

# Enter the Cube

Nicholas and Dan Dobkin

## *Chapter 14: Thoughts in Flight*

It was a really strange experience to be continually running uphill and returning to the same place. The kids were jogging within a huge wheel-like cylinder that spun, creating a sort of artificial gravity that definitely left something to be desired relative to the real thing. Slippy, a big happy toad-like creature, was leading the little troupe; he would sing a line and the kids would repeat it as they ran:

*I don't know but I've been told*  
I don't know but I've been told!  
*Streets of Ark are paved with gold*  
Streets of Ark are paved with gold!  
*If I don't suck up that gut*  
If I don't suck up that gut  
*Peppy's gonna' kick my butt*  
Peppy's gonna kick my butt!

Clara was in the lead, pacing the toad with a fluid, effortless stroke. Brian puffed behind her, with Erin and Tennyson sweating to keep up. Nicholas and Cane were vying for last place and trying to prevent Slippy from lapping them. The workout seemed to be lasting much longer than their energy level on no breakfast. They welcomed any interruption at all, and this one was an absurdly calm voice, seemingly speaking from everywhere: "Dave, the time requirement for morning calisthenics has been completed. You may stop now."

"Dave's not here! How many times do I have to tell you?" Slippy pulled a very long wrench from his belt and whacked a blinking plastic box on the wall as he ran by.

"Dave. What are you doing, Dave? My mind is going. I can feel it, Dave. I can feel it."

"Your mind went last Tuesday! Next time don't let it come back! Stupidest dang computer I ever met. Too consarned idiotic to put on navigation; we stuck him in here where he can't do too much damage. Okay, we can stop," and he did. Cane, who was not paying attention, plowed into Nicholas, who had been listening most attentively for anything with the word "stop" in it. Clara drew deep slow breaths while the others panted and coughed.

"Daisy, daisy, give me your answer, do," sang the computer. Slippy walked over to the box and yanked a cable out of a socket in the wall. "I'm half crazy all for the love of you," it continued, more and more slowly.

"Night, night, computer," said Tennyson.

"Gooooood nnniiiiigghhhhtttt....." it slurred to a stop.

"Well, that's that," said Slippy. "Okay, lard butts -- and Clara, too -- breakfast time!" said Slippy. "Up the ladder and out the center tube, first one there gets the first eats. Oh, one more thing: I'll just give this little knob a twist here --" as he did so. The kids felt a sudden sideways jerk as a whining noise began to permeate the room. "That's gonna' make

the centrifuge speed ramp up at 2 rpm per minute. The longer you take climbing the heavier a job it's going to be. Let's go, people! I'm behind the slowest with a ray gun aimed at your butt!" He snapped off a shot at Erin, who was actually third onto the ladder but thereby momentarily at the bottom.

"Trial and privation could not break his spirit," said Erin. "This unjust and unwarranted punishment, when clearly he was *not* the last climber, was just another obstacle on the road to vindication, for Alfred Dreyfuss knew with perfect certainty that he was *innocent*, condemned by a corrupt and vindictive administration to the horror of Devil's Station for a crime he had not committed."

"Stop calling this Devil's Station!" said Nicholas as he mounted the ladder below Erin. "We *asked* these guys to help us out. What kind of attitude is that?"

"The Trusties, of course, had been brainwashed by the vicious prison staff, to the point where they truly believed they suffered these horrors of their own free will," Erin replied (sort of). "Dreyfuss knew it was pointless to explain the true nature of the situation to them; let them find refuge in their twisted fantasy world in which the guards were good and prisoners volunteers. Dreyfuss could face the truth straight on; he was ready to endure what had to be endured, trusting to Providence, knowing that some day Justice would triumph over Evil."

"I think he's finally cracked," said Tennyson, jumping on next. "Too many ray gun blasts to the rear." He was beginning to feel much heavier than usual. "I'm putting on weight and I haven't even eaten yet. Move it up there, people!"

"Dreyfuss had had nothing to eat all that day, and his hands shook with hunger and fatigue," said Erin. "The ordeal seemed endless. Yet, as he climbed, a curious lightness came over him, as if his soul was ascending past his too-solid flesh."

"You get lighter as you go up, Erin!" said Nicholas. "Centrifugal force. We saw that on Bill Nye the Science Guy last month."

"Don't eat all the ice cream cake before I get there!" said Cane to Clara, who was already maneuvering into the zero-G entrance to the center tube.

"Ice cream cake at training breakfast?" wondered Brian aloud. "And I thought Erin was off the deep end."

At the end of the zero-gravity exit tube you had to leap out into the main area of the ship, where the artificial gravity field took effect. Cane practically landed on Crystal, who was finishing up a large dish of ice cream cake. The galley was a modest-sized room with one long table down the middle. There was no kitchen: the food was all prefabricated and reheated, with everything packaged in identical plastic boxes labeled in an informative but dull fashion across the top. In one corner Slippy was flinging some quite repulsive large-eyed dead insects in the air and snagging them with his extendable tongue. "Ice cream cake for breakfast and dead flies flying," said Tennyson as he grabbed himself a tray of reconstituted pancakes. "Almost like home, eh?"

"You got it," said Cane. "This is way better than home. I can eat all I want and skip all the broccoli dishes." He was on his second tray of something vaguely similar to

scrambled eggs. “Of course, the food here is terrible,” he added, spooning the last bit out of the tray, “and the portions are way too small too, hand me that tray over there, Brian, the blue one, it’s probably apple pie.”

“Nope, oatmeal with peanut butter,” said Brian, reading the label.

“Ah, that sounds good, pass it over,” Cane replied.

“Hey, look at this,” said Nicholas, spooning from a tray of applesauce-like slop as he stood by a display screen. “Fox made a training schedule for us.”

“EXCUSE me,” interrupted Crystal. “Fox probably isn’t even awake yet, not that he’s more organized awake than asleep.”

“Yep,” said Slippy between flies. “Crystal’s the project manager type around here. Damn good one, too.” He speared another insect. “Ummm, cinnamon!”

“Oh, sorry, ma’am,” said Nicholas. “Anyway it looks like a really thorough schedule. A lot of stuff.”

“Well, you’ve got a lot to learn in a very short time, young man.” Crystal tossed her plate in the chute marked RECYCLING: DIRECT TO STAR WOLF and stood. “Speaking of short times, I have a deadline to meet on my *Stringed Instruments as Assault Weapons* article. I’ll see you youngsters at lunch.” She made her way expertly into the zero-G tube and disappeared.

While Nicholas was being upbraided, Clara and Brian came over to take a look. The schedule went like this:

#### DAY 1

6:30 conditioning  
7:15 breakfast  
8:00 PILOTS: flight training I  
GUNNERS: armaments I  
10:30 break  
10:45 FT I / AR I continued  
11:45 lunch  
12:30 Simulator practice  
2:00 break  
2:15 Combat weapons and tactics I  
3:45 Team competition  
4:30 losers punishment  
winners break  
5:30 cleanup

6:00 dinner  
7:00 COMMAND TEAM: strategy  
ASSAULT TEAM: tactics  
8:30 day 1 debrief  
9:00 lights out

and so on through day 7.

“Wow,” said Brian. “This is like three school days in one day!”

“You’re a wimp,” said Clara. “My track and field days are longer than that.” The brisk morning exercise had invigorated rather than exhausted her. Her interest had already been piqued; who was on the command team? would she be a pilot or a gunner? She felt a sort of keen anticipation for the day’s endeavors that school days did not engender.

Nicholas’ pride had taken a beating the previous day, and he was in no mood to be accommodating. “We’ll just see who’s tired tonight. I’m going to sign up for pilot.”

“You don’t sign up, you get assigned!” said Cane between mouthfuls of cake.

“How do you know?” said Tennyson. “You haven’t even looked at the schedule, you’re just eating.”

“At mealtimes, Dreyfuss could almost forget his captivity,” recited Erin. “He fantasized that the inedible slop was his mother’s blintzes with raspberries and cream.”

“That is blintzes, it says so on the box,” said Tennyson. “Whatever a blintz is.”

Erin laughed condescendingly. “The elementary ruses of the guards, labeling this kitchen refuse as if it were cuisine, were sufficient to deceive his simple-minded fellow prisoners. Venal though it was, appreciation of his intellectual superiority to his fellow travellers provided support to his spirit, and Dreyfuss knew he would need every resource to survive his captivity with his soul intact.”

“You know, I think I liked you better with Mister Saturn around,” said Tennyson. “Maybe he was a good influence after all. Where is he, anyway?”

Suddenly a door at the other end of the room hissed open and Fox bustled in, followed by a big cuddly bunny rabbit in a jumpsuit carrying a computer tablet. “Okay, okay, you’ve had enough stuffing your faces, let’s get to work. Pilot team with me, gunners with Peppy, move it!”

The kids looked at him with blank faces. “Didn’t Crystal give you your assignments?” said Fox. The kids shook their heads, except for Cane who continued his

foray into foods that rhyme with ‘bakes’. Fox’s big ears twisted as if listening to the sky as he grabbed the tablet out of Peppy’s hands and read from a list on the screen: “Pilot crew Nicholas, Tennyson, Brian, with me, Clara, Cane, Erin to gunnery!”

“Is that the same as the command and assault teams?” asked Brian.

“Nope, command team is Nicholas, Clara, Brian--that is, you. You’ll see why, be patient, but then again that’s what I am not! We’ve got a space station to put in peril, let’s move those larded behinds, my overambitious would-be juvenile delinquents!” He led the way through another door whose existence had not been apparent until it opened. Nicholas and Tennyson glanced at each other and jumped to their feet, leaving their half-eaten breakfast on the table. Brian took an extra two counts to dump the trays down the recycling chute and followed at a trot.

Nicholas had been expecting some sort of really dull lecture with incomprehensible drawings of wing cross-sections and flow vortexes, but the pilot group found themselves inside a curious bare room with no desks, boards, or books. The kids looked around, puzzled. Instead of explaining, Fox said “Okay, just stay there,” and disappeared through a small port which closed seamlessly behind him. Nicholas turned to Tennyson to ask what was going on when Fox’s voice came out of nowhere apparent:

“This is the realizer room. Learning by doing is best, so here we go.” Nicholas heard a roaring in his ears and felt like someone was grabbing him from both sides: he could move his toes and fingers but not his arms or legs. The room seemed much bigger than before. He tried to look around to see what was going on and realized that his head was stuck too. He twisted his view as far as he could to his right and saw that Tennyson had disappeared; in his place was a spiffy race-stripped airplane with a Flying Tiger smile and blinking eyes. *Ooops*, he realized, *that’s what I must look like too*.

“Right, let’s do some flying,” said Fox’s disembodied voice. “To fly, an airplane needs lift.” Nicholas felt himself floating gently upwards away from the floor. “You need lift in order to conquer gravity!” Suddenly Nicholas plummeted to the floor and landed with a crack. It felt like someone had whacked him in the stomach. “In flight, lift and gravity need to be in balance,” and he felt himself once again rising, but this time just a bit off the ground, “unless of course you’re climbing,” and Nicholas felt himself pulled upwards, “or descending,” and he headed back down towards the floor, pulling up in the nick of time.

“To get anywhere,” Fox continued, “you need thrust!” Nicholas flew forward until he banged into the wall in front of him. It felt like his nose was broken. “Thrust is required to overcome drag,” and the kid-plane felt himself pulled back away from the wall, falling backwards until *bang!* his feet -- well, really his tail but that’s the way it felt -- whacked into the opposite wall. “When all four forces are in equilibrium -- that means in balance, you bird-brains -- and only then, the airplane can fly on a stable heading.”

Nicholas had to admit that this was one heck of a way to learn something new. Fox taught them how to wiggle their toes -- elevators -- to adjust pitch, and how to use their fingers (ailerons) to control bank angle. They felt the difference between a skidding turn and a properly coordinated turn (in which the rudder and ailerons worked together) as the difference between a nauseating stomach-twisting distortion and a comfortable heaviness in the chest. Every lesson was carried home in a literally visceral fashion. When he pulled up too hard on landing and porpoised into a stall the resulting crash hurt like a sock in the mouth. A properly executed wingover felt like he'd taken the playground swing over the top.

It was exhilarating and exhausting at the same time; the hour-and-a-half training period went by like morning recess. A bell went off and the simulated images on the walls disappeared. Another roaring sound and the three kids were standing again in the empty room, clothes wrinkled, soaked and sweating. Fox reappeared and patted them on the behind with his computer tablet. "Good job, runts, you've earned your break. Fifteen minutes and it's back to work, no slackers! Bathroom across the hall, drinks in the galley, be back on time or you get turned into a hot air balloon and popped!"

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Clara and Fox were sipping from tall glasses of cool Aquastar water, looking through the picture window (or display screen, Clara wasn't sure) in the crew lounge at the stars. She, Erin, and Cane had handily defeated Nicholas, Brian and Tennyson in the team marksmanship competition, and now they had a precious hour of free time while the losers cleaned and stowed the target rifles.

"This sounds like one of those silly ghost stories the kids tell where everyone asks what happened next, and they say 'I died!'," said Clara. "I think you're pulling my leg."

Fox chuckled. "It was too damnably close, I'll agree with that. If I hadn't hidden a bomblet behind the stairs I would have been toast. Even at that I barely escaped intact; her armor is so tough that the explosion didn't even dent it -- just knocked her off her feet and raised enough dust to cover my exit."

"Why didn't you just work together and split the bounty?"

"With Aran? Fat chance. I figured I could take out Satauros before she got there and I told everyone so -- after that I couldn't exactly back out. Seems to me you've already seen the trouble I get myself into through forgetting to engage my brain before putting my mouth in gear. I certainly learned my lesson; I'll never tangle with Samus again if I can help it."

"Why did you do it, anyway? Just for the money?"

“Money certainly helps, but I think it’s the challenge that matters.” He looked askance at Clara. “Don’t tell Crystal, okay? She relies on me being purely mercenary and unwilling to actually risk my skin. She’d worry too much.”

“What do you really think?” asked Clara. “I mean, about us, about Ark. Why are you helping? What’s in it for you?”

“Well, like I said, the money certainly helps. Having enough stashed away makes life more -- pleasant, you’ll realize that when you’re older. It lets you get on with what you’re interested in without being distracted.” The fox lapped up the last of his water. “But bucks are really just the enabler. I’m afraid, Clara. I’m afraid of what we’ll lose if we take control of our future. I like anarchy. I like uncertainty. If any of us had the power to ensure our future you can be sure that soon there wouldn’t be any future, just the past extended endlessly.”

Clara was in much deeper waters than she had been prepared for. “That -- sounds like something Mr. Saturn said at dinner. Back with Princess Zelda.”

Fox laughed. “He would have. Saturn is so devious he ends up being honest despite himself. He can tell you ‘good morning’ with seven different simultaneous meanings and forget to tie his shoes.”

“So you knew him before this? I can’t say I ever liked him much but he does seem to know his way around.”

“I would say so. There’s not much he doesn’t have a finger in, even though he pretends to be nothing more than a bum. When Mr. Saturn says jump, I ask how high. He always makes it worth my while, too. And of course things happen to people stupid enough to cross him -- not that he would ever admit to having anything to do with that.”

“Are you sure we’re talking about the same creature? I mean, he’s certainly obnoxious and self-centered and irresponsible and all that stuff, but he’s harmless.”

That remark drew another long guffaw. “Maybe to you he is. Remember you’re on his side, or he’s on yours, or at least so it seems for the moment. Besides, there aren’t that many folks in the game worlds who would tangle with you, Clara -- and there’ll be a lot fewer once I get finished with you.”

“What does that mean?”

“I mean you’re a warrior born and bred. I see it in everything you do. If I had six months to train you instead of three weeks, the Metroid bounty hunters would be asking you for permission before they took a job. Your dad must be one hard sonufagun.”

Clara was warmed by the praise and taken aback all at once. “He’s not at all! I mean, he’s never hit me even once. He never even yells at me.”

“That’s not what I meant. You know it. Never forgives, never forgets, right? I see him in you.” Fox paused. “None of my business but of course I have a big nose and I poke it in everywhere. You shouldn’t be too quick to write off the poet kid. A general must be both the harshest and the most humane -- you need a heart, and he’s got one. Of course he’s gonna’ have affections for other foxes -- I mean, girls -- and some will fall for him too, that’s his nature. Loyalty can’t be bought, it has to be inspired -- that’s something you need to learn from him. And he is gonna be one helluva pilot.”

Clara was absorbed in working out how to respond to Fox’s unanticipated importunement when she noticed something out of whack in the corner of the window. “Hey, Fox, that star is moving. Or at least I think it is. It’s not where it was a moment ago.”

Fox opened a panel below the window and withdrew a tiny object like a pen; he pointed it at the offending dot of light. A little colored box grew around it, and within a second several numbers and an arrow surrounded the box. “I told you you were good,” said Fox. He nudged the communicator panel on the wall next to the port. “Hey, Crystal, what you doin’ up there, watching TV? The Wolf is at the door and you’re snoring!”

Crystal’s face appeared in the panel. She looked sanguine enough. “About time you noticed. The meeting was scheduled at 0435 sharp. Since you were too busy flirting with your student to attend to your duties I completed the arrangements as per the task list and talked him down a hundred coins while I was at it.” She flipped a switch and turned to another conversation with someone out of sight. “That’s fine, then, we have the northeast quadrant reserved from 0900 to 1300 hours, you’ll have one hour for setup, contest begins at 1000 hours and ends at 1230 hours, 30 minutes for cleanup. Payment to follow within three days on satisfactory completion by wire transfer. Have a rotten week, Wolfie old boy. Out.” She turned back. “He says you’re fat and scant of breath. I told him that he’s right and I should know! He’ll be there. He certainly wouldn’t miss a chance to humiliate your students.” A smile bared her canine teeth: “And how are doing on your first day, Clara, dear? I know it’s a demanding schedule.” The point of light grew suddenly brighter and began to move more rapidly against the field of stars, growing fainter as it did.

“Oh, I’m doing very well, thank you, Ms. Crystal,” Clara replied. “It’s been very interesting. Is it okay if I ask what that conversation you were having was about, or is that private?”

“Certainly not to you. We’ve arranged for you kids to face Wolfie O'Donnell and a few of his would-be toughs in a bit of a space battle when you’ve had a few more days to sharpen up. Very good test for you, good payday for them. A suggestion from my

sweetie -- he's really quite clever, he's just too lazy to follow through."

"Ouch," said Fox. "Don't you ever get tired of nipping chunks of flesh off of me?"

"Oooh, that sounds exciting," replied Crystal. "But I haven't got time for anything more, there's a strategy presentation to finish and I notice you haven't done a paragraph yet. It'll have to wait, darling. Ciao." The panel went blank.

Just as Clara was prepared to renew her inquisition into Fox's motives and history, Nicholas and Brian came in through the rear entry door. "Wow, that was a lot of work," said Nicholas. They had spend the last hour stripping all the blast rifles to their component parts and reassembled them, checking alignment and memory consistency at each step of the process. "I liked it better when you just fire off the edge of the screen to recharge your gun. Where'd you get that water, Clara? Can we have some?"

"I thought it was pretty interesting," said Brian. "You sure learn about how a gun works when you put it all together again. But water sounds like a good idea." Peppy and the other kids followed a minute later; by the time everyone had finished getting their complaints out and refreshments in, Fox had managed to sneak out unseen.

"Just when things were getting interesting he's off to something else," said Clara to herself.

"He's like that," said Crystal, who had just entered the break room. "Better get used to it, honey."

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"So we're going to blow our own ships up?" said Cane incredulously, bits of partly-chewed snackbar spewing out onto the table. "I knew I should've stayed at the mansion! That's the dumbest idea I've heard since Tennyson talked us into going to Fourside!" The kids were enjoying a final late-night snack before lights-out, exchanging notes on their respective team briefings.

"Wait a minute, you're the one who liked Fourside!" said Brian. "I thought you wanted to go back to watch TV. Besides, nobody made you leave the mansion, you did that on your own."

"You just don't get it, do you?" said Clara, contemptuously. "Deception is the essence of warfare," she continued (reciting verbatim the beginning of the briefing she, Nicholas and Brian had received from Crystal). "We need to ensure that our opponent misconstrues our identity, our goals, and our results."

"Misconwhat?" said Cane. "You're just trying to use big words to frighten me, like

Emily Lu in reading lab. Well I beat her in dodgeball and I can beat you, too, and it isn't gonna' work! It's a stupid idea!"

"The grandiose escape plans and consequent petty arguments that consumed his fellow prisoners were an endless source of both pathos and humor," said Erin. "Their endless capacity for belief was exceeded only by their unlimited ability to forget past failures." Everyone ignored him.

"Actually, I'm a little confused, too," said Tennyson. "Just why would we plan to blow up our ships? Who exactly are we deceiving about what?"

"Really there are two reasons," said Nicholas, his face a mask of concentration as he tried to not just recall Crystal's remarks but ensure that he understood them. "One reason is to try to make the guards at Ark think that they've successfully repelled our attack and don't have to worry about us. If we just landed our ships on the surface, even if they didn't catch us right away they'd know someone was there, and they'd come looking for us."

"Okay, that sort of makes sense," replied Tennyson. "What's the second reason?"

"So we can't turn back," interrupted Brian. "If we kept our ships we'd always be tempted to retreat in them and try again every time we ran into a problem. This way we have no choice but to go forward. It's like putting your army with its back to a river, that's what Crystal said."

"What river?" said Cane. "Is there a river on Ark? I didn't bring my mud shoes! Rivers are too cold! And I did not either eat my orange, it was broken when I got it."

"Geeze, Cane, are you still complaining about that field trip?" said Clara, referring to their expedition to the San Lorenzo river the previous month. The class had split up into teams and dropped oranges into the water in an attempt to measure the speed of the current, except for Cane, who had tried to consume his test instrument.

"No, no, it's a metaphor," said Brian. "It's not a real river."

Erin meandered: "I remember a river", thought Dreyfuss to himself, 'bright in the sunlight, the cool water chilling my feet'. There was no cool pure water at the prison, nor would there ever be." Clara wasted a glare at him, though to no effect.

"Brian is right," said Nicholas. "Crystal said that the biggest danger of all is being unsure, especially that the commander hasn't made up his mind."

"No, that wasn't it," said Clara. "She said that the ultimate object of every battle is to break the nerve of the enemy commander."

"That's what I said," said Nicholas. "Same thing, anyway."

"So we have to blow up our own ships so you won't turn chicken?" said Cane.

"That's the first time you agreed that Nicholas was in command," said Tennyson. "About time, too." Clara looked displeased and was about to complain, but then remembered her conversation with Fox. Nicholas spared Tennyson a grateful glance. He hadn't realized how gratifying loyalty was until he experienced it.

"Fox doesn't think we have any chance of getting in through the bottom of the station, too many guns and robot guards," said Nicholas. "The whole attack there is just a fake, like Brian said. The top part of the station is all abandoned so we should be able to find a manual entry port, but then we have to get through the old agricultural areas. Nobody is guarding that area because it was all sealed off years ago, but if the Harvest Moon people are living there they would know how to get around."

"Wait a minute?" said Tennyson. "You mean we're depending on help from people we don't know, and we don't even know for sure if they can help us, even assuming they will?"

"Come on," said Nicholas, "I'll bet they know everything about the station."

"Would you bet your life on it?" said Clara. "That's what we're doing. Tennyson is right; if our plan is going to depend on their help getting through the abandoned parts, we need to get in contact with them somehow and make sure it's going to work."

"You're right," said Brian. "We should have asked Crystal about that."

"Even if escape were possible," sighed Erin, "the prisoners, mired in unending petty rivalries and disputes over trivialities, would be unable to take advantage of the opportunity."

"Erin, give it a rest!" said Clara. "Ever since Mr. Saturn took off again, you do nothing but gripe and pretend that it's one of your stupid fantasies. If you're so lonely go ask Fox where he went!"

"You're right, I will," said Erin, brightening. "Better yet, I'll call him. He forgot to take back his gear bag so I still have his phone."

"How is he going to answer if you've got his phone?" asked Tennyson.

"Oh," said Erin, crestfallen. "Yeah. Well, I'll go ask Fox anyway."

He started towards the galley door, but hadn't taken more than a step before the

portal hissed open, and Fox charged in. "Okay, enough yakking, my diminutive destroyers! Into the sack, lights out! I don't want to hear a peep from you until 9:00 tomorrow!"

"But tomorrow's schedule starts at 6:30," said Brian.

"Yeah but I ain't gonna be up that early, that's Slippy's problem," replied Fox. "Alright, no back talk, move your little butts before I blast 'em! Now, now, now!"

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It was day 3. The pilot training group was meeting, this time in the conference room with the holographic projector. The intense pace was beginning to wear on Nicholas and Brian, but Tennyson was unaffected, at least during flying sessions.

Fox rapped on the table to call the meeting to order. "Okay, after this morning you ought to be pretty familiar with the Arwing control configurations, we're not gonna go over that again, since we'll do some flying in the full simulator this evening. I'll bet all of you have played some of the space battle simulator games -- Rogue Squadron, maybe even Starfox 64, right?" The boys nodded. "Well, forget everything you saw! Those games are nothing but a load of garbage when it comes to how you fly and fight in a vacuum!" This remark was sufficient to regain full attention from Brian and Nicholas. "They are cooked to make flying in space look like flying in air. I bitched and moaned for years, but nobody was ever willing to do it right. Knowing the right way to fly is the key to kicking butt on all the incompetent space pilots out there sucking at the teat of convention. So listen up!" Fox pressed a key and a little diagram appeared in the holo display: a boy swinging a weight held by a string around in a circle. "To make an object turn you need a force directed towards the center of the turn. Here that force is provided by the string pulling inward. A string can only exert a force along its length, right? The string keeps turning as the weight spins: the force has to turn constantly so that it is always directed towards the center of the circle. Okay, let's see if you featherbrains have learned anything: we've been drilling on flying in the atmosphere. Does an Arwing have a string attached to it?" Tennyson raised his hand. Fox laughed. "This is the twenty-seventh time I've said it: if you got something to say, spit it out! Don't wait for me to give you permission."

"The turning force comes from the wings," said Tennyson.

"Right you are! Reward to the student in the worn smelly tee shirt -- oops, you're all like that, the worn smelly blue NASA tee shirt." Fox tossed a dried dead rat at Tennyson. Tennyson tried to pretend to be pleased. Fox laughed, took the rat back, and ate it in one gulp. "Ah, you punks got no taste for the finer things in life. Tennyson is right! When you bank an Arwing or any airplane in the air, the lift that the wings are providing is tilted; part of it pulls you to one side, acting just like that string to turn the airplane." A diagram of an airplane floated above the table, with little arrows showing the

forces acting on it. As Fox twisted a joystick the plane tilted; a blue arrow showed the part of the lift that was directed inwards. "That means we're ready for exercise number two: what happens to lift from the wings when you get into space?"

"There's no air in space," said Brian, "so -- there's no lift?"

"Give that boy a dead rat!" said Fox, whipping another of the dubious rewards from the drawer. "Aaah, never mind, I'll have one in your honor (*chomp*), ah, *rattus tanezumi*, nutty aroma with round fruitiness and just a hint of raspberries." *BURP*. "There is *no lift in space*! So it don't do diddly squat to bank a spaceship. Furthermore, there's no drag in space, so it doesn't matter if you're flying forwards, backwards, sideways or upside down!" Fox typed a bit, and the little model airplane was now a spaceship. "So how do you turn in space?"

"You need a force to be like the string," said Nicholas.

"We're plum out of rats, son, I'll put it on your tab," said Fox. "We need a force directed towards the center of the turn, just like always. To get a force on the ship you can use either your main engines or your attitude thrusters. Which one is better for sharp turns?"

"The main engines are -- um -- maybe thirty times more powerful?" said Tennyson.

"Well, more or less. Each individual thruster has only about one percent of the thrust of the main engines, but there are a lot of them. If you turned them on cleverly you could get about a tenth of the main engine thrust driving a turn. That means that using the main engines will allow you to turn *ten times sharper* than some turkey who's trying to fly a spaceship like it was an airplane. To execute a minimum-radius turn in space, you orient the ship pointing towards the center of the turn and kick your main engines on full." Fox typed and the little ship demonstrated. The engines glowed, and a blue arrow stuck out of the nose, as the ship turned about a glowing red dot in space. "During the turn you are flying *sideways*. If you're in a dogfight you have to be aware of problems and opportunities for your gunner attacking your opponent as well as yourself. It is often desirable to make your enemy the center of your turn: that makes it possible to point your nose right at the scum during the whole maneuver, so your gunner can be firing the whole time. If you have an axial velocity component, you'll be executing a helical maneuver -- like the threads of a screw -- which he will have one heckuva time dealing with if he's dumb enough to be pointing in the direction he is flying in." The spaceship traced out a complex path across the desk, leaving a faint red screw-thread line floating in the air. Tennyson nodded and tapped himself on the head; Nicholas and Brian looked puzzled.

Fox continued. "Now if you do the math you find out that the turning radius goes as the square of the velocity you enter the turn with -- that means if you want to turn sharp you can't be going too fast going in."

"Are we going to have to calculate all this stuff in our heads?" asked Nicholas, worried. "We just learned about square roots and stuff this year."

"No, no, it's not that bad. The computer will plot out your projected course line in real time as you fly," and as he said this a little gridded display, like that on the Arwing control panel, popped up with a bright red curve passing thru it, and a little blue image showing the ship traveling along the curve, "but you need to understand what's going on. Computer's don't think for you! You need to have an intuitive grasp of how to maneuver in zero G if you want to blow little holes in Wolfie's ships a coupla days from now. By the time I finish with you you're not just going to fly circles around those scum, but ellipsoids, helices, and hyperbolae."

"I thought that means 'to exaggerate'," said Brian.

"Yep, you're right, and it's no hyperbole to say that when you learn to lock him on the axis of your helix, ol' Wolfie is gonna' be one screwed-up dogfighter!"

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Clara tweaked the transparency control on her visor and carefully stuck her head out from behind the rock again. Nicholas and Brian crouched behind her, concealed behind a pile of boulders. Their space suits, save the visors, were almost completed coated with sticky black dust. Nicholas had laughed when Clara suggested it -- "just like *The 101 Dalmatians!*" -- but it worked very well. They could barely see Clara just in front of them.

They were pitted against the other three kids in a stalking contest. The kids were armed with ray guns, projectile launchers, and ghost bombs. Crystal had landed the two teams on different parts of the asteroid surface, and then pulled back: the Great Fox was a barely visible dot far above them. A beacon was hidden in one of the crags near the "north pole" of the irregular former comet nucleus. The first team to reach the beacon and trigger it would get the rest of the afternoon off; losers would have to clean all the spacesuits.

Clara retreated and the three put their helmets together. This enabled sound to be conducted directly from one to another, obviating the need to use the radio and thus possibly be overheard. "It's them, all right. Or at least Tennyson is there. How the heck did they get here so fast?"

"Maybe they knew where to go," replied Brian. "We spent a lot of time wandering around before you spotted the beacon flag."

"How? Oh, never mind. Tennyson is moving really slowly -- he's not that good in the low-G drills. I could get to the beacon first if I sprinted."

"I don't like it," said Nicholas. "You said Tennyson's suit is clean and he's moving in plain sight, and we don't see Cane or Erin. It just isn't like Tennyson to desert his friends. I think it's a trap. They're trying to smoke us out." The beacon was surrounded by an anomalously flat area about 100 meters in diameter; anyone going for the beacon would be completely exposed for the last few seconds, an easy target for a concealed marksman.

"Come on, Cane couldn't hit the broad side of a barn," said Clara. "He certainly won't hit *me*. And Erin is probably sitting in a gully making up a story about a popcorn salesman who grows up to rule the world. We've got this in the bag, let's go for it."

"If Tennyson is moving so slowly," said Brian, "they must have known where to go in order to get here first. That means they could have had a lot of time to find good hiding places."

"Two can play at this game," said Nicholas. "Clara, Brian and I will set up the projectile launcher behind that little rise. That way we should be able to cover all the spots where someone could hide. Then you can just sprint towards the beacon; if there is someone in hiding waiting for you, we'll take him out with the launcher and get the beacon. Of course you might get hit with some ray gun bolts -- that's okay?"

"I'm not afraid of a little sting -- besides there's no one there, you guys are too cautious."

"Okay, we'll set up and give you the signal when we're ready." Nicholas and Brian knelt on the rough ground and assembled the pieces that made up the frame of the launcher. The projectile launcher fired bomblets that would stun anyone within twenty or thirty meters of the point of impact. Each kid carried one bomb. Clara handed hers to the boys; Nicholas loaded one in the slot and placed the other two on the ground nearby. Brian positioned himself at the aiming scope and Nicholas stuck his head out just past the edge of the rock to direct Brian. Then he waved to Clara.

She confidently slid out past the outcropping and headed straight for the beacon, about two hundred meters away. Care was needed in moving on the asteroid; gravity was so small that an incautiously firm step could launch a traveler into a long uncontrollable parabolic arc. The suits had no jets, so once launched the traveler could only wait patiently for the slow return to the surface. The proper technique was a sort of sliding step used to propel and direct but not to lift; Clara had mastered the trick neatly and traveled like a gazelle to Tennyson's turtle.

The motion must have attracted Tennyson's gaze, as there was no sound in the airless world. Nicholas could see him turn his helmet, though no expression was visible behind the half-silvered surface. Rather than either trying to accelerate his pace or draw his

ray gun, Tennyson simply flattened himself to the ground. Clara paid no heed and proceeded straight on, but Nicholas' suspicions were aroused. He scanned the surroundings fruitlessly until his eyes were abruptly drawn to an incautious movement. He pointed and Brian quickly shifted the scope-- the magnified view revealed Cane's blackened helmet and arm reaching around a jumbled wall of stones.

It was time to forget about radio silence. "Clara, it's Cane, to your right, about 2 o'clock!" said Nicholas, as he helped Brian lift the end of the frame up so as to center Cane's image in the sight. As they did so, Clara jerked suddenly, and a loud "ow!" came over the communication speaker. The complaint was repeated several times as Clara's formerly smooth progress was completely interrupted -- Cane was apparently firing very accurately at each foot as Clara tried to maneuver. Clara quickly adapted to the novel circumstance by flattening herself behind a small rock and returning Cane's fire: she was able to force Cane to keep his head down but could not proceed towards the beacon.

Brian signaled down with his hand; Nicholas lowered the frame a hair. Brian's hand went flat, and he squeezed the firing trigger. The bomb flew forwards along the magnetic track, straight towards Cane's hiding place, where it struck on the boulder next to him and exploded. Unfortunately, in twisting the frame to point it Nicholas had dislodged the improvised anchorages for the feet: it flew backwards (and thus away from the asteroid surface), carrying the two boys with it.

"Clara, we're stuck!" Nicholas transmitted as they floated off into space. "You're going to have to do this on your own." There was no reply. It was awkward and difficult to turn in zero G, but by using the projectile launcher as an anchor, and tossing a couple of assembly wrenches in order to stop rotating, the boys managed to turn themselves back towards the beacon. Nicholas could see that Clara had been too close to Cane's hiding place when the bomb went off; she was probably still recovering her senses. Meanwhile a sudden motion caught his eye: a darkened figure was rising out of a hole or cave on the far side of the clearing. "Hey, Brian, who's that? Erin?"

Brian, who was still positioned near the sight, managed to detach it from the frame so that he could point it without having to move the larger object. "Yep, that's Erin, all right, and he's got a clear path to the beacon. Clara, can you see him? Get him quick! It's our only chance." Nicholas could see Clara struggling to turn, her head probably still ringing from the explosion, but the trap had been well-thought-out: Erin was approaching the beacon from the opposite side, shielded by the beacon and the little rise it sat on, so that she couldn't get a clear shot.

The distant Erin figure gathered itself and executed a curious but effective horizontal leap, covering the last 20 meters or so. As he neared the beacon, a clicking sound followed by a burst of fake static came over their headphones. "That's one small step for Erin (brshshshs) one giant leap (ssshhrrrg) for Erin kind." Erin stood on top of the beacon and waved to Cane and Tennyson, who was pulling himself up now that the contest was over.

By this time Clara had recovered herself. "You guys set us up! How did you get here so fast? Lucky guess, I'll bet."

"Luck is preparation and opportunity," said Erin pompously. "We followed the stars, of course."

"The what?"

"The stars. The constellations. The bright star in the eye of the constellation Sonic the Hedgehog is almost exactly true north; I just found it and we followed it to the beacon."

"Oh, the book!" said Nicholas. "Geeze, Erin, how did you remember all that?"

"What book?" said Clara.

"The constellation book in the Observatory in Luigi's mansion," Nicholas replied. "When we were cleaning up. I mean, when I was cleaning up, Erin was wasting his time reading that book."

"I guess it wasn't such a waste," said Brian.

"Hey, what about me?" interjected Cane. "How about that deadeye shooting? I popped Clara right in the nose, both feet, and one in the behind just for fun. You better watch it when Cane's armed!"

"Yeah, that was pretty good," said Tennyson. Even through a spacesuit it was apparent that Clara was upset. "You have to admit you made it easy for him, Clara. You weren't doing any of the evasive stuff Slippy taught us."

"So what?!" interrupted Cane. "Emily Lu tried to dodge from me and look what it got her! No way was Clara getting to that beacon, I don't care if she danced the hula all the way!"

"Where did you learn about the hula?" asked Brian.

"Lilo and Stitch, I love that movie," said Cane.

"Hey, Brian, are we starting to come down now?" asked Nicholas.

"Hmm. Yep, definitely, you're right." Brian twisted over his shoulder to see. "Looks like we're going to land in that gravel pit behind the boulder."

"Should we come to get you?" asked Tennyson.

"Naw, Fox can probably pick us up there as well as anywhere," said Nicholas. "Well, I have to say you guys did sucker us pretty good. Who's idea was it?"

"Probably Cane's, really," said Tennyson. "Leastways he was the one who wanted to hide until you guys showed up and shoot somebody. Erin was the one who figured out what direction you would come from. I just volunteered to be the decoy."

"Oh, okay. Erin, did you set off the beacon yet?"

"Not yet -- I'm waiting for the right moment."

"When is that?" said Nicholas. Then he felt a gentle crunching as he and Brian plowed butts-first into the loosely-conglomerated pit: fine dust and small stones flew slowly up as they sunk into the soft gravelly junk until only their visors were showing.

Another burst of faked static filled the speaker. "Houston (sshhrrrr) the Eagle has landed (brrrssrrr)," said Erin as he pulled the red beacon lever down.

"So I guess Erin always wanted to be the fifty-third man on the moon. Geeze, Brian, I can't see a thing," said Nicholas. His visor was covered with black sticky dust.

"Wait a minute, there's a little wipe in the utility belt," said Brian.

"How do you find it when you can't see anything? Oh, never mind, there it is," Nicholas replied as he felt along his belt.

"Fifty-third? Of course not!" said Erin. "I wanted to be number two hundred seventy nine; that way there would be three fast-food outlets and a game arcade by the time I got there."

"I don't understand why you'd want to go to the moon to play video games," said Tennyson.

"Because he's a dufus," said Clara. She was still in a bad mood about having lost the contest and been wrong at the same time.

"All right, skip the game arcade," added Erin. "But you still have to eat."

"I thought astronauts carried all those freeze-dried things in plastic bags," said Cane. "You know, shrunken monkey brains with horseradish sauce and stuff, except it just all tastes like mashed potatoes without the gravy."

"I hate freeze-dried food, that's what we eat on campouts, it stinks," said Erin.

"I thought the beef stroganoff was pretty good," said Brian. "When we went to Point Reyes. You remember?"

"I didn't eat that, it looked like it was already digested," said Erin.

"You guys are crazy," said Tennyson. He was sitting on the beacon platform looking up at the sky. "I mean, here we are in *outer space*! It's incredible. And beautiful, look at the stars. And all you can talk about is fast food."

"You know, Tennyson is right," said Nicholas. He and Brian had managed to get their visors clean enough to see again, and having nothing else to do were making their way slowly across the rough asteroid surface to rejoin the group. "I wish I'd looked at that book in the Observatory with Erin. I mean, at home I can at least recognize Orion and the Big Dipper, but this is, it's really pretty but I'm kinda' lost."

"Who cares?" said Clara. "Where's the Great Fox? They're supposed to pick us up."

"Come on, Clara, why don't you sit up here with me?" said Tennyson. "Erin can teach us the constellations here. We might need to know that stuff getting through the asteroids or something."

"I thought Erin was just here to eat," said Clara, but after an obvious hesitation she turned back towards the beacon. By this time Nicholas and Brian had rejoined the others at the beacon. They had left the projectile frame behind in the gravel, though Nicholas had salvaged the sighting scope and was peering through it at the stars.

"You know, Nicholas, Tennyson *is* right!" said Cane. "I mean, look at this asteroid. You could poop right on the ground and no one would notice."

"*CANE!*" said Clara, Tennyson, and Nicholas simultaneously. "That is gross," continued Clara. "You *would* think of something like that. Besides, we're in vacuum. Your butt would get sucked out of your space suit."

"*Yuuuck*," said Tennyson. "Now you're being gross."

"Oh, sorry, I guess you're right," said Clara. "So, Erin, what's that bright one over there at the end of the three bluish sort of stars?"

"Well, let's see, the hook-shaped thing to the left is Paragoomba, then there's Pikachu and Raichu... I think that one must be Pop Star. It's not really Kirby's Pop Star, which is a planet anyway, it's just named after it."

"Oh, look, that one just moved," said Clara, pointing towards a dim light near the horizon. "It's about time they got over here to pick us up."

"That's not the Great Fox," said Erin. "The Fox is up near Nook's Foot, right there," and he pointed to a different part of the sky.

"Oh, okay, never mind, but I wonder what's taking them?" said Clara.

"Wait a minute," said Nicholas. He grabbed the sighting scope off the projectile launcher and peered at the unidentified spot of light. "Holy moly. Cane, Erin, Tennyson, assemble your launcher, Clara get Tennyson's bomb, Brian set the anchor legs for straight up! go! go! go!"

"What?" said Clara. "It's over *there*, why do want to shoot straight up?" she said, pointing at the spot, which was now brighter. Nicholas didn't wait to argue but strode immediately if awkwardly towards where Tennyson had left his bomblet at the edge of the clearing. By the time he had grabbed it and returned the other boys had gotten the second projectile launcher put together, and Brian had commandeered Clara's help to set the anchor points.

Nicholas tossed the bomb at the kids from about 20 meters away. "Stick that in the slot! Cane, Tennyson, Erin, hook your belt lines onto the bomb thingies, the latch ports. We hook onto their utility belts, Brian with Cane, Clara with Tennyson, I'm with Erin. *Come on! Move it!*"

"What are you talking about?" said Clara. "That's stupid. We'll launch ourselves when the bomb goes off and why do you want to shoot at whatever that is and you're pointing the wrong direction anyway. What's wrong with you, Nicholas?"

Nicholas was wrapping his belt line around the latch on Erin's space suit. He spoke without looking at her in a tone Clara had never heard him use before: "Dumont, shut up and latch up, that's not a request." Clara wasn't sure whether to be angry or not, but ripped out her line and skillfully snugged it to Tennyson's back. Nicholas looked up nervously at the now-bright spot. "Brian, fire!"

Brian kicked the launching lever with his foot. The bomb flew soundlessly upward, jerking the kids along with it to the accompaniment of grunts and whooshes. The kids, tied together, drifted rapidly away from the surface of the asteroid.

"Okay, what the heck was that for?" said Cane.

Nicholas drew his finger across his throat, very obviously reached to his chest to turn the comm radio switch, and pulled Cane towards him so their helmets could touch.

"Shut up! Radios off." He gestured and the kids pulled their helmets into contact.

"What *are* we doing, Nicholas?" said Tennyson.

"It's the Flying Classen!" said Erin. "Yes, the kids from Mr. Classen's fourth grade class have improvised their own space ship from bits of string and wire, and are pointlessly zooming through the universe to deliver a bomb to nowhere in particular. Kindof like the playground, but darker."

"Yeah, what was wrong?" said Brian. "I mean, I assumed this must be important, but what is going on?"

"Oh oh," said Nicholas. "Look." The kids followed his extended arm: a second, dimmer spot of light had just separated from the larger one and seemed to grow brighter rapidly.

"What's that? Is it heading towards us?" said Tennyson.

"I think it's heading towards the beacon," said Nicholas. "Yep, there it goes. Close your eyes!" There was a very bright flash, visible even through their eyelids, though of course no sound. A few seconds later they were buffeted by a cloud of flying debris, but fortunately nothing large enough to penetrate their space suits struck. Nicholas opened his eyes: he could see the distant glimmer growing dim and moving laterally.

"Whoah," said Clara. "Look at that." She drew the others' gaze downwards. The asteroid, tenuously held together to begin with, had practically split in half, a yawning chasm opening up where the beacon had been.

"Well, looks like a good call by Nicholas," said Tennyson.

"Yeah, way to go!" said Brian.

"I -- guess you're right, Tennyson," said Clara reluctantly. "Good job, Nicholas."

"Thanks, Clara. Thanks, everybody. Wow."

"What do you mean, good call!" said Cane. "We're floating out here in the middle of nowhere! What do we do now?"

"Wait a minute," said Brian. "I think it's okay. The blast knocked us sideways -- looks like we're heading right for the Great Fox."

"You're kidding," said Tennyson. "I mean, there's no way we could just accidentally be on the right course. That's ridiculous."

"Maybe it's ridiculous but I think he's right," said Nicholas, looking through the sighting scope. "The Fox is definitely getting bigger."

After a few minutes, it was apparent to everyone that they were at least heading close to the ship. "But what if we miss it?" said Brian. "We'd still just be floating in space."

"Oh come on, they can't have not noticed that the asteroid was just blown half to pieces!" said Clara. "They'll be looking for us. Besides, looks like we're going to pass so close that even these little radios should reach them."

"Yeah, I think whoever shot at us is gone now, we can use our radios once we get close," said Nicholas.

"What kind of respect is that for our lovely and capable craft?" said Erin. "Why, if we can't steer right onto the landing deck of the Fox I'll turn in my Classen piloting certificate! Just hand me those ray guns, folks, and let me do the navigating."

"Just ignore him," said Clara.

"No, no, I think he's onto something," said Brian, passing his ray gun over to Erin. The others, except Clara, reluctantly followed his example.

"Now, let's see," said Erin, grabbing the sighting scope from Nicholas. "I'd say oh, half way between that red one and the little guy, let's count one two three four five... moving left and up! Everyone hold on, we need to be rigid." He carefully chose a direction and fired the ray gun repeatedly. The group started to rotate. "Ooops, not on center. Here, Cane, take this one and, uh, point it over there towards that red star, fire when I tell you. Now! three times! good." By repeated improvisations, Erin used the tiny kicks generated by the ray gun blasts to direct their course. By the time the guns were exhausted, the Great Fox had grown large, and it was obvious that they would either run into it or pass by so closely they could throw something at the windows.

Clara tried for the fifth time to contact the Fox. "Great Fox, come in! Crystal, Slippy, anybody! I can't believe this, what could be happening over there?"

"Looks to me like you're gonna lose that certificate," said Tennyson. "We aren't heading towards the lock, I think we're going to bang right into the nose. Any ray gun shots left?"

"We're too close, wouldn't do any good at this point anyway," said Brian.

"Oh, the shame of it," said Erin. "I shall be tossed from the Corps, robbed of my

medals, forced to live in infamy. All for the lack of a lock."

"Oh, shut up!" said Clara.

"Hey, Erin, what do we do to stop?" asked Nicholas. "Won't we just bounce off and go flying away into space again?"

"Why ask me? I'm in exile. I've failed in my self-appointed task! Ask Tennyson," lamented Erin.

"You guys are so dumb. We can just snag the antenna there with our rope!" said Cane.

"Hey, who are you calling dumb, you're dumb!" said Clara.

"No, wait a minute, he's right," said Nicholas. "We're going to strike just aft of the cockpit windows. If we stretch out the center rope here, between the bomb and Erin and Cane, it should snag the long antenna that sticks out below the port there, before we actually hit. Maybe."

"Oh, yeah, what about that bomb?" said Erin. "That's not my responsibility, of course, I'm the pilot, not the armaments officer, but wouldn't it go off when we hit?"

"I thought you were the former pilot," said Nicholas. "But you're right, I forgot about that. No, wait, it can help. Erin, Cane, Tennyson, untie yourselves from the bomb - - carefully, we don't want to lose you!-- and tie onto each other, leave as much slack as you can. When I say, Cane pushes the bomb towards the tail of the Fox. That should push us all towards the antenna and stretch the ropes taught so one of them will catch."

"Insane, totally crazy, but entertaining," said Erin. "Why not? Death by hanging or death by freezing, not a choice for just any fourth grader!" In a moment the lines had been retied without incident, and none too soon, as the ship loomed above them.

"Okay, here we go -- NOW!" said Nicolas. Cane gave a shove to the bomb and rebounded the other way. The lines stretched taught, but of course thus exerted a restoring force, causing Cane to bounce back towards the others. It was clear that the rope was not going to intersect the antenna pole. Thinking quickly, Nicholas called out: "Cane, reach up and grab the antenna, pull yourself around it -- NOW!"

With Cane as a fulcrum, all the other kids flew around in circles, securely attaching him to the antenna mast with a tangle of ropes. "Great job, Cane!" said Nicholas.

"Get off me!" said Cane.

"Okay, let's get untangled, but carefully!" said Nicholas. "Cane, whatever you do, don't let go of that pole!" It took some time, but eventually the kids were dangling once again at the ends of their ropes. "Clara, if you bounce off of Tennyson, can you get to that little ladder thing over there?"

"I think so," she replied. "Looks like I can get over to the windows and get their attention! I hope. I can't imagine how they haven't noticed us, we must've made a racket here banging against the side of the ship." She paid out her safety line and then, planting a foot on Tennyson's visor, gently pushed towards the hull of the ship and snagged it. "Got it!" In a moment she was out of sight around the edge of the ship's nose.

Inside the cabin, Crystal saw Clara's visor peek around the edge of the window. She gasped. Fox misinterpreted this reaction until Crystal grabbed him by his snout and pointed his head at the now visible space-suited kid floating outside the window.

"Oh," said Fox. "Oh, my. The kids. I forgot about them. Wasn't the beacon supposed to sound?"

"Well, uh, I -- muted it," said Crystal, pulling her blouse back on. "So we wouldn't be disturbed." She waved to Clara. "Sorry! Sorry! We'll be right out to get you!" And then turning back to Fox: "Fox McCloud, you get out there and get those kids back in the ship!"

"Just a minute, lemme get my pants on--"

Crystal delivered a kick to Fox's backside. "No! you don't need pants to fly the shuttle, get going!"

"Clara? Clara! What's going on? Is anyone there?" asked Nicholas.

"Um. Yeah."

"What's wrong? Did you figure out why they didn't come to get us?"

"Um. Yeah."

"Well?"

"You don't want to know. Trust me on this."

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*Is this what I want?* thought Clara. *Everyone else wants to go back. Is there*

*something wrong with me?*

She had time for reflection as she floated apparently motionless and alone in the silence of interplanetary space. According to the plan she was flying at about 150 kilometers per hour relative to the Wedge Antilles Memorial Asteroid Field and Recreation Area; her orbit was supposed to enter the asteroid field in about 55 minutes. At the moment there was no indication whatsoever of motion. It was very hard to believe that anything was happening or would ever happen, except perhaps on some grand scale of millions of years. *If I was here for a million years how long would I have been dead? Let's see, that's a million years minus twelve hours, a year is three-hundred sixty-five times twenty-four...* The suit time display had a calculator function but she found it impossible to press the buttons in the ungainly deep-space gloves. She pressed the timer button again -- just manageable -- and found that she had been out for fifteen minutes. *That's impossible. It's been hours. They've already won the battle and forgotten about me. Tennyson's with some older girl at the rec center. Fox and Wolf are laughing at how stupid Cane is. Oh, get real, Fox and Wolf are laughing at all of us. They're laughing at me. I hate him. He's not right. I'm not a murderer. I'm just in fourth grade. I'm nice.*

*Are you really?* said her other half. *What about that wolf?*

*That was an accident. I wouldn't really have shot him if Erin hadn't hit me in the back with that stupid whatever it was.*

*Oh really. Right. Why did you take the two thousand coins? And what if you had known what a Superscope can do before that? You were ready to waste Tennyson, weren't you?*

*I was not! Besides, boys are gross. He was touching her just like -- like he was a grownup.*

*You liked it just fine when he held you. You're just jealous.*

*Of course I am! People should be loyal.*

*Oh. To who? Mr. Classen would say, to whom? But nobody really says that anymore. You don't want to go back. You'd really rather stay here. You don't care about the others.*

*Well, they're stupid. We're going to get ourselves killed and who have we got on our side? A shifty fox who's more interested in his girlfriend than in us, and a stupid big-nosed bookworm bum. If Tennyson had any sense he would come with me to live with Princess Zelda. That's who we should be following, not Fox. Fox is sneaky and lazy. Zelda is brave and tough and smart. And loyal. She wouldn't forget about us just to kiss some guy.*

*Oh? Remember what Erin said about her big book.*

*That's Erin. He makes everything up. It's not true.*

*Besides Zelda as much as told you that she would sacrifice anybody if she needed to. She'd cut your head right off. Of course she'd feel bad about it. Maybe Fox is sneaky and lazy. On the other hand, maybe he's cunning. Maybe he likes people to think he's lazy and shifty and dishonest. You know we're really not paying him enough to make up for all the time he's spending on us. Crystal said that just the rental on the asteroid field was five hundred coins. And think of all the time he's spent teaching you all those different guns. You see the bags under his eyes. He's not really sleeping late, he's been searching for information on Ark, you remember Crystal said she never sees him.*

*I don't care, I don't like him. Father would never approve of him.*

*If you stay here Father would never know. You know what he looks like when Mother's name comes up. That would be you. Worse: gone without a trace. You'll break his heart.*

*He hasn't got a heart to break. Besides this is what he wanted. Fox is right, I'm a warrior, I'm good at it, I'm going to be great at it. This is so much better than school or track. And I don't have to practice piano if I don't want to. And if I don't like someone I'll just blow them away.*

*Okay, great warrior. Check for bogeys lately? Up on your oxygen, water, and fuel supplies? check your position recently?*

Sheepish even though she knew no one could see her, Clara brought up the heads-up display and surveyed her situation: no nearby thermal emissions or communications signals, water 85%, air 11.2 hours remaining. The coordinate numbers meant nothing to her but the little dot on the trajectory display showed that she was right on course. Only twenty-two minutes had passed so far.

*Let's review the plan again. At fifty minutes the first asteroids come within range. Wait for passive ID and check to make sure I'm on course. The rec area was composed of several million asteroids, varying in size from a few meters to about 100 meters, spaced roughly 1 kilometer apart. If left to themselves, gravity and tidal forces would completely disperse them within months. Thus every rock was equipped with a tiny maintenance pod containing a solar power panel, ion propulsion unit, navigation gear, and a little transponder that beamed its position and status to the control at the Interpretive Center every five minutes. By receiving one of the transponder bursts Clara could identify the asteroid without emitting any signals herself. Make sure I'm heading right for K366UM; one-second course correction burst if I need it at five kilometers, then one 10-second burn just before impact, don't hit the surface with my jet blast or it'll boil off the junk and*

*everyone will know I'm here.* K366UM was a poorly-conglomerated carbonaceous chondrite -- that is, a planetesimal composed most of tarry organic junk and ice, about 70 meters long and 50 meters wide. Clara's job was to place a charge in the center of the lump and then blow it to smithereens (which would cost them another 200 coins in fines). The Arwings, after hiding behind K722GR, a nearby almost pure-iron asteroid, would tuck themselves in behind the shockwave and thereby hopefully evade detection until it was too late for Wolf's ships to halt their sprint to the dock.

*Gee, I haven't heard anything. I wonder how they're doing?* While Clara secretly floated above it all, the other kids would be negotiating the fixed defenses that Wolf had presumably hidden on outlying rocks. Tennyson, lacking a gunner, would be doing decoy work, drawing fire and thus exposing the emplacements to his teammates. Fox was sure that Wolf would keep his fleet of eight Wolfen cruisers back within fifty kilometers or so of the Center; no need to risk a dogfight if the outer defenses were sufficient. The Arwings were using short-range encrypted directional communications to make it harder for Wolf to listen in; Clara couldn't expect to hear anything way out here. Floating in space, not allowed to use thrusters to adjust her attitude, she couldn't really control where she was looking; as she tumbled slowly head-over-heels the tiny glints of the asteroid field would enter her field of view and leave a few minutes later. Occasionally she fancied she could see a sudden bright flash that might be a laser cannon glinting off a rock.

*What if all the Arwings are knocked out before they get to me? Will they remember to pick me up? I'll be stuck out here forever and suffocate and die. Then they'll feel bad.*

*That's silly. It's a nature preserve. You just need to use the emergency channel and call the docent to come pick you up. Fox told us. Of course the docent probably won't be very happy to hear about a charge ready to blow up one of his meteors. Maybe I shouldn't tell him; if I don't set it off, no harm done.*

She checked her timepiece again. Still twenty-eight minutes to go. *Was ever idleness like this? Where did I learn that? Oh, yeah, some poem we did in reading circles. Emily Dickinson, that was it. She lived her whole life in one stupid house looking after her father or something like that. I don't want to be like her. I want to do important things. I don't want to grow up like Erin, making everything up so he can ignore whatever he doesn't like. I don't need him. I don't need Tennyson either.*

*Remember what Fox said. A general has to have a heart, too. He's right. Tennyson has a way with people. Kids like him. Grownups like him. Kids don't like me. Fox is right, it's not enough for people to be afraid of you. Fear doesn't make people loyal, just afraid.*

*Okay, let's keep Tennyson and lose the rest of them. Though I have to admit Nicholas has really surprised me. I thought he was a stupid big-mouthed jerk but he is determined and brave, and he keeps at it on a lot of the drills and stuff even though he's not naturally good at them like I am. And he worries about all of us all the time. He really*

*feels responsible to get everyone home. He's a good commander. Much better than I would have been.*

*I guess Tennyson isn't responsible to fall in love with me even if I like him. I'm not sure I'm ready to fall in love with him, anyway. Maybe he should get to know some other girls first so we can be sure. Me too.*

A glint brighter than starlight interrupted her reverie. She switched the visor to magnified view. *No question about it, that's the edge of the preserve. Here we go.* A subtle thrill of excitement coursed through her weightless torso. She felt as if the world was suddenly sharper. She saw this little plan unfolding, with success and victory at the end. She could see herself battling through to Ark, outsmarting the stupid Professor and the Star Spirits and that idiot Bowser *and whoever else gets in my way. What was I thinking? I'm a warrior and Ark is my battle. Crystal is right, blow the ships up, victory or death! And it isn't going to be death.*