about everything. In the meantime, her associate is in federal prison for industrial sabotage against a governmental contractor. He is likely to receive thirty years in prison.”

Munford Trent poked his head inside the big door of the office and whispered, “Senator Quintana on line four.”

“Got to go, Harlan. Thanks, and you were right about Senator Quintana. He’s waiting for us on another line.”

Damon depressed the correct button. “Senator. Damon and Tom here.”

“We’re alone. Has your Harlan told you anything about that Witherspoon creature?”

Tom spoke up. “He told us she cannot believe anyone would fault her for her actions... if she did anything which it sounds like she is not admitting to.”

Peter chuckled ruefully. “Yeah. She received full Senatorial censure and has been called to the White House where she is being

informed by the President that her services will no longer be... well, I'll say tolerated, but I'm certain Mr. President will just tell her to quietly leave politics as fast as possible or face prison time herself."

"What if it turns out she was responsible? What if her assistant turns on her?"

"Well, Tom, that is another story. One that will end with her serving time along with the man who did the dirty deed. Speaking of which, how bad is it?"

Tom told him about the four units that were damaged beyond repair and that the Construction Company would have the replacements in another day.

"We fly them back as fast as we can, but the truth is we fired off all the others a few days ago and there is some slight, measurable change. We just do not know how much or how effective. Heck, we don't even know if we need to fire the things off the planned four weeks or even until after Wanderer has swung around the Sun."

"Keep me informed and I'll keep the President briefed. I will also let Harlan know anything I hear about Witherspoon. And, Tom? Thank you for what you are doing even above and beyond what anyone ought to expect."

As had been hoped, the replacement repelatrions, plus three more spare dishes and two complete sets of internal electronics, were ready to ship out to Fearing on Thursday evening.

Tom and Bud had spent most of the hours with their wives who were loathe to let them go again even if it was promised they would finish the work six days later and then only spend another two days on the planet exploring.

"We'll be back in time for Mary to graduate from kindergarten and for Bart to finish this year's school," Tom promised Bashalli. "Do we have any indication if they want him to go into the next normal year or be bumped up a grade?"

Bashalli shook her head. "He is still a little behind on his socialization skills so they want him to start the fourth, but at mid-year they might send him into fifth grade. I think they really do not wish to do that, though. They have called to ask me what we thought of private tutoring and not having Bart in school at all. I told them we did not like that concept and would fight it. Was I right?"

Tom nodded. "Yes. I want Bart to graduate no sooner than I did and perhaps even only a couple years early. As much as leaving school when I was fourteen was right for me, I want him to get the full school exposure if possible. Besides," and he grinned and

reddened a little, “the longer he stays in high school, the better chance he has of meeting a nice girl.”

“Or, two or even five,” Bashalli offered.

Again, Tom nodded.

All this conversation took place as the *Sky Queen* raced over the Atlantic toward the island base.

Once they touched down and deplaned, Tom received every bit as serious and vociferous a hug and kisses as Bud did from Sandy. They finally let each other go and the men headed for the side hatch for the elevator into the *Dart*.

Six minutes later and with everyone having pulled back by the minimum safety margin of one thousand feet, the giant ship lifted off and headed into the morning sky.

Tom set the autopilot to take them to the location of the black hole and sat back.

“I’m glad the technicians had the chance to change out the PER for a new unit as well as another of the Space friend’s instant radios I had the machine build before we headed to Shopton the other day.”

“What turned out to be the problem with the first PER?”

“A faulty oscillator chip. It could send but not receive. I suppose we could have continued to use it to get back to dad, and then his responses would have taken half the time, but it is better to have the new unit installed.”

They approached Wanderer, now a full seven hours closer than before, with Tom having been in contact with Hank and the two other ships since they were half a day away from the Earth.

“Since we are aimed at a point at least fifty degrees from your approach, when do I shut down the farm?”

Tom suggested once they were just four hours away. “The angle of approach will get tighter by then and I’d prefer to not be bombarded by the particles. By the way, any troubles with any of the equipment?”

“None we can measure or detect. I can see, using our SuperSight, that the area around the units has been dug down by about twelve feet. But, as you programmed them to do, the excavators have left themselves ramps up to each unit. Oh, and they have been steering clear of the damaged units, so installing them, once they get carried over by the Straddlers, will be pretty much like the first time they went in.”

This was good news to the inventor.

At the appointed time, Hank sent the signal for all repelatrons to stop, and for the excavators to do one final refill of each hopper—minus the broken units—and then to go into pause mode.

On schedule, Tom set the *TranSpace Dart* down with *Goliath* and *Challenger* coming in on either side within a few minutes.

Everyone had suited up before landing so they all streamed out from their ships meeting in the shadow of the *Dart*. Tom gave out orders and his teams were soon disconnecting the parts from their mounting points on the fins and prepping them for final assembly and then transporting to the sites of the bad units.

“Bud and I will go out, disconnect the four bad ones and haul them over to here. I’d say we leave them here except Senator Quintana hinted they might be a good nail in the coffins of both the senator and her accomplice... I mean her assistant, in their criminal trials. So, once back here we’ll land them on *Goliath* for transport back home.”

A few of the men asked for more information of the renegade politician, but Tom told them all he knew was the culprit had been identified, had effectively been fired by the President, backed up by the full Senate, and was no longer in any position to be a threat.

He and Bud worked together to bring out the bad units. As the first one came toward the ships, two of the men were riding another Straddler with the replacement unit held tight to the nose by that vehicle’s Attractatron. In moments they were hovering over the site and lowering to the ground.

By the time they had that installed and tested, Tom and Bud were working on unit number three with unit two already heading out with another team and Straddler.

It took only four hours to complete the installation and to get everyone back into the *Dart* for a conference.

“Tomorrow,” he told them, we raise ships, run a two-hour test and then most of you head for home. Bud, and likely Hank and I will stick around for no more than two rotations exploring before we head out. At that rate we will get home a few hours before the rest of you and can have one big celebration!”

CHAPTER 16 /

SUCCESS, OR THE START OF IT

THE FIRST full-scale firing of the repelatron farm took place a few hours later with the three large ships sitting at an altitude of more than five hundred miles and fifty degrees “south” of the polar region where the equipment was positioned.

Twelve hours later Tom okayed the two smaller ships with all hands other than Tom, Bud and Chow who had asked quite sincerely to be allowed to, “Ride the range up here where ever’body I know will turn turquoise with envy!”

Keeping a straight face, the inventor knew he could not refuse the chef. Even Hank, Tom’s initial choice, took his boss aside and agreed it would be a very nice thing for the older westerner if he could get his wish.

“Yeah, and mostly because I’m not sure just how much longer he will be able to join us,” Tom agreed with a small sigh.

Most of the team members headed across the five hundred foot gap in the vacuum of space and into *Goliath* while three men—Red, Zimby and Duanne—went inside *Challenger*. A half hour later with all reports of nothing but green indicators, first the large cargo-carrying ship followed by Tom’s first repelatron ship headed back toward the Earth.

“So, what’ll we do now, Tom?” Chow asked as the three sat having a quick meal.

“We are going to take an additional four hours off and get a nap—all of us—before we head down to land. Then, it’ll be the three amigos on the three Straddlers we left down there. I’d like to do what my father suggests and that is to head directly toward the planet’s equator and explore for a maximum of two days. By the end of that time I want us to be within no more than five hours of the ship. After that, we head home to wives and other loved ones.”

Chow smiled. “Wanda’ll like that an’ so will I!”

As the cook and Bud headed downstairs, Tom set the auto-program to bring them in for a landing at an acute enough angle to avoid any chance of encountering the spewing particles and small chunks coming from the repelatron dishes.

With that set, and an auto alarm to be sent to his cabin in case of anything out of the ordinary, Tom followed the others down and

was soon reclined on his bunk.

Thirty minutes later, and only waking him enough to see all was well, the ship touched down and send a brief *ping* and the message, “Nominal landing,” to his room’s screen Seconds after that he was back asleep, now more mentally comfortable than before.

Three hours later his alarm went off and he opened his eyes, mostly rested and eager to begin the planet exploration.

He came out to see Bud disappearing up to the next level and could smell the food Chow was making for them.

Coming up the stairs he sniffed and said through a grin and slightly watering mouth, “Cinnamon buns. Yumm!”

“Come ‘n get yers while it’s still drippin’ the icing. And, don’t fret about me being up all hours. These I made before we left home an’ have been in the icebox since. I just set them on the counter before I hit my rack.”

The three men sat eating the sticky sweet baked goods and having a cup of coffee and talking about what Tom wanted to do.

“I’d like us to stick together when at all possible. I might have Bud zoom up for a long distance look around, but I think if one of us takes a look ahead, one to the left and the other to the right we shouldn’t miss much.”

They suited up, took the elevator down and were quickly zipping away from the ship.

Tom sent a signal turning the repelatron field back into the ON setting so they would not miss out on two days of the pushing the “farm” was giving Wanderer. He took a brief look back over his shoulder and smiled on seeing the particles racing outward.

“Bud, would you remind me to radio dad when we get back and have him bug the Observatory for some definitive info on how effective all this is being?”

“Got it. In my memory bank.”

Chow sniggered over the open frequency. “Jest don’t git yerself overdrawn at *that* bank, Buddy boy. Hate ta have anyone send ya a bill fer being past yer limit!”

All three men laughed and it relieved some of the worry they were all feeling at the success or only partial success of their mission.

The first hour was spent flying over what appeared to be nothing but gray dust with few rocks or even craters.

“I wonder if this was once a large lake or an ocean?” Tom mused out loud.

“Whys’ that?” Chow inquired.

“Mostly because I cannot believe this planet only recently lost its atmosphere and because any celestial body racing through space long enough is going to have impact spots where anything from micro-meteorites to large planet-killers have hit. What’s down there,” and he pointed below their racing vehicles, “is very smooth.”

“Oh, yeah, the chef answered. “It sort does look like the bottom o’ the ocean where we’ve all been. Golly!”

Bud silently agreed. Everywhere he scanned it looked the same. He fervently hoped the scenery would change and rather quickly. He voiced his thoughts.

“Skipper? What do we do if this seems to go on forever?”

Tom considered this possibility. “I honestly do not believe it does. Did you see the scan of the area we hovered over before the others took off for home?”

Looking a little embarrassed, Bud had to admit he had not. “No. Actually I was thinking at that time about what Sandy told me the last time we talked on the radio. She, uhh, well, that is, she thinks it is time for us to start the paperwork to adopt a child.”

Tom knew they had almost filed the paperwork more than a year earlier, but Sandy just was not emotionally ready to give up on having their own child at that point. Now, it appeared she was and that made Tom very happy.

If they had been standing someplace Tom would have slapped his brother-in-law on the back. As it was, he made a thumbs-up sign and congratulated the flyer on being ready to take that plunge.

“Ah, heck, Tom. You know I’ve been ready for a couple years. It’s just that Sandy has wanted and wanted to have one of our own, but even she has admitted it is not going to happen. So, and I have to say I am very proud of her, she told me she wants to start just as soon as we get home.”

The three men conversed about it for another twenty minutes. Never having a child, and having married Wanda years after anything like that was possible, Chow could only admit his admiration.

“If’n yer anythin’ like Tom here, you’ll be a great papa, Bud. I might even have ‘ta stop callin’ ya Buddy boy.”

Bud nodded and grinned inside his helmet. “Okay, here’s the

deal. You just call me Bud or even Buddy, and I promise to stop teasing you about your food.”

“Nah! I’d miss yer joshin’. I’ll still stop with the ‘boy’ part o’ yer name, but you go on ahead with the food comments; keeps me on my toes!”

“Well, that settled,” Tom said pointing in the distance, “it would appear we are going to be flying over something a little more interesting in another half hour. Look.”

All three could see the tiny peaks—at least three of them—just coming up over the curvature of the planet. As they flew on all kept their eyes peeled for signs of just how tall they might be.

When the base of the nearest one came into view, Bud offered to zoom up a few thousand feet and send video back to the others.

Tom agreed and the flyer was soon heading above and slightly ahead of them.

“Whoa!” Chow exclaimed as Bud’s camera zoomed into the peak capturing the expanse of the one mountain and at least one slope of the one to its right. “How tall is that?”

After he checked with his helmet’s built in heads up display, Tom stated, “It looks to be about nine thousand feet up from the base. Bud, can you scan to the ones on either side, please?”

As soon as those images were sent, Tom announced the one to the left was about nine hundred feet shorter while the one to the right was perhaps only a hundred feet shorter than the middle one.

Bud rejoined them and they all slowed down while Tom made more of a study of what lay in front of them.

Finally he said, “I don’t think we’d have a problem getting up and over them, but I think after we scoot around this side we’ll head around the one on the right and see what is on the other side. Then...”

“Then, if nothing is exciting we head further on?” Bud guessed.

“Yes.”

Three hours later they had to agree there was little of great interest in the three peaks. They looked as if they had once been volcanic even though the tops were worn down and no open cones could be seen.

An erosion ring some ninety feet up from the come bottoms told Tom these might have once been volcanic islands in the middle of a shallow ocean or lake.

No other peaks could be seen up to the horizon.

Tom called a halt to their flight as the sun began disappearing over the horizon.

“We’ll set down for the night and get some sleep, then take off before dawn,” he told the other two.

“Gimme ten minutes ta set up the little works-in-space oven ya made fer me then I’ll heat up some o’ the meals I brought.”

Tom and Bud both realized just how hungry they actually were so they offered to do whatever was necessary to assist.

“Nah. Jest gimme a little elbow room an’ take care ‘o the ponies.”

The ponies included the small portable environment tent they brought along so they could actually take off their helmets and eat. And, sleep without their suits.

By the time Chow was calling out to, “Come ‘n get it!” the structure had been rolled out, inflated and the auxiliary oxygen tank was adding additional breathable air for them. In all, it would operate at least fourteen hours with all three of them inside.

Following their meal of Chow’s enchilada pie and some packets of decaffeinated tea, the men finished divesting themselves from their suits and lay down to relax. It had not been a strenuous day for them simply riding around, but the entire set of trips out from the Earth, the installation and then replacement of some units had been mentally wearing in them all.

Bud looked at Tom and nodded in the cook’s direction.

Chow’s eyes were closed even though he was propped up on his elbow. As they both watched, his head slumped down following his shoulder and in seconds he was flat on his small bed pad, snoring peacefully.

Tom and Bud joined him a few minutes later.

The sun was about to come up over the horizon when they emerged, refreshed and with breakfast inside of them, from their habitat tent.

Tom was of two minds about the tent. On one hand he thought they could just leave it where it stood, make a half day trip out and half day back and use it before heading back for the ship.

On the other hand, Tom felt a nagging sensation that they might go off on a tangent course and it would be difficult to do as much exploring as they wished before they had to come back. In the end,

he and Bud used the pump to draw the air back into the cylinder, rolled the tent and stashed it under Bud's seat.

They continued on the same course as the day before seeing a few points of interest but not much, so Tom suggested they turn back an hour or so early and to get back to the ship and plan for their takeoff.

"It's too bad we didn't get to any of that blue soil we spotted from space," Bud commented.

Tom agreed but was mentally slapping himself. "You know, Bud? I completely forgot to take planetary rotation into consideration when I pointed us this way. When we get back I'm going to call dad and tell him I'm making the decision to stay on Wanderer another two days. We'll get a good rest and take off in that direction. I have to admit I'm curious about it as well."

Because of their early turnaround, they camped that night about five hundred miles closer to the *Dart* and the repelatron farm.

It was a restless night for all and they were back in the air just over an hour before sunrise. This had them back close to the repelatron farm by mid-afternoon. Tom had considered turning the field off by remote control but realized the position they left the *Dart* in was far enough to one side to be completely safe.

"I, for one," stated Bud as he took off his suit outside the airlock, "am going to stand in the sonic shower with the heater on for the next half hour. Any objections?"

Knowing that the special shower used only about a half gallon of water for each two minutes of use, and that with just the three of them they had an ample supply, Tom only cautioned his friend, "Twenty minutes before Chow and I drag you out and don't give you a towel to dry off with!"

The actual shower was inside a small room that sealed once the bather was inside. Using ultra-high frequency vibrations—similar to many humidifiers—water was heated to a pleasant temperature and then forced out of five nozzles to hit the person with the cleansing and pleasant warmth of the fast-moving vapors.

It had first been built at the request of Doc Simpson who was looking for a unit that could relax sore or damaged muscle tissues without the need to submerge the patient in a hot bath.

Bud got back out after just fourteen minutes nodding at Chow who stood outside in line.

He only remained inside nine minutes before giving it over to Tom.

And, by the time the inventor got out and dressed in clean clothes—a ship’s jumpsuit—the western cook had their meals ready to come to the table.

“Tonight we got an interestin’ dish Wanda found in one o’ them recipe websites. Got chicken on the bone an’ taters and cauliflower an’ carrots an’ some o’ them rutabagas all diced up an’ marry-nated in some spices and yogurt. Then it gets baked off. I did all that afore we left home and defrosted and reheated it just now. I have ta admit it’s mighty tasty!”

It was and they ate every morsel of their servings.

By morning Tom was ready to call his father. It would be just about dinner time back home and he was certain he’d catch the man at the Swift house.

“Hey, son. Great to hear from you. Your mother has just come out of the kitchen with our plates... oops! She just went back into the kitchen and I hear the oven door being opened. Now she is holding a hand out of the door and showing me five fingers. Guess we have that many minutes. How are things?”

Tom quickly told him about finding the three mountains but not much else.

“I’m calling a change to the plans and we are heading out toward an interesting blue field tomorrow. So, we’ll not take off tomorrow but two days from then. I’m still not fully comfortable with the repelatron field and would rather be exploring that sitting in orbit while we wait to see that things keep functioning right.”

Before suggesting that his dinner, and wife, were waiting for him, Damon agreed to Tom’s plan. “Just promise to bring back samples from as many diverse locations as you are able.”

Bud and Chow next made calls back home.

Sandy was not pleased about the situation until Bud told her he had mentioned the adoption to Tom and Chow. Then, she became silent before laughing. “Great, then I don’t have to find the way to tell him. Mother and daddy are going to be hard, but I’ve already talked to Bashi and she has offered to let me take little Anne for a couple days to see what it is like having an infant. Uhh, that is what we are going for, right?”

Bud, slightly choked with emotion replied, “Yeah. I just want whoever we decide on to be happy and healthy, and I want you to be especially happy. So, boy or girl will be the same to me.”

Sandy’s happy crying made Bud feel both miserable because he could not be with her at this moment, but he also felt a sense of

great pride in knowing what a wonderful mother she was going to be.

Chow's call to Wanda was brief but filled with promises that he was hanging up his adventurer's hat as soon as he got home. "Gonna spend more time with ya than ya probably want, 'cept when I'm at work. Not gonna retire from *that!*"

Her response, barely heard by Tom and Bud, was, "Good. I can't imagine what it would be like to have you banging around the house all the time." It was, they knew, an expression of love from the woman who had finally corralled the older Texan.

Tom made one more call to Bashalli. She had just been on the phone with Sandy and was thrilled about the forthcoming adoption. "Oh, Tom. I really hope they find a baby quickly. Now that Sandra has made the decision, and it seems to be one she is very happy with, I so want her to get this finished."

He warned her that some adoptions take multiple years. "I'll quietly ask Jackson Rimmer if he knows of an agency or a way to expedite the process once I get back."

The following morning Tom decided they needed to head out into space to make some measurements of the relative course and position of the planet. Damon had no new news from the Swift Observatory to tell him what level of success they were accomplishing.

The three suited up and walked over to the saucer, climbing up the ladder build into one of the three legs supporting the body just five feet above the ground.

"Why are we about to head skyward in the saucer ship rather than taking up the *TranSpace Dart?*" Bud asked.

"We don't need her power to go out and check on the progress, other than to grab the Space Friend's radio and take it with us in case dad finds out more about where we are."

"That's right. You wanted me to remind you to call back to Enterprises to see if the sky-peekers have some good news."

"Right. And, I did last night but he had nothing to report. He suggested he would sort of lean on them and squeeze information from Dr. Heller."

This close to the field of repelatrions, and with the ever-increasing reflection of sunlight making it difficult to see any individual stream of particles, Tom missed seeing something significant as they began to rise.

But, only for as long as it took them to get to an altitude of about twenty miles.

“Oh no,” he moaned to the men standing behind him in the saucer. “Line three, units five and six are not putting out their full capability.”

“Which two are they, Tom? Not by location but actual unit numbers,” Bud asked.

“Twenty-six and forty,” Tom replied.

“Let’s land and then give me fifteen minutes.” Without waiting an answer, Bud walked the fifteen feet to the airlock and got back into his spacesuit. As soon as the saucer touched down he entered the lock, pressed the button to depressurize it and headed outside where he grabbed onto the first Straddler he came to.

He rose from ground and was skimming across the surface of the lifeless planet seconds later. As he streaked for the grid he checked his display. He saw that Tom had routed a map of the grid and it showed fifty-eight beautiful green dots and two pulsing red ones.

Similar blinking lights on the actual repelatron made it easy to find the pair that did not have full function.

He nearly skidded to a halt next to the first one. There were two loose connectors on that unit and he wondered if this had been one of the later ones. Sloppy work tended to be a result of hurry or weariness. A fleeting thought that it had been more sabotage was dismissed as quickly as it came. That one fixed he called Tom to do a test.

“Okay, Bud. It’s reporting. Please hurry. I’m really torn between maximizing our time on the ground and making certain all sixty units are on and running full out.”

“Got it. I’m just landing next to the final one. Ahh, nuts. This one also took a meteorite hit knocked about a three by five inch place off the edge of the antenna. What do you want me to do?”

Giving it only a second of thought, Tom said, “Turn it off. When we come back for the *Dart* we’ll install one of the spare dishes. For now that will take too long and only provide minimally greater push. Come back in, flyboy and let’s get this show on the road.”

With the flyer back onboard, the saucer headed out to a point about a half million miles from the planet. It was taking up valuable exploration time, but Tom needed the separation in order to get astro-fixes on the Earth as well as Jupiter and Saturn, both of which were “behind” wanderer.

The results were better than he had hoped. He made a call back to

Enterprises and his father who was just getting into the office. After reading off the basic numbers, he said, "I've done a fast crunch of them and it looks as if we are more than halfway to a success. I believe if we run these just twenty seven more days we will have a complete success... although thirty days would be better."

He told Damon about the meteor hit and how that unit would be back in operation before they left the planet in two more days.

It was agreed by both men this was all good news.

"I have a promise from one of the astronomers at the Observatory to get me their latest info by 1:00 pm today. I'll radio that to you."

Tom hesitated. "Okay-y-y-y, but we'll be on the Straddlers by then and won't have the PER. I'll set things to transfer any calls to our suit radios. It might take a few minutes to respond, but that should work."

CHAPTER 17 /

EXPLORING THE GREAT MYSTERY PLANET

THREE OF Tom's Straddlers skimmed over the varying shades of gray and desolate landscape of Wanderer. Tom used the automatic camera on his to take pictures of the stark alien terrain as it flashed below them. It was worse than Death Valley back home on Earth. At least *that* had the occasional cactus and bit of scrub grass. And, a breathable atmosphere. Here was *nothing!*

He had instructed the other two to spread out, but to stay within sight at all times. The planet had no atmosphere, no water and no remains of flora or fauna. With few landmarks from which to orient themselves, Tom did not want anyone getting lost.

Once they crossed the boundary of what must have been a shoreline to the ocean they'd been flying over, the blue area, and could see the surface was notably more heavily pitted with craters, much like those on the Earth's moon, Tom spoke.

"I cannot even understand how one side of the planet could be so smooth and this side—obviously we flew over the shoreline and followed the downward dip more than a few hundred feet—and yet this area has seen hundreds or thousands of impacts. My guess is that the drying up of the seas and loss of atmosphere must have been recent, at least in terms of the age of the universe," Tom stated over the radio. "And this was more a shallow sea or lake that dried up first. Perhaps less than several thousand years ago. Just a guess. Otherwise there would be craters in the other seabed. This is officially weird."

"Why didn't we just fly out here in the ship, skipper? Would have saved us a few hours or more."

"Because, Bud, this is more exciting and we can move around to see a lot more. Besides, this will be the Straddlers' farewell flight. We don't have any room to take them on the *Dart* so here they will remain until we either come get them, or someone else does!"

"O-o-o-o-o-o. Ominous soundin', Tom," Chow commented.

The three men and their machines flew in silence for another half hour. At that point the uppermost peaks of a new mountain range began to rise in the distance. This one seemed fairly long as it stretched from horizon to horizon, perhaps a thousand miles, the inventor estimated.

They headed toward it and maneuvered about fifteen degrees to

their right in order to come more directly inline with the tallest mountain in the range. Suggesting Bud and Chow continue on, Tom sent his Straddler two thousand feet higher. The view was magnificent and he could well imagine the mountains were once covered with trees and bushes for the first third, that thinning quickly to snow and even a possible glacier. He checked to make certain his video camera was getting everything he was seeing.

The closer they all came the more intriguing the mountains appeared. In places it looked like water had once lapped up against some of them eroding areas that now were bathed in deep shadows.

But, as they got within about five miles from the base, Tom's heart skipped a beat. His unbelieving eyes blinked and he wished he could wipe his knuckles across them. Within a minute, Bud and Chow could see from their lower altitude what Tom had spotted.

It seemed to be the remains of a building in the deep shadows of a large cave. Like the actual cavern, the structure was huge featuring a sagged-in roof and enough openings—window-like and yet neither squares nor rectangles as would be the norm on Earth—to make it appear to have been at least six stories at one time.

He came back to their level asking Bud and Chow to slow down for a moment so they could come together about a mile away from the mountains' base.

“Wahl, I'll be durned!” Chow exclaimed reaching his right hand up to remove the missing ten-gallon hat he could not fit inside his helmet. Inside his visor Bud could tell the chef was blushing at the blunder, so the flyer placed a hand on the older man's shoulder and gave it a comforting squeeze.

“Yeah. Me, too, Chow,” he muttered.

The inventor suggested one of them—himself—maneuver forward to get a better look.

“Come on, skipper. You know your dad outlawed you being the guinea pig more than a decade ago. Sheesh! I'll go and give you a tour, from afar mind you, over the video link in our helmets. Stand by...” and with that he surged forward.

“Not to within more than a hundred yards from the cave entrance,” Tom warned.

“Yeah, okay. Got it. I hope my suit lights penetrate.”

They did and the video was stunning, and even more so once Bud energized the light array on the front of the Straddler. In its cone of light could be seen many slightly eroded details of what had possibly once been a fortress of some sort. Certainly it was far too large to be

a residence. *Unless*, he pondered, *it was some sort of hotel?*

“Hey, skipper. Could that have been a place for tourists at one time?”

Now it was Tom’s turn to ponder the possibilities. “Well,” he slowly answered, “anything is possible. Uhh, you appear to be straying slightly inside the area I wanted you to go, so please back up a bit, Bud.”

His brother-in-law let out a disappointed grumble but he did back away. Next he maneuvered along the length of the structure getting detailed video of just about the entire thing, even one area that had crumbled in.

“Not a lot to see. No furniture and definitely no... umm... remains. I’m coming back unless you want a shot from higher up.”

“No, Bud. Please come back and let’s see what might be over the tops of these mountains. We may come back here if we find nothing.”

But, *nothing* is not what they found.

This set of mountains was the first in at least five groupings visible in the near and far distance. Tom wondered if, like the Rocky Mountains back home, they had been forced up by tectonic plate action far in the planet’s past.

The striking thing about them was the lack of erosion, most of which the inventor believed was due to lack of atmosphere.

But, surely, when the planet has pushed these upward, there was air and likely rain and wind. It was just that the ridges they encountered were so sharply defined. It was almost as if they were made of something more resistant than the rocks and soils in Earth.

That reminded him it was time to start collecting a few samples. With the others remaining aloft, he dropped down and landed near a field of small rocks and something looking like very coarse sand. Three rocks and about a pound of the sand went into collection bags and were stowed under his seat.

He rejoined Bud and Chow and they continued on, slowly, looking at several more of the mountains, none of which had any indication of civilization.

“Bud? You might be right about that one building being a hotel. As in right at the beach. It may be a human way of seeing things, but that makes some sense. The only thing is I could see no way of accessing it other than perhaps by air,” Tom said.

Three men riding futuristic flying machines sat in mid air and in

silence for nearly five minutes while they pondered what they had seen.

It wasn't until they neared the fourth range of mountains Chow spotted another structure. This one was in the middle of a flattish area that must have been several hundred miles wide and at least twenty miles front to back.

"Looks like some sort o' ranch ta me," the chef declared.

"It might have been at that," Tom replied. The same thought had run through his mind.

"All right," Bud said sounding a little perplexed. "We see these buildings and that farm or ranch and yet there's zero sign of any bodies. Not even bones. What gives?"

Tom had to chuckle. "You are thinking like an Earthling, flyboy. Just because we have bones does not mean all beings have them. These might have been a race of silicon-based creatures and over they millennia they simply broke down and became part of the soil."

"Wouldn't they leave little piles o' stuff?" Chow inquired.

"Well," Tom began but stopped. Then, "That would make some sense I suppose. I'm thinking they had ample warning of the impending disaster and they all left."

That did not account for any herd animals such as might have been found in the area below them, nor would it be possible to take all other life forms with a departing civilization. It was more of a puzzle than Tom wanted to think about at present.

They all noticed how late in the Wanderer day it was getting as the shadows between the mountains were growing longer and the shadows darker. Tom suggested heading for a sort of cave they could see some twenty miles away and in the direction they had been traveling so far.

While Bud took on the duty to get their habitat tent up and inflated and Chow began heating up some lamb stew from his stack of foods, Tom explored the area around their camp. He picked up many rocks and other things discarding about seventy percent of them with the others going into a clean collection bag.

He was just hoisting it up over his right shoulder when Chow's voice came over the radio. The man sounded frightened.

"Help! Thar's some varmint standin' over by those rocks!"

Dropping the sack, Tom sprinted the hundred yards or so back to their camp.

Bud had come back out of the tent and was standing with the

chef.

“What’s going on, Chow? What did you see... and where?” Tom asked glancing quickly around their location.

“Mebbe I didn’t see anythin’, but right over thar,” and he pointed to some nearby rocks that stood in a pile about fifty feet tall, “I thought I seen some sort o’ creature, like a thin and tall man, in nothin’ but his skin! He ain’t there no more, though,” he had to admit looking at the spot.

Tom and Bud swung their suit lights around bathing that area in enough illumination to get a good look. There was no creature standing there, but Tom was wary of making any judgements. There might have been something or someone there. He told Chow to get into the tent while he and Bud would go check it out.

“Not on yer Nellie! I’m a-comin’ with ya.”

The three men headed cautiously toward the rocks.

The shadows were deepening and quite quickly, so by the time they arrived the entire corner of pile of rocks was nearly black. The lights on their helmets were able to illuminate what was before them. And, it turned out to be a bit of a mystery. Other than a couple rocks there was nothing to be seen for several hundred yards.

“Now, I’m-a feelin’ mighty foolish, Tom. Sorry.”

Tom looked back around. “Nothing to worry about, Chow. It could have just been a shadow as things changed. Or...” and he left the rest unsaid.

Bud picked up of Tom’s thoughts but in looking at Chow he decided to say nothing more.

They walked back, retrieved the still warm food and headed inside the tent.

It was not a peaceful night. None of them slept solidly because of individual thoughts of what could have caused the chef to call out. Had it been something real, or merely a shadow.

Personally, Tom hoped it had been only a trick of the light.

Bud was more worried about Chow than about something that might have been out there. As much as he kidded the westerner, he was closer in his mind with Chow than with his own father living all the way across the country.

By morning they were all weary but ready to continue on with their exploration.

Tom made a fast call via suit radio and let it link via the PER in the *TranSpace Dart*.

His message was brief.

“We found what looks like a large building in the shadows of a mountain right on what was an ocean or very large lake. We also found what would be like a ranch house hundreds of miles away. No signs of current or even former life forms.” He neglected to mention the possible sighting the evening before. “He concluded with, “Unless something really stands out by mid-afternoon, we will head back to the ship and come on home.”

After striking camp they mounted the Straddlers stopping where Tom had dropped his sample bag and got it into the storage compartment before preparing to leave the area.

“We going to check out that house?” Bud asked.

Tom nodded. “Yes. We are going to circle around and at least fly over the top. I’m trying to decide if it is worth the risk of the thing falling down on us by trying to go inside.”

When they arrived, they all could see the terrible state of the building. Made, evidently, from cut stones from the nearby mountains, about half of them had shifted with three-quarters of those having fallen into the structure.

To suggested they land on three sides and approach on foot.

“Please, do not go closer than maybe fifty feet. Get lots of good video with your helmet cams and then meet me back here in twenty minutes.” He was going to add, “or less,” but held his tongue on that.

After discovering nothing left behind that was visible from their distance, Bud and Chow joined Tom and they rose to a thousand feet and continued on their previous course.

For the next seventy-two minutes all they could see below, and that they zoomed up and over, were more and more mountains. There were no further indications of any buildings of any sort of structures to indicate any previous life. It was, boringly, the same mile after tedious mile. So much so that Tom was just about to suggest they all turn around and head back to the first, very large building.

But, Chow urged him to continue of at least another hour. And then, another and another.

Neither Tom nor Bud could figure out why the chef wanted to keep going unless he was still searching for any sign of whatever it had been that startled him the night before.

By mid-afternoon Tom called a halt.

“We need to set down, rest and eat. Then I have to decide if we turn back and head at highest speed for the ships and then home, or add one more day to this trip and search for a few hours more. Votes?”

Chow raised a hand. “Cain’t figger it out, but somethin’ is tellin’ me we got to go on. Like there’s a surprise around the next corner or somethin’ like that. I’ll rustle us up some good food if’n you two get that tent up. Then, we eat and we, or you, Tom, decide for us all.”

“What Chow said,” was Bud contribution.

Spotting a clearing of some hundred yards wide and nearly the same long, they landed, unpacked the essentials and got things going.

Again, Tom wandered around collecting a few samples of the stones. A few looked different than the ones they already had, so he was hoping they would have a different constitution.

Their late lunch was fast and in no time things were re-stowed and they were heading along their path.

Tom felt uneasy and was arguing silently with himself for letting them get this far from the ships.

CHAPTER 18 /

HUH? HOW CAN THAT BE?

FOURTEEN MINUTES later and as they rose again to cross over the next mountain in their path they found something, or somethings, and five of them. All inside a natural bowl formation that could have once been the crater of a very large and extinct volcano. It had obviously been excavated and the sides smoothed, but that was not what took their breath away.

Sitting in what must have been a standard separation were five ships. Space ships. Huge at about three hundred feet wide, disc-shaped and obviously very old, but spaceships nonetheless. Each looked mostly like the other four with the exception of one to their left that had taken some terrible impact by something incoming from space.

“What in tarnation could those be, Tom?” Chow asked incredulously.

The inventor had to think a moment before he could give an answer.

“Chow, and Bud, those are derelict spaceships from who-knows-where and from some time in the long past of this planet. Don’t ask me where they originated. The one thing I kind of believe, from the design, is they are not from our Space Friends, and they are not designed with all the angles of the ship dad found behind the Moon, so possibly not their Masters.”

Together, they flew all around the perimeter of the ships. Nestled against the walls were nonstop buildings. Most had a similar architecture but there were visible differences. What they all featured were set of wide stairs rising from the ground level and up to nearly thirty feet where wide portals without visible doors or covering were set back inside indentations of ten to fifteen feet.

They stopped while all aimed their helmet cameras around attempting to capture the entire area, ships and structures.

Bud was inching forward so Tom had to caution him to hold back.

“Of course,” Tom continued, “as old as these are and given that we believe there might be hundreds or even thousands of space-flying civilizations out here, I am not sure I’m surprised by any of that. I truly have no idea. Anybody’s guess is as valid as mine might be!”

Building and towers, many intact and some crumbling but all of them recognizable, ran for several miles around a central open area where the ships lay. That area must have been a half-mile across and the ring of surrounding structures at least two and a half miles around.

Bud was the first to speak. “It can’t be a city, can it? A spaceport?”

“If it is, it’s a dead city,” said Tom. “Let’s all stop and take a look from up here. We need to take this slow and carefully.”

“Ya gonna call yer father?” Chow asked.

Tom shook his head inside his helmet. “Not right now. Because of all the curvature of the planet between us and the ships, I think I’d have to go up perhaps a couple miles to get a connection. For now, let’s just start to slowly head down and to that spot over there. The one next to the ship that is partially ruined. That building has some of the most intact steps I can see.”

“What I’d like to know is how the heck can that be?” Bud asked sounding bewildered.

Tom answered, “Dad and I believed this planet might have been populated at one time. It showed all the hallmarks of a planet that had formed in a Goldilocks zone of some star similar to ours.”

“Huh?” came from the cook.

“Oh. Well a Goldilocks zone around a star is an area just far out enough to have the temperatures necessary to build and hold an atmosphere and water and then some forms of life. If a planet is too hot you get nothing. Too cold and the same thing—”

“Oh. But if n it’s jest right, ya get all them good things?”

“That’s right.”

They were lowering down slowly but also moving to the side so they were soon fifty feet above where Tom wanted to land.

They paused and gave a good look around them. It all gave Tom a disquieting sense of *déjà vu*. It made his spine tingle.

The city was only about a quarter in ruins, and most of them only partially destroyed. No structure had completely fallen in on itself. There was no sign of an attack that might mean traditional warfare or some atomic blast or other sort of explosion causing the damage. Rather, there were entire areas with no damage other than that of the passage of time. But other parts of the city had taken impacts like the one spaceship. Tom believed these would be the sort of results after being bombarded by meteorites over who knew how many decades or centuries.

The three adventures hovered over the open area, what could have once been a park or some large civic center. They spotted one impact crater nearly in the center of the flat area but the rest seemed incredibly intact.

“Let’s set down here,” Tom suggested. “This looks like it was built by a race with engineering skills and yet I’m not seeing the obvious.”

After a pause, Chow asked, “What’s that, Tom?”

“Vehicles. There are no cars, trucks or even what might pass for bicycles. Let’s land.”

Shortly, they were standing together a few yards from their trio of Straddlers. All three looked around in awe. The buildings were nothing like anything found on Earth. At least not in modern times. Perhaps during the heyday of the Greeks or Romans... Obviously made of some hard substances that had defied most of the ravages of time, a few had been hit and all those objects seemed to have come from overhead, not from the sides. Rather than crumbling from the hit or even blowing outward, it was almost as if they had been made of paper with the meteors just passing through leaving a hole only slightly larger than their own diameter. Over time some of the surrounding materials had fallen in.

“Should we go investigate things, Tom, or do you just want to grab a few samples and leave?”

“Yeah,” chimed in Chow. “Are we stayin’ and moseying around, or skedaddlin’? Pers’nally I’m fer caution.”

Tom thought over their options and their vulnerabilities. He came to a decision. “I vote for at least investigating one of the ships and then a few of the complete buildings, like that one over there,” and he pointed to a building that stood about a hundred feet tall and twice as wide. Several others were twice that size. “You are both welcome to come with me or remain out here. Check that. Someone stays outside and the other can join me. You staying out, Bud?”

Bud snorted. “As if! Of course I’m coming with you. Right, Chow?”

“You bet! I’ll wander around a bit but stay real close ta ya both. Uhh, do ya want me ta see if there’s a way ta get inside one o’ the ships?”

“Walk around but not too far under any of those ships and try not to touch anything. Bud and I will take the two buildings next to each other and only spend,” and Tom looked significantly at his friend, “only thirty minutes. Then I have to go up and call dad.”

He looked at the chronometer on his suit’s arm and shrugged.

“We probably should wait until Wanderer rotates so I can get a strong signal back to Dad, but we ought to be off this planet inside of twenty four hours, so now’s the time. Let’s go.”

Inside the closest building with the no sign of damage, and Tom found weird statues and strange furnishings that defied description. None seemed to be in any shapes that might be indicative of the former inhabitants; they were more likely what passed for artworks.

These were nothing like anything on Earth. Odd angles and the hint of very old faded colors revealed in his helmet light beams gave the inventor the shivers. Everywhere there might have once been fabric was now denuded with hints of dust-like piles that could have been fabrics littered the floor. Time had done its damage inside and out.

Tom took pictures that Damon Swift and scientists around the world would study once they were back on Earth. As he took photo after photo, Bud wandered around his building taking videos of what he encountered. Suddenly, Tom heard his friend cry out.

“Skipper, come over here?” With a racing feeling of dread Tom hurried to answer his friend’s call.

“What is it, Bud? Are you in danger?” he called out trotting toward inside the next building and through an arched doorway nearly fifteen feet tall and into the adjoining room. There, Bud stood as if frozen.

“No, Tom, I’m fine,” and he paused collecting himself and pointing to his left, “but look at that wall.” His light swung up illuminated the wall in question.

The entire vertical surface was covered with the same kinds of artwork as the larger front room in the first building, but interspersed around and even inside of some of the art—or what they assumed was art carved right into the walls—were unrecognizable symbols and what looked to be a few numbers or equations.

Neither of the men recognized those symbols.

“So, not the Space Friends I’m guessing,” the flyer stated.

“Not that I can tell, Bud. Nothing I seem to recognize.”

Tom and his father had been receiving symbol messages for several years from an alien race they called their space friends, but those had stopped and the beings had not been heard from for nearly a year.

Tom stared at the wall in amazement. “Another alien intelligence and another language? How can this be? This can’t be the space

friend's home planet. I wish they could get in contact; I'd love to get their impression about this."

"Boy, you'd sure have a lot to ask them if they ever call. Do you think they got to their home planet?" asked Bud.

Tom nodded. "If dad's and my guesses are correct, they would have required about this long to get to around Cassiopeia, which is our best guess for their home system, but we've always had a bit of a communication issue, and they've never been very specific."

"What about the AquaNoids from the Mariana Trench? Could this have anything to do with them? Wait, don't answer. I just realized we saw nothing to indicate they have a written language on the walls of their caverns. So?"

The inventor shrugged.

"Why is it we run into these dead a million years things, Tom? I mean, there's that cavern on Phobos we found while you were trying to get that moon back into place around Mars, and now this."

Tom admitted that had also been on his mind but he had no answer for it other than mankind likely was a Johnny-come-lately to space flight in the scheme of the galaxy or universe.

Tom took pictures of everything on the wall so he and his father could attempt to translate them later. It took nearly one hundred shots to get the entire room photographed. That was acceptable since his digital camera system could store more than ten thousand high-resolution shots.

Tom finished and turned to Bud. "Okay. Decision time. Obviously we can't remain here for as long as it is going to take to find out what might be going on, so I've decided we need to maximize our time. Bud, I want you to check out the building next door. Chow? Can you hear me?"

They walked out of the side room and, before leaving the building, walked to the opposite side and into a smaller room. "Come on back if you are out exploring, please. We should be downstairs in ten minutes."

"Shore, Tom."

As is light swung up to the largest of the walls in the room, Tom gasped.

On the walls were artworks similar but different from the ones in the first building, but in Bud's light were an image of five spaceships just like the ones outside. Even down to the one with the major damage.

It was what was pictured around the ships. Figures of beings, all lying on the ground, seemed to litter the scene.

While they tried to figure how a scene might have become part of this wall, the young men looked around for more illustrations.

There were many scenes of destruction set into the surrounding walls; it appeared to be an hour-by-hour depicting of the destruction that was befalling the planet and its citizens.

Tom documented them all while Bud wandered into the main hall.

“Skipper? You might want to see this.”

Tom came out to find Bud standing at the side of another stairway heading upward. He was pointing at a table or something analogous to a table set against the side of the ascending structure.

“Tell me those do not look like little machines and pyramids and boxes,” he almost pleaded.

“Sorry, Bud. I can’t because that is exactly what they look like.” So saying, he gently reached out and touched the nearest object.

Rather than crumble into dust it slowly caved in on itself as if the molecular structure had just simply given up.

Tom took detailed photographs with Bud’s gauntleted hand sitting next to each remaining item for a scale reference.

“You youngin’s comin’ out?” Chows radio call came into their ears.

Tom looked around before answering. “Sure, oldtimer. Just getting some photos. But, maybe you ought to come in and see all this as well. Kind of interesting.”

When Chow came up behind them, he gasped.

“Dang! them’s some sort o’ collection of things they left behind. What do ya think they are?”

Tom stated he could not tell because the only one he tried touching was now sitting in a small solid puddle on the table.

“Wahl, then yer gonna want ta come on out and see what I found.”

The walked out the open portal and down the steps before crossing past their Straddlers and over to the nearest edge of the first, damaged, ship.

“Now, ya cain’t see what I brung ya over ta see from down here,” Chow explained. “I had ta get on my pony and rise up level with that

open space. Come on... I'll show ya."

The chief strode back to his Straddler, climbed aboard and patted the seat behind him. Meant for up to four men in a pinch, Tom and Bud climbed on and were soon leaving the ground.

Chow was a good and careful driver but Tom sensed an urgency in the man as they headed for the punctured part of the first ship's hull.

"Lookie over thar," the westerner directed their attention. He stopped their movement as they all directed their lights into the darkness beginning just a few feet inside.

Everything Tom could see was damaged. Everything he could see was covered in a fine layer of dust. Nothing inside moved. However, there were things inside, Mechanical, electronic unrecognizable objects and even the remains of bodies.

Tom made a decision.

"See if you can get us over to a spot where I can step off and go a little farther inside." He felt Bud's hand on his shoulder. "And, yes, Bud. I'm sure. I'll remain tethered to the Straddler and if anything goes awry, like if the floor crumbles underneath me, you and Chow will drag me outside and set me on the ground. And," he turned around to face the flyer, "do not quote my father about you taking the chances. If we have one shot at this then the most qualified to inspect things and make sense, if there is any to be made, will be me. I go in."

"I was just going to tell you to walk softly and if you find things to bring back I can also hook up and drag those back here."

Tom's grin told Bud there was an agreement to that idea.

Setting an hour time limit on his explorations, Tom slid off the seat and onto the most visibly stable of the deck surfaces. He timidly tried rising and coming down on his toes to check for deck strength. It seemed to hold his weigh with no problems. Moments later he took five steps into the interior of the ship.

As his suit's lights illuminated more of the ship's interior, Bud took non-stop videos of what the inventor was encountering. He also noticed a few things Tom did not appear to see.

"Skipper? Stop a sec and tilt your head up. If what you're standing under is what I think it is, then there might be a connection between this ship, or these ships, and that odd-shaped saucer your dad found behind the Moon. What do you think?"

Tom looked up into a pentagonal indentation in the ceiling. He slowly looked all around himself noticing the same similarities Bud

had. Most areas were very geometric. Three-sided, five-sided and even nine-sided objects, what appeared to be hatches and surfaced that must have been tables.

A cold shiver ran down his spine.

“You know, Bud,” Tom’s voice had a hint of awe, “You might be right. Makes me wish I had that spherical key we all know opens that small ship. I’d never have thought to bring it. Oh, well.”

With a silent shrug he headed for an octagonal arch at the back of the room. Assuming there had once been a door or hatch, it must have been left open when the ship was damaged. He slowly went into the small room beyond.

In it he found what must have been a ship’s library at one time. Tattered remnants of physical volumes littered a set of shelves and the floor in front of it. He photographed what he could and then attempted to gingerly pick up a nearly intact book. It crumbled into fine dust at his mere touch.

“Well, that’s not going to be an option,” he muttered. He looked around to see four other arches off this room he could explore.

“You do know you are out of our direct sight, don’t you?” Bud inquired.

“Yes, but as long as you are receiving my video stream I think we can all assume I am safe. Don’t worry, though. If you see these other doorways... well, I’m going to look inside but might not go into them.”

In the first of the other rooms he found a small variety of objects that appeared to be made of some non-corroded metal. It wasn’t golden or silver but more of a light pink nature. A few of what looked to be mechanical devices were set out on a slab that may have been a table. If it were to scale with the former beings of the planet, and of equivalent height to what humans found acceptable, it would put the aliens at slightly over eight feet tall.

The alien bodies his father found on the other ship had been between eight and nine feet tall.

It was time for his spine to do another round of tingling.

More photographs and video were taken and he also pulled out a small folded satchel into which he carefully placed several of the sturdier objects.

Also in that satchel went a piece of chipped material he believed had been part of the spaceship’s hull.

After hauling his first bag to Bud and Chow and the waiting

Straddler, Tom pulled out two similar bags and headed to the opposite side of the first room.

Moments later Bud's voice came over the radio.

"Tom? I'm getting a sort of buzzing on the radio but it sounds like there is a voice in there. If you can, come on out and we can try to figure this out."

Tom returned with one of the other two satchels filled with things he'd managed to pick up without damaging them, setting them next to the Straddler. He listened to his radio making a few adjustments to the armband controls before finally looking up.

"I think we need to gain some altitude. Or, I need to. Come on," he instructed picking up the bag and swinging his leg over the seat of the Straddler. "Let's get outside and me on my own Straddler. I'll head up and see if I can get in contact with whoever that was."

Chow carefully backed them up until he could swing the nose around and head directly outside.

While Bud stowed Tom's findings, the inventor walked the fifty feet to his Straddler and was soon zooming for the sky.

He needed to reach an altitude of over two miles before he detected a strong signal from the *Dart*. Setting his machine to go into a hover, he concentrated on the radio.

"Tom Swift to whoever it was who called fifteen minutes ago. Tom Swift here. Can you repeat your message?"

There was a full minute of pause before a voice, crackling with the poor connection, but recognizable came through.

"Skipper? Oh man and I glad you answered. It's Zimby. Your dad is on the warpath over you not having left the planet yet. We're two-thirds of the way to the flip-over point and have great comms. What can I tell him?"

"Okay. Let me dictate a message you can send on. Here goes:

Dad,

Found ancient city on Wanderer with five old spaceships in a central area. All millennia old and in very poor condition. Also found this (see attached photos {12 for right now}). Can't help but think these symbol are no relation to the ones we've been working with. New race? Maybe. Also, ships have similarities to your Moon find ship. Can you try sending a message to our old Friends and impress on them import of their communication on this.

Q: Is this the home world of a known race?

- Q: Did they realize Wanderer was coming or already here?
Q: Will their Masters allow them to visit? (give trajectory info to them, but you already know to do that. Sorry.)
Q: How many beings might have lived here? Millions?

Tom

Next, he attached a dozen of the clearest digital photos of the larger symbols and the image of the spaceships with the bodies and then more photos of the outside and inside of the stricken ship.

“You can add that we are fine and will be heading back from here in an hour. Also that I will drop off a remote camera probe to criss-cross this area for as long as possible and to send back even more video for scientists to examine.”

“Got it. And, wow on the pictures you attached. Wish we could all be there right now. Uhh, when will you leave the planet? He’ll want to know.”

“Sure. We are a day and a half from the *Dart* but I believe I can call the saucer to come pick us up partway back so we should be one rotation from liftoff.”

Tom explained he needed to go back to ground level and get everyone ready for the fast flight back.

Zimby promised to tell Damon they were making all haste to depart and that Tom would check in as soon as they took off.

After thanking him, Tom dictated a brief message for both Bashalli and Sandy before signing off.

CHAPTER 19 /

REPAIRS AND MISFIRES

WHILE HE was still at an altitude making communications possible with the waiting ships by the repelatron farm, Tom sent a start-up sequence to the saucer ship instructing it to energize systems and take off heading toward where the trio had traveled.

He looked at his suit's wrist-mounted L'il Idiot and computed where they had stopped for the night near the apparent one-time ranch. It would arrive there in an hour and find an appropriate landing spot. It would wait until the three men arrived.

As he came back down Tom sighed inwardly at the thought he would need to abandon the trio of Straddlers there as there was not practical way to bring them back to the *TranSpace Dart*, and even then to get them adequately connected for the flight home.

It would turn out to be a choice between leave them out here or leave them by the repelatron farm. In either case it was unlikely they would ever be retrieved.

Tom hoped that circumstances might allow him and a crew to come back once Wanderer had swung around the sun and it was assured it would pass harmlessly from the solar system. If nothing else, it would be nice to retrieve the repelatrons, excavators and even the Straddlers for some other use.

They offloaded the sample containers from Tom's vehicle and placed them in Bud's.

"Want to take an exciting ride?"

"Shore can. What's up?"

"Tell you everything later. For now I want you to head back to that farm and bring back the saucer. It should be somewhere close to the old building, just waiting. Call Hank and Zimby to tell them you are getting her into the air and take off then land in the middle of the open area here. Tell them to call dad and say we ought to be off-planet in twelve hours, please."

"Yep. Got it, Tom. Headin' out in half a shake."

"Wait, Bud. Tell them to run a final check of the repelatrons and get back to us. Before we leave we'll stop, re[place the damaged dish and make any corrections to the rest of the field as necessary. They have to run another four or so weeks unattended. Also, tell him to activate program Zeta-Six. Remember that because it is important."

“Anything else?” The flyer had already been recording Tom’s orders to be sent once they were out of the area of this deep bowl.

“No. Just remind him we need to leave the lights on and nobody can come back. It all has to work once we take off. It is just that I forgot to add a circuit to turn the units off at the right time, so to speak, so Zeta-Six will set them for a definite time when they shut down later. The repelatrions have their power pods and they are discharging everything they get from the excavators and got us, or this not-so-lovely planet, heading away from the crash trajectory. But they without the shutdown command Zeta-Six orders, they will keep pushing and pushing until the excavators will have dug down so far they can’t get any more materials to them and that would be just as bad as if they were to shut down early. If we just leave them, in about six weeks time they will not have anything to fling out and could go into overload and there is every possibility one or more might explode.”

“Oops!”

“Yeah. Oops is right. What I want and need Zimby to do is access the main computer and have it shut everything down on schedule. Since we may not be able to come back to disassemble the array—and I’m hoping to do it before Wanderer passed Earth on the way out—Zeta-Six also sets the units to self-destruct in about a year. If we haven’t been able to come back to reclaim them I don’t want the planet to get out of the solar system with that technology.”

Bud reached out and shook Tom’s hand. “Count on you, skipper, to think of all that!”

They switched back to the regular channel in time to hear Chow. “Hey, Tom? What if Zimby wants to know what we’re gonna do with these here ee-lectronic broncos we’re ridin’.”

“We’ll tell him we’re abandoning the Straddlers for now, but in addition to his Zeta-Six command, and once we lift off, I will take control of them and head them back into space before the planet gets past Earth. That way, I believe we can be picking them up in high orbit in another three months.”

“Got’cha” Bud said and finished the recording. “Once we have communications I’ll send that out.”

He turned to the chef. “Never fear, Chow. I figured Tom would have that all under control, and now we know he has.”

Tom indicated to Bud he should switch to another channel.

“What’s up?”

“Not a lot, but I don’t want Chow to get worried. While you are

switching over to the saucer, scan and fly around the area to see if that mysterious something or someone is still there. Let me know once you come back to get us. A nod or a shake will suffice.”

“Okay, but if I do spot someone, or somebody, don’t you want to immediately know? Aren’t you curious?”

“It isn’t that,” Tom shook his head, “I just don’t think we can or should do anything if there is some sort of life left on this planet. It will have survived for centuries and there is no use in having that info get out back home. It is for you and me to keep completely quiet about. I’ll have a chat with Chow while you are gone just in case he might decide to say anything once we get home.”

Bud’s Straddler rose and raced up and over the nearby hill on a heading back to the single building.

“Say, Tom? Can I ask ya somethin’ I kinda think might be important?”

“Go ahead, Chow. Anything.”

The chef sat down sidesaddle on his Straddler and seemed to ponder his words. Tom gave him all the time he needed.

“Okay. I’ve been thinkin’ ‘bout what I likely did not see t’other night out on that plain.” Tom nodded encouragingly. “Fine. So, ta my way o’ thinkin’ mebbe we just don’t mention that to nobody. Not even yer daddy? Firstly, I don’t want folks thinkin’ I’m goin’ loco, but more’n that, if there was some hombre out there, he hightailed it off so I’m of the mind he don’t want ta be found. I don’t blame him neither. So, can this be our secret? Can ya have a quiet word with Buddy boy and ask him ta not bring it up?”

Tom walked over and shook Chow’s hand. Even through the spacesuit he could feel the strength of the older man’s hand.

“Chow. It never leaves this planet. Even if we come back, not a word will be spoken about it. Bud will keep it so far under his hat, you’d have to shave his head and drill into solid bone to find any hint about it.”

Chow grinned. “Have ta drill perty deep what with him bein’ all gristle and such in the haid!”

They shared a laugh before Tom suggested they had several hours and might just fly over to one of the other ships to see if there was some way to gain safe entrance.

With the knowledge his Straddler could fly more than three times what the trio had been managing, Bud hunkered down as flat

as possible and opened the throttle. He realized there was no physical reason for the low profile; with no air around him there was absolutely nothing to push on or try to shove him backward. But, he was a motorcycle rider and it felt “right” to him to do so.

Peak after peak flashed below him as he raced back to where the saucer would be landing within the next five minutes.

He calculated he’d arrive in about four hours. Then, after following Tom’s request for a quick look around from off the surface he would rush back in less than another hour and pick up his two friends.

Tom and Chow flew all the way around the quintet of ships looking for anything that might indicate a hatch may have been left open, or at least ajar.

They saw nothing to indicate this was the case.

What they did spot was another of the ships with a puncture from probably another, much more recent impact.

“In your opinion, Chow, do you believe one or both of us could get in through that hole?” He pointed to the three-foot-wide, almost circular opening.

“Shore. I believe that would be somethin’ possible, only as long as that hole goes all the way down an’ into one o’ the rooms inside. The thing is, and knowing how your daddy thinks ‘bout you takin’ chances, I might become like Buddy and tell ya it’ll be me goin’ inside. Whatcha think o’ that?”

Tom wasn’t certain whether he ought to be laughing or be miffed at the suggestion. He decided to simply ask another question.

“What with your weight loss and all, I’d say you can fit in there as well as I could, but what would Wanda think if she was here? Think she’ smile and tell you to go right in in?”

A little sadly, Chow shook his head.

“Naw. She’d get all sweet afore she told me I was a crazy old galoot an’ I ought ta stand aside an’ let the youngins do that sort o’ work. Sorry, Tom, but I had to say it.”

“I appreciate it, Chow. Honestly I do. I think the final deciding factor will be on my side. Do you know what to look for or what to collect to take back to Earth?”

Chow snorted. “Course I don’t. Why that’s plumb loco— ohhh. Right. I wouldn’t know what to touch or pick up or try to pack into a sack. Sorry.”

Tom laughed. “There is nothing to be sorry about. Let’s set down on the top of that hull and pull out a rope I can climb down and up.”

When they had settled on the hull and found it to be solid enough to take their combined weight, Chow suggested he knot the rope every two feet of so to make it easier, less slippery and ultimately safer for the inventor.

Tom agreed.

Two minutes later he was sitting at the edge of the impact hole with his legs dangling inside. Chow had made the end of the rope tight to both Straddlers using knots he had been using since a teen. They would hold far longer than the line might. Now he was standing over the inventor to assist in getting him over the edges without possibility of getting a suit tear.

Before he lowered himself Chow placed one of the samples bags over the edge of the opening.

Seconds later Tom was dangling mostly inside the hull with only his helmet still visible to the chef.

“Go ahead and let me lower myself,” he requested. With hardly a nod he disappeared.

Chow lay down on his belly so he could shine his helmet light down the hole. It revealed Tom and several pieces of the punctured hull sitting on the floor. As Tom swung slowly around they both could see he was in some sort of storage room.

He sat down and contemplated the walls around him. Like the original missile that the Space Friends sent to land—it survived a controlled crash—at Enterprises, there were dozens of symbols that were at the same time mathematical, elemental, and astronomical. But these were not similar to those of the Space Friends. To begin with the symbols Tom was familiar with and almost universally curved edges where these were uniquely squared and sharply angular.

Each one was of much finer definition and the lines were thin. It was not difficult to see these had been precision formed and almost certainly not by a living being.

Then there was the fact these symbols seemed to be more like individual letters rather than complex concepts and ideas. He scanned everything with his helmet camera and even pulled out a high-definition still camera from a pocket in his suit taking photo after photo until he had what he believed must be over a thousand individual characters.

On the shelves were what must be books. Whether they were for

entertainment or maintenance or even ship's log books, he could not discern. What he realized after tentatively touching the spine of one of them was that they were in much better states of preservation than anything in the buildings outside.

The inventor opened his empty collection satchel and carefully withdrew ten of the volumes. These he first wrapped in some thin plastic to hold them firmly together and to not rub against each other during any transit.

He moved on to the next door and found it was not only closed, it was either unpowered or locked, or both, so he could not move further into the alien ship.

With a sigh he told Chow he was going to come back up in a moment. "First, can you drop down that last collection satchel? I have some of their books but want to take more."

Chow reached up to scratch his head but was stymied by his helmet. He grinned, a little embarrassed, to himself. It was about the twentieth time he'd done it this trip alone.

"Comin' down now," he said as he reached into the hole as far as he could before dropping the bag.

Over the next eleven minutes Tom filled this bag with another dozen books and then sealed the bags, tying them to the end of the rope.

Chow helped pull Tom back up. This surprised the inventor as he believed his older friend might not be that strong. When he commented on this as they stowed the bags, the Texan smiled.

"Aww, shucks, Tom. Ya know I've been workin' out. Might not be as strong as Buddy boy, but I kin hold my own."

"I should never have doubted you, Chow. No insult meant."

"An' none taken!"

The saucer was waiting for him as he landed nearby, so Bud made haste to unload his stash of things they had collected and got them into the ship. There were no places to tie down anything, but Tom had been smart enough to build in a few cubbyholes under the deck plates. These Bud partially filled before he turned to energizing the drive systems.

By the time Bud came back Tom and Chow were sitting on their Straddlers going through everything the inventor had picked up. Four full bags sat around him. Some of that were the books he'd

brought out from the ship while others were what he could only describe, to himself, as things that might have a purpose or could simply be art.

The two other men helped the inventor get his finds into the saucer and carefully stowed with a lot of padding.

“We got a message back from your dad, by the way. It came in just as I was crossing the third mountain range boundary. I didn't read it but it is up on the control console.”

Tom walked over and sat down. After reading the return message he laughed.

“Well, in that message you sent out for me I told dad I wanted to know if this was anything to do with the Space Friend's home world and also asked him if the big symbols in those first images might be all brand new, or something he believed might be what we've seen but now the computer sort of does all the translation for us. So, listen to this:

“Son, I believe you are right on symbol, as in perfectly new to me and the computer dictionary. Shape is definitely not recognizable. But, figured I would ask them anyway. Sent following to SF:

Earlier Damon Swift to Space Friends

Recent Tom Swift on new planet crossing fourth planet orbit. Repaired the Solar System possible impact trajectory but located old city with strange symbols. Is (here is where I inserted that symbol you sent) something you can identify?

So, no answer but hope you are coming home soon. The world rejoices!

Dad”

“Oh,” Bud hastened to add, “he also told me to tell you that your time is up and to bring the boat back to the dock. I can imagine what he means by that.”

Tom grinned. “Yeah, me too. So, let's get everything battened down, give me fifteen minutes to get the Straddlers programmed to take off in about four weeks when the planet will be in a favorable position to get them back close enough to Earth we should be able to rescue them, and then we head for the *Dart*.”

An hour later they approached the repelatron farm and Tom calculated how much time they had for a straight up takeoff before

they would need to curve around the planet before heading for home.

It required about two hours of their time to dismount and replace the damaged repelatron dish and to run a full set of diagnostics. With forty minutes to spare Tom and Bud headed back to the ship.

“Our window of opportunity for having all the repeltrons firing on this rotation closes in twenty-seven minutes. I want us off planet in twenty to get as far out of the line of fire as possible. But, I see we have another problem. One of the excavators seems to have stopped working. The indicators show full operational ability, but from the SuperSight it appears to have become high centered. I’ve got to go out and get that unstuck.”

Bud shook his head and started to climb into his suit again. “Nope. It’s within a good six-minute jog so I’ll go free it up. Take me another six minutes tops! We’ll make that takeoff time,” he promised.

“If you can’t do it, leave anyway and we’ll have to do without that final unit. It might mean a few days longer on the firing side, but I’d rather we go home now than wait seven hours for proper alignment and the next scheduled shutdown time.”

In under five minutes Bud was closing in on the inoperable unit. It was plain to see that something—probably a small piece of the planet it had dug up but had not been crushed—had jammed under the edge of that unit’s right track lifting it above the ground and somehow getting the tread stuck.

Tom only hoped the drive train on that side had not been forced out of alignment.

Bud pushed the manual override button on the computer box above the left track and waited until it reset. The stuck tread started to move in what looked to be the correct direction to back off the rock, so he stepped away for a minute to watch. When it was obvious that had done the trick he turned and began jogging back to the ship.

On the way back he radioed Tom that all was ready and operational.

“Get out of there, Bud. We just hit the four-minute point before activation so I went ahead and got things going. You don’t want to be inside that grid when those repeltrons activate.”

“Rodger that. Give me one minute to get clear and half of one to get into the ship. Can you take off with the elevator in operation?”

Tom did not actually know the answer so he did an estimation of their available time. "It's going to have to, Bud. Just get in and hold on tight. I'm sending the saucer up remotely. We don't have the time for anything else!"

"Hey. I can get to the saucer a minute earlier than the *Dart*. How about I bring it up and you two get the heck out of Dodge before that?"

"Bud? Run like the very devil is chasing you and get to the saucer. I'm already prepping it for fast takeoff. Get into the airlock and you're going to feel some acceleration!"

Tom held his breath as zero minute approached. He had begun the count down starting at a hundred and it now registered thirty-six. The *TranSpace Dart* lifted from the ground while Tom kept an eye on the saucer.

His friend disappeared under the edge and the inventor counted to ten, enough time to scamper up the steps and into—and close—the airlock.

Bud called at twenty-two seconds to go and with the press of a button on the *Dart's* control board the saucer rose and headed up and away from any possible contact with the repelatron field that was now just sixteen seconds away from firing.

Bud's ship came into view as they both reached fifty miles in altitude. As Tom watched, the landing legs finally fully retracted and Bud's voice came over the radio.

"I got knocked over when this thing zoomed up, but I'm in the main cabin and getting ready to rendezvous with you. Can you take a transfer student from another school and love him like one of your own," he joshed.

"Only as long as your paperwork is complete and in order," Tom said with a small laugh, "but I am very glad you out here. Let's get a thousand miles up and thirty degrees off this line and then we'll combine our two tiny crews. Oh, and Chow is coming up the ladder to tell me to ask you if you want the lasagna or the hamburger cheesy mac tonight for dinner?"

"Burger and mac for sure. See you on the mess deck in just a shade over half an hour. Out."

Even with all things on automatic and that he could see the saucer tagging along like a dutiful puppy, the waiting was the most difficult and nail-biting thing now. Each time Tom checked the chronometer he could swear that it has practically stopped. It reminded him of an old comedy routine going something like:

"What time is it?"

"Three o'clock."

"Okay, what time is it now?"

"Round about or precisely?"

"Precisely, if you please."

"It is *precisely* fifteen seconds after the last time I told you it was three o'clock!"

But, the moment came when his control board blinked with the signal that they were in position and the ship's repelatron had shut down. He radioed Bud telling him it was safe to come over.

"Get out and stretch a little while. Be sure to set the controls to override from the *Dart* before you leave."

By the time the flyer had entered the ship and come up to the cockpit, Tom was sending them on a fifty-degree tangent to their path back home.

"Why the diversion?"

"I want to get one more good star fix on Wanderer to see if we are really making a difference... and how much."

CHAPTER 20 /

LEAVING AN INCREDIBLE MYSTERY BEHIND

WHEN TOM made the announcement to Earth over the radio, everyone involved in any part of the mission back home cheered and slapped each other on their backs. Tom Swift had saved them from a possible impact between Wanderer and Jupiter or Saturn and therefore had saved the Earth.

Damon sent a message of congratulations to all the crews and said he was looking forward to seeing what they were bringing back.

“How is the planet doing, son? Are you seeing the deflection from its original course you wanted?”

Tom told him it was still a week too early to tell, “...but the last sighting I took shows me we are on the right—pardon the pun—track now.”

He had to admit he was hesitant to have left because of all the potential for even greater findings, but understood that time could come after the planet swung around the sun.

“Are you thinking to dismantle the repelatron grouping and bring it home?”

“Yes. Surely this *could* be the one and only time we come this close, but if it isn’t I’d rather have something in storage to use than to start all over from scratch.”

Damon agreed with his son.

A special message from the President came through two minutes later. In it he said how proud he was to have brave people like those at Swift Enterprises who could and would go on such an unknown mission and all for the good of mankind, not simply for profit. He took the opportunity to give a very small lecture—knowing his address would be released to the public shortly—to other companies who tended to put their own profit and glory ahead of just doing what was *right*.

He also stated he was looking forward to seeing what scientists the world over were going to make of the treasure trove being brought back.

At first, this confused several of the team who had left prior to Tom, Bud and Chow finding the collection of buildings and spaceships, but the inventor quickly filled them in over the radio.

Tom, Chow and Bud finally had their meal and then the flyer suggested the others hit their rooms.

“I’ll keep watch and also check to see the saucer is following as fast as its little repelatrions can carry it.”

Chow raised a hand.

“Yes?”

“I was thinkin’ ‘bout ever’body it the other ships. Didn’t you say we was gonna catch up to them a few hours before we get back?”

Tom nodded. “Yes. Right now it looks like nine hours out. Why?”

“Wahl, I was also thinkin’ ta put on a slap-up feast o’ a meal fer them all before we all go home and our separate ways. Prime rib an’ roast taters an’ mebbe even real ice cream sundaes fer dessert.”

Tom turned to him. “You brought real food?”

The cook nodded. “Shore did! Put it in the freezer in the *Challenger*. Pardon me while I go arrange things.”

Bud turned to Tom. “That man amazes me sometimes.”

Tom grinned. “He pretty much amazes me almost all the time!”

Because the *TranSpace Dart’s* micro-black hole overcame such things as acceleration and inertia for those inside, Tom was able to comfortably spend most of the next day sorting through what they were bringing home. Carefully, even though things he’d picked up appeared to be sturdy enough to take a little light handling without crumbling away to dust.

He also spent time looking at and entering each and every symbol they had photographed in the ship’s computers. After several hours he noticed there were about thirty percent of the symbols that appeared more than once. He wondered if anyone could begin to decipher the individual ones based on repetition, then realized that would be Earth logic and trying to equate the alien words or letters into something that could be understood on a completely different planet.

Hour after hour he looked at things, even opening one of the books where he found even more of the symbols along with what looked more like engravings than photographs or even drawings. When he thought about it, this was the way all images had appeared back at what he was calling “the city.”

Then again, had they been engravings? He looked through his photographs and it hit him.

They looked more like things created like the raised print on some business cards.

Well, I missed that opportunity, he told himself on the realization he had never tried touching any of the symbols to see if they were raised or carved. It was one more reason to be going back in the future.

Tom made a note about this and also about trying to come back with the special spherical “key” his father had brought back from the alien ship on the back side of the Moon.

Their turn-around went smoothly with the *Dart* having picked up nearly a half hour on their schedule by that point.

At rendezvous time they were nearly a full hour ahead of schedule and Tom announced they would continue in a three-ship formation until they got home.

Chow finally called out over the radio for everyone to get over to the older repelatron ship. “Grub’s a-waitin’ boys! Bring yer appetite.”

The twenty-one men of the planet moving team dined on both prime rib and poached chicken breasts in a light curry sauce, a casserole with green beans, yellow wax beans and artichoke hearts mixed with rice, the aforementioned butter-baked potatoes and ice cream sundaes and pecan pie for dessert.

When the meal was finished Bud started everyone singing “*For He’s a Jolly Good Fellow*” to thank their cook.

Chow took a good-natured bow as everyone clapped.

Hank Sterling came over to a pensive-appearing Tom.

“What now, skipper? Back to Earth, and home?”

Tom shook his head. “Yes and no, Hank, at least not for all of us. I’d like to have you take our team back, this time in the *Dart* while Bud, Chow and I stay here. We’re going to let you drag your old saucer along with you and leave it in orbit by the Outpost. I want to explore this planet before it leaves our solar system. Besides, my father would like some pictures and as many rock samples as we can bring.”

“I’m surprised your dad didn’t want to come with us. He was quite an adventurer in his youth.”

Tom smiled. “Oh, he wanted to, but mother said no. She was pretty categorical about it. I think she was feeling like she was not going to accept that both her men were out of her direct control

during this panic time.”

Hank laughed. “Now, we know who the real boss of Swift Enterprises is.”

Tom nodded. “Mother typically keeps a low profile, but when it comes to her family, she has the final say.”

“She is definitely one of the good ones, Tom. I’ll get the men prepped for the voyage home.”

An hour after dinner was served Bud had a squeeze pouch of cola and was sitting with Chow and Tom near the large view windows of the control deck on the *Challenger*. Hank, Zimby and Duanne had transferred over to the *Dart* and would bring her home. “Chow, how in the world could you have thought to pack that feast.”

“Buddy boy, I would be one sorry ole dog of a chuck wagon cook if I wasn’t prepared for just about anythin.’ B’sides, I knew Tom would save us. Gotta cel-ee-brate that!”

Tom put his arm around Chow’s shoulder. “You have made all our work worthwhile, beyond the saving of Earth, that is.”

Chow blushed. “Golly, Tom, bless my old chuck wagon. Yer gonna make me tear up and I don’t want Buddy Boy ta see that!”

“I promise, Chow, I wouldn’t say a thing about it. I could sort of cry for happiness myself!”

As he stood, Tom replied, “And I think I need to tell a certain woman I love how happy I am to be coming home and am safe. I suggest you two do the same in a few minutes!”

Two hours out from the Moon, Tom received a call from his father and Harlan Ames.

“Good news on the home front, son.”

“Sure is,” the Security man stated. “Two things for you to note. The Witherspoon woman got dropped right into the pigsty of guilt by several of her previous assistants. She was responsible, even to the supplying of top secret diagrams we’d let Congress have regarding how we were building the repelatrons to the man who did the dirty work for her.”

“That’s kind of sad someone gets that twisted with hate,” Tom replied.

His father said, “They found an old letter from Arbuthnot Grimsby telling her he hoped that some day she might, and I quote, ‘Stick it solidly to those Swifts!’ end quote. Oh, Harlan has the other

thing.”

“Right. Jayston York? Had a terrible accident trying to outrun the FBI on a mountain road. He survived but once he is released from the hospital he goes directly to a Federal prison. This time,” and he sighed, “the troubles are over.”

Because it now only took a few hours to reach home, Tom had Hank and the *TranSpace Dart* dropping the micro-black hole off in its parking position to wait for the other ships; they were soon dropping toward the ground below.

A reception committee—actually an all-out crowd—had gathered at Fearing Island to welcome home everybody.

The three big ships touched down together and within just several hundred feet of each other with the *Dart* flanked by the *Challenger* to the crowd’s left and the *Goliath* to their right. Of course, nobody inside the ships could hear to roar of the several thousand people, but they could see them along with the fifty or so news teams with their cameras and reporters.

Tom took a deep breath on seeing how those reporters were shoving each other and trying to break through the security team in order to get some sort of exclusive. He snorted before activating his TeleVoc pin and seeing who from Security was out there.

“It’s Harlan, skipper. We’ve already announced that if some people shove and try to get away from us, everyone is going to be rounded up and removed. Some of those reporters can’t get it through their head. Want us to curtail all this and let you come out in thirty minutes?”

Tom thought a moment before replying. “How about this? The three ships all take back off and head toward the mainland. You announce that their bad behavior means we will set down in an undisclosed place, and stress that is not Swift Enterprises, and they will be escorted off the island.”

He could hear the mental chuckle of his head of Security. “Sounds like a great idea. But, stand by just over the horizon in case they behave. I think there are a number of legitimate, well-behaved persons out there who will be angry with the press if you don’t come back. Perhaps angry enough to do a few reporters some injuries.”

Tom knew that an angry reporter might just try to turn it into a bad report on the Swifts or this mission so he agreed.

Three minutes later the *Dart* took off followed by *Goliath* and finally the *Challenger*. As soon as they left Harlan made an

announcement over the public address system.

“I’m afraid that a few of our less respectful press members have just about ruined it for everybody,” he told the now hushed crowd. He’d already notified Damon of what was going on and he passed the information quietly to Anne, Sandy and Bashali. “So, I have tell you Tom Swift decided to not address a mob and as you see, has left for a landing elsewhere?”

“Where?” came a partially embarrassed and partly angry shout from the reporter for one of the big four news networks.

“That is none of your business, Mr. Abernathy. You are one of the people who decided to break through our security setup and have ruined this for the others. Now,” and his gaze shifted from the very uncomfortable man to the rest of the people, “my team is going to move along the front of this gathering and if you do not immediately step back and *remain there*, Tom will not be addressing any of you, and a brief press release is all you will get.”

His words had the hoped for results in that everyone stepped back and let the rude reporting teams back behind the barricades.

“Fine. If you will behave, I’ll radio Tom to see if he will bring the ships back. Hold on for five minutes. And, I will remind you that the first sign of bad behavior on the part of anyone will terminate this gathering!”

Within five minutes the ships had returned and the crowd repeated their cheering and applause, with some of the ones closer to the front ready to reach out and yank back any reporter who did not behave.

They didn’t have to.

A raised platform was pulled forward in front of the ships flanked by two very large video monitors and speaker assemblies.

With a hint of mischief, Tom asked Chow to be the first one to leave any of the ships. The chef nodded, hitched up his trousers and stepped out onto the deck of the *Challenger*, climbing down the ladder and ambling over to the platform where he walked up the stairs and stood there looking out over everyone.

Tom, Bud and all the others soon came out and were standing on the platform.

The inventor approached the microphone. “If I can have my father, my mother, wife and sister come up here to join us, I will then address the rest of you.”

The four people called out had already been moved over to the side of the crowd and were escorted by Harlan and Phil to the stairs.

As Tom swept Bashalli into his arms and gave her a nice, long and meaningful kiss—with the crowd cheering appreciatively—Bud did the same with Sandy and they both broke away a minute later to shake Damon’s hand and hug Anne Swift.

It took another two minutes for the crowd to settle down so Tom just stood there with his family, smiling. Finally, he stepped forward again.

“Okay. There are a couple thousand of you out there today and even though you are a little bit away I think I recognize a lot of you. Thank you for coming out to see us come home.”

“You’re a hero! Where else would we be?” came a shout from near the center of the crowd.

Tom laughed. “Well, I don’t see myself as a hero, as such, but I am a very lucky man to have things I care about so much that I gathered these fine men and headed out to the planet that was dubbed Wanderer a few months back.”

He told them about some of the difficulties they’d experienced, including political issues without naming anyone or any party. He described the starkness of the planet and that their position close to what was one of the polar regions, “and we still have to figure out which one, mostly because there was no real magnetic force inside the planet, just a magnetic field in high orbit, to help delineate which end was which. I guess it isn’t all that important to most of you.”

He asked that the equipment operator put up one of the numbered photos he’d taken of the supposed farmhouse. This elicited a gasp from the audience that he knew would be many more times as loud once the shot of the circle of buildings and the spaceships was put on the screen.

After giving most of them a minute, he suggested it was likely to not be the best use of anyone’s time or their cameras to try to get a shot of what was on the monitors.

“It isn’t that we want to keep you from putting those shots up, it is just that you will all have the opportunity to download those two and about a dozen others in fifteen minutes, and they will be, I guarantee you, about five hundred percent better and more clear!”

A few more minutes and he asked his team to step forward and introduce themselves. “And, spell your names for the sake of our press people, please.”

He pointed to Bud who stepped forward before next pointing to Chow. “This next man is the one responsible for keeping us fed and

full of energy.”

Each man only took about fifteen seconds so the entire introduction was made in five minutes.

Tom asked that his father come to the microphone.

Damon looked at everyone on the platform and then at the crowd.

“This is what we do best. This is what the United States of America ought to always be about. We should not bicker among ourselves trying to gain a little political power over the other guys. We should not be out for just ourselves. I know the President is going to make a worldwide address at eight o’clock Eastern time tonight but he sent me a brief note to read to you.” He pulled the paper from his jacket pocket and opened it.

Taking his glasses out from his shirt, he looked up and stated, “Getting to the point where I need these so I don’t tell you the President is ‘plauded to toll you...’ and so forth. So, this says:

To Tom Swift, all employees of the Swift companies, and to everyone involved in making this endeavor the great success it has become. I personally thank you. From a grateful world, I give you our collective gratitude. Even nations who do not like the United States of America cannot deny they have benefited from your mission and will live safe lives in the future. This has been something we all need to be thankful for.

“And,” Damon concluded, “that is his very brief message.

The rest of the following ten minutes was spent answering a few questions; not ones asked live but from a small list of ones submitted by the various news agencies and even one from Tom and Damon’s friend, Senator Peter Quintana.

The question and the answer to were both fairly short.

“Was there any point of frustration to your companies and yourself that came from those of us in Washington DC?”

Tom looked up. “Well, political hot potato, but I have to say the answer is yes. It is not my place, today, to condemn any individual or group, but I will say we were delayed nearly to the point where we might not have succeeded by a few narrow-minded individuals and at least one person who sabotaged some of our work.”

Another gasp went up from the audience. Tom continued:

“While we are used to a few narrow-thinking people getting some sort of say in things they are not actually qualified to speak out on, it is distressing that some of these people get elected and re-elected

with nothing being said publicly about their involvement in things that are not to the advantage of the American people.

“And, with that we leave you. The server information for downloading the photos and one short video I mentioned earlier will appear on the screen in one minute. The press is welcomed to download the package and the public here today can do this as well. The feed to the rest of the world will now terminate.”

On the ride home in the *Sky Queen*, with everybody from all the crews and ships along with the many containers of things they brought back, Tom sat in the lounge with Bashalli, holding her hand and whispering his love for her into her ear.

Damon had decided to take over one of the least-busy of the many lab spaces in the ship and was looking through a few of the artifacts. He was nearly beside himself with glee and was trying to compose a list of the people who should be given the opportunity to decide who got something first and who might need to satisfy themselves with video of things.

It wasn't going to be an easy task.

Anne Swift sat in the lounge watching her son and his wife behaving themselves while her daughter was practically climbing all over Bud. But, she had to bite her tongue. Sandy was a grown woman and had to be allowed to live her life as she saw fit.

It did make her slightly *tutt* at Sandy under her breath.

Bud came up for air twenty minutes into the flight.

“So, Tom. What's our next adventure...” and he took an elbow into his side. “And, I mean that after we spend a lot of time with our wives and families, of course.”

Tom grinned. “Of course, Bud. I was thinking of dusting off an old invention and seeing if I can finally make it work.”

He would say nothing more about it and Bud was left very curious.

What the flyer could not know was the invention had been something that had brought them together as friends half their lifetimes ago and how it would challenge them both.

<•>—< End of Story >—<•>

This has been book 28 in the ***New TOM SWIFT Invention Series***.
Read them all, and look forward to the next books, also listed here:

- {1} TOM SWIFT and His EvirOzone Revivicator
- {2} TOM SWIFT and His QuieTurbine SkyLiner
- {3} TOM SWIFT and the Transcontinental BulleTrain
- {4} TOM SWIFT and His Oceanic SubLinator
- {5} TOM SWIFT and His Cyclonic Eradicator
- {6} TOM SWIFT: Galactic Ambassador
- {7} TOM SWIFT and the Paradox Planet
- {8} TOM SWIFT and the Galaxy Ghosts
- {9} TOM SWIFT and His Martian TerraVironment
- {10} TOM SWIFT and His Tectonic Interrupter
- {11} TOM SWIFT and the AntiInferno Suppressor
- {12} TOM SWIFT and the High Space L-Evator
- {13} TOM SWIFT and the IntraEarth Invaders
- {14} TOM SWIFT and the Coupe of Invisibility
- {15} TOM SWIFT and the Yesterday Machine
- {16} TOM SWIFT and the Reconstructed Planet
- {17} TOM SWIFT and His NanoSurgery Brigade
- {18} TOM SWIFT and His ThermoIon Jetpack
- {19} TOM SWIFT and the Atlantean HydroWay
- {20} TOM SWIFT and the Electricity Vampires
- {21} TOM SWIFT and the Solar Chaser
- {22} TOM SWIFT and His SeaSpace HydroFarm
- {23} TOM SWIFT and the Martian Moon Re-placement
- {24} TOM SWIFT and the Venusian InvulnoSuit
- {25} TOM SWIFT and the HoverCity
- {26} TOM SWIFT and the SubNeptunian Circumnavigation
- {27} TOM SWIFT and the Marianas AquaNoids
- {28} TOM SWIFT and the Starless Planet (2019)
- {29} TOM SWIFT and His HyperSonic SpacePlane (late 2019)
- {30} TOM SWIFT and His Space Friends Return (probable title-2020)
- {31} TOM SWIFT and the Bride of the Aztec Mummy of Doom (a joke?)
- {32} TOM SWIFT and His Inter-Dimensional Pepperoni Slicer (huh??) *

* Yes, I *am* running out of good title ideas... but there will be more books coming!

And, he has co-written a quartet of novels starring Tom Swift as he takes on the rescue of a secret slave colony on the Moon. Called the **Tom Swift Lunar Saga**, it includes:

- *Tom Swift and His Space Battering Ram*
- *Tom Swift and the Cometary Reclamation*
- *Tom Swift and the Lunar Volcano*
- *Tom Swift and the Killing Moon*

Collections of novellas, many dealing with some of the individual characters in the novels and/or the lesser known inventions coming from the mind of Tom Swift may be found in:

- *Enterprising Characters*
- *Swift-ly With Style*
- *The Spirit of Enterprises*
- *Enterprises Extras*
- *Tom Swift's Pocket Book of Inventions*
- *Tom Swift's Another Pocket—More Inventions*
- *A Newer Pocketbook of Swift Inventions*
- *Tom Swift's A Fourth Pocket of Inventions*
- *Tom's 5th Symphony of Swift Inventions*
- *Ten Tom's: A Collection of Invention Shorts*
- *The Operator's Guide to the Fat Man Diving Suit*

In addition to the teen/adult Tom Swift stories he also has a book of stories about young pre-teen Tomas he starts to find his way into the world of inventions:

- *The Young Tom Swift Stories*

Tom's father, Damon, stars in his own series of novellas and several novels. The collections include:

- *The Wonderful Damon in Oz*
- *Damon Swift Invents...*
- *The Duly Deputized Rhino and Other Stories*
- *Yes... It's Another Damon Book!*
- *A Pair of Rather Long Short Stories*
- *Damon Swift in Flight*
- *The Lost Astronauts and Other Stories* (coming in 2020)

And, the Damon novels that tell the early tales of Damon Swift and his rather impressive business empire:

- Damon Swift and the CosmoSoar
- Damon Swift and the Citadel
- Damon Swift's Greatest Enterprises

... then, a long-ish novella of how Tom Swift first met Bud Barclay and Chow Winkler:

- Damon Swift and the Citadel 2: A Bud and Chow Story

Tom's mother, Anne Swift starts in her own series of medical mysteries, The *Anne Swift: Microbial Detective* series contain novellas about her secret FBI work. There are three collections in this series plus a biographical novel about how it all began:

- Anne Swift: Making the Molecular Biological Detective

...Check out and download this little freebie, a short story—600 words—written for a contest back in 2011:

- *Tom Swift and the Frictionless Elf*

Find it at:

<http://tomswiftfanfiction.thehudsons.com/TS-Yahoo/TS-Elf.pdf>

Mr. Hudson has also written a couple of strange novellas that are available as Kindle ebooks. None are serious and were only written to amuse the author. Even so, he decided to share them. **Do not** expect life-changing literature for \$.99 (US) each:

- *The Fiendish Bucket List of Dr. Fu Manchu*
- *Drew Nance: Up On The Housetop, Click, Click, Bang!*
- *Drew Nance: The Massive Mart Murder Mystery*

Fu Manchu's story is included in a trio of short stories starring Fu, Sandy Swift, and Tom and Bud (and Sandy and Bashalli and a bad guy named Mousie):

- *A Trio of Shorts: Three Short Stories in One Medium-Length Book*

And a collection of odds and ends (also a 99¢ Kindle book):

- *Don't Write Fan Fiction Until You Grow Up, and other short stories too short to sell individually*

Along with Chow Winkler, Mr. Hudson has written several cookbooks. The first and second shorter ones are part of two of the short character collections. Numbers three and four are standalone books:

- Chow Winkler's Three-Wheel Chuck Wagon
- Chow Winkler's Wide Open Range

You might enjoy Thomas Hudson's first foray into the world of Romance novels. He wrote this as part of a bet with a fellow author that they both could not complete a romance story even if given ninety days. He did it in nineteen:*

- The Love of Skunk

* Which is about fifteen days more than Barbara Cartland, Queen of Romance Novels, spent on any one book!

Finally (for now) on a dare, he wrote a strange story about a young girl with both a physical and emotional difference to 99.99999% of people out there. It is an adult autobiography/biography and features her life story starting when she was a young teen.

This is NOT a Tom Swift story in any way, shape or form!

- *The Life of BI: Complete*

Everything above may be found on Amazon.com in paperbound as well as Kindle editions, and many of this author's works can be purchased as Nook books from BarnesAndNoble.com and from:

www.lulu.com/spotlight/tedwardfoxatyahoocotcom

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