## THE LAST FULL MEASURE by Kevin Killiany

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## *Terran System Military Academy of Aphros Training Vessel* Sheridan *22 November 3067*

Every last reading was a lie.

Gripping the back of the command chair, Precentor Captain Teodore Kopulos could smell the tension in the bridge. Not quite fear, not yet, but the officers of the *Sheridan* knew they were in trouble.

Acting Ship's Master Gerald leaned forward in the command chair, straps holding him against the inertia. Voice clipped with tension, he ordered the ops officer to double-check the radiation fluctuations. In the same breath he asked again for an update on repairs to the failed capacitor coupling. He waved off Tac's report of anomalous debris in the gas giant's gravity field and ordered a damage control team—at this distance it looked like a coolant leak. Kopulos begrudged the younger man his sharp eyes, able to read the engineer's screen from the command chair.

Knowing his gross movements might distract those working frantically to save the ship, Kopulos flicked only his eyes from station to station, his head moving the minimal millimeters necessary for him to take in the each in turn. Whatever else might be said about the *Bonaventure*-class corvette, its bridge was laid out with efficient simplicity.

The *Sheridan* had been executing a tight hyperbola around the gas giant, slingshotting through the gravity well for cheap delta v on its way to the system's nadir recharge station, when the port engine had blown, taking the aft stabilizing thrusters with it. In the space of a heartbeat the moderately daring maneuver had become a deadly tumble. Now the bridge crew was fighting the giant's gravity, trying to turn their downward plunge into a low orbit before they fell far enough for the dense atmosphere to snag their jagged hull and strip the ship open.

Tactical repeated her report of proximate debris, her voice all but drowned out by the drive engineer's whoop of success. The aft thrusters, half of them anyway, were back on line. Acting Ship's Master Gerald called out bearing and thrust numbers—he'd apparently been calculating their escape even as they fell. Helm responded instantly.

The sudden change in angular acceleration almost cost Kopulos his grip on the command chair. Around him the bridge crew still moved with frantic speed, calling out readings and actions in rapid coordination. But the edge of fear was gone from their voices, replaced with the confidence of triumph.

Tactical shouted-

Every screen went dead. The light panels flicked out. Only the gas giant's light, sweeping the bridge as the viewport swung past it every few seconds, illuminated the men and women of the bridge, frozen in stunned surprise at their stations.

"Engine room, this is the captain," Kopulos said in the darkness. "Station keeping."

The gyrations of the gas giant slowed as thrusters cancelled the WarShip's tumble. At last the striped globe, a safe distance below, was centered against the vastness of the star field.

Kopulos did not order the lights up, preferring the steady glow of Jupiter as he considered the shadowy forms of the cadets.

"Analysis, Mister Gerald?" he asked quietly.

"I killed us, sir."

"Succinct," Kopulos conceded. "Any thoughts on how?"

"I ignored the tactical officer's warning about orbital debris until it was too late to avoid collision, sir."

"And why did you do that, Mister Gerald?"

"I was too focused on getting internal damage under control," the cadet answered promptly.

"Things were happening very quickly."

"Yes, sir."

"If you'd had more time you would have realized the debris field represented a danger?"

The senior cadet had more sense than to fall into that trap. Gerald remained silent, gripping a handhold as he floated at attention.

"Mister Gerald," Kopulos knew cadets found his quiet tones more unnerving than the sharp bark most field instructors employed. He was gratified to see Gerald did not visibly flinch. "How would you characterize Cadet Nakamura as a navigator?"

"Excellent, sir," there was a faint note of relief as Gerald realized the captain's evaluation was evidently moving on. "He's prompt and accurate in his calculations."

Kopulos nodded judiciously, obviously weighing the cadet's words.

"And Cadet Edelweiss?" he asked. "This is her first tour as bridge engineering officer."

"Handled herself very well, sir," Gerald said. "Demonstrated competence and thorough understanding of all systems and procedures."

"I concur, Mister Gerald."

The younger man's eye flickered at the quiet confirmation. Kopulos could see he realized he'd made some mistake, but wasn't sure what it was. Yet.

"Who is responsible for detailing damage control parties, Mister Gerald?"

"The engineering officer, sir," Gerald's answer was prompt, his tone slightly puzzled.

"And who provides the helmsmen with bearing vectors and thrust parameters?"

A slight hesitation.

"The navigator, sir," Gerald answered with the deflated tones of self-realization.

"You were not focused on the crisis, Mister Gerald," Kopulos let a little steel slide into his voice. "You were distracted from the crisis by minutia that were none of your responsibility. You had a competent engineer at her post, an able navigator on duty, but you let the excitement of the moment drag you into doing their jobs for them at the expense of your own. Because of that, you missed information, properly delivered three times, that could have saved the *Sheridan*."

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Kopulos looked at each of the cadets in turn, knowing they felt his eye even if all they could see in the Jovian glow was the shadows beneath his brow. Then he turned his attention back to Gerald.

"Before you rise to the command of your own ship, I can almost guarantee you will serve under at least one officer who will seek to micromanage every operation," he said. "Every navy is full of them. But you must not—ever—emulate them. Your ship and the lives of your crew will depend on you trusting your people to do their jobs. And your crew will do their jobs better if they can trust you to be doing yours."

He paused a moment, letting those words sink in.

"What exactly is your job as commander of a vessel?" he asked mildly.

"To carry out assigned missions," Gerald hazarded, then amended slightly: "And preserve the safety of my ship and crew."

Kopulos did not actually sigh. That was as close as most cadets got.

"You are responsible for a very small world," he said. "And that responsibility requires you to make tough choices, life and death choices, quickly, often under extreme duress. You must always be aware of the big picture—the context in which events take place and in which you must act. Pay attention to everything, but meddle in nothing. More of your choices will be correct if they're informed, and good information comes from people who know they have your trust."



Kopulos propelled himself aft along the central shaft of the *Sheridan* with the otter grace of a lifetime in space. Which annoyed him. He was in the mood for stalking along the windward rail of a square-rigged ship, his boots clomping hollowly on the deck, while the men of his command bent their backs to cheating another knot of speed from the wind.

Not that he'd ever done such a thing. But tall and angular and lantern-jawed, he'd always thought the role would have suited him.

In one respect the *Sheridan* was like one of those ancient barques of war. It was obsolete. The *Bonaventure*-class corvette had been retired six centuries ago. Most were scrap, though he didn't doubt a few pirates in the dark reaches of the Periphery numbered *Bonaventures* among their rag-tag fleets; he'd always been a romantic.

The *Sheridan* had been stripped of its weapons and K-F drives and parked at salvage yard. Kopulos hated those places, ghost flotillas, some a hundred vessels strong, of space-cold hulks in their lonely solar orbit far from the traffic lanes. But four centuries ago the Military Academy of Aphros had rescued the rugged corvette. They'd towed it to Venusian orbit and set about refitting it as a training vessel.

A group of cadets pulled themselves to attention, gripping the guide ropes, as Kopulos approached. He wanted to sail by without a glance, but their training was more important than his mood. Pausing mid-flight, he acknowledged their salutes properly.

They were on their way to the mess on the gravity deck, of course, the next shift coming on. If they'd been on duty they would have carried on and he could have passed unnoticed. Like a real captain with a real ship.

The original crews and captains of the *Sheridan*—should they ever travel through time for a visit—would be moved to tears to see what had been done to their WarShip. If they were able to find their way around.

There were two hundred and forty-three people aboard a ship originally designed to carry one hundred and twenty-nine, counting pilots—two complete crews of cadets and their instructors. The central hold was now a barracks for the additional bodies. The six fighter bays and the great empty caves where the K-F drives and their batteries had been were now packed with a mind-boggling assortment of equipment and materiel for simulating any number of EVA emergencies.

Not that these kids needed much practice with EVA suits. Attending an academy on a hell-hole like Venus meant learning to wear an environmental suit like a second skin. If the *Sheridan* ever broke down, the cadets were well able to get out and walk home. That had been funny the first time he'd thought of it.

There was a K-F control room, of course, right where it should be, with screens that said whatever the simulation computer said they should say and controls that felt and looked and acted like the real things. And sails, prone to complex malfunctions with which to challenge the cadets. Training aboard the *Sheridan* was as thorough and as realistic as it could be without actually jumping anywhere.

Much like my career.

Kopulos shook off the thought and spared a glance at a pair of cadet techs properly ignoring him as they worked. They were testing the section of auxiliary fire control circuit that stretched along this bit of corridor, comparing their resistor readings to the specs. He was confident the two would eventually discover the misconnected point defense subprocessor, but if they were still testing exterior lines, that satori was still hours away.

The weapons systems were, to the eye and diagnostic instruments, all present and correct, matching the design specs of the *Bonaventure* corvette. At least in terms of number and placement. The long-range missile launchers and the autocannons could only fire marker rounds, while the ersatz laser batteries produced spectacular light shows that delivered about one percent of a real weapon's energy to the target.

There was a persistent rumor the Naval 35s could flash cook a frozen pot-roast to perfection. Every year someone tried to devise a way to covertly test the absurd claim and every year Kopulos—while never acknowledging he was aware of the secret experiments—usually awarded points for creativity and initiative to those who carried them out.

Only the drives were original equipment. Close to a millennium old, they could still slap the corvette through tight maneuvers at three gravities of thrust. Aphros graduates remembered helm instructor Ann Reed's demonstration of threading the asteroid belt at speed for decades. For his part, Kopulos was always amazed the heavily modified—and weakened—training ship survived those sessions of flat-out skew-and-burn.

Commander Marcos Palmer, chief engineer and defacto secondin-command of the *Sheridan*, was setting tasks for a new shift in the engine room when Kopulos arrived. Freshmen, the cadets tried not to betray they were aware of the captain making what they no doubt thought was a surprise evaluation as they listened to their assignments.

"Gave the speech on a captain's responsibilities again, didn't you?" Marcos asked when the cadets dispersed to their duties.

## "How can you tell?"

"You always look particularly depressed right after you've been your most inspiring," the shorter man grinned. "Got time for coffee?"

"Always."

The senior cadet acting as chief engineer responded with understandable ambivalence to the news the two primary instructors would be on break. He knew that meant either an uneventful shift or all hell was going to break loose while they were unavailable.

Kopulos bet the cadet would be on the intercom to Gerald before they were clear of Engineering.

Marcos did not take the red jacket of his uniform from the secure net on the final bulkhead as they passed. That was one of the few regs he tended to ignore.

Kopulos suspected it was because the red jacket of his order so clearly set him off from the cadets and other Aphros instructors. Though it could just be that he didn't like wearing it in zero-gee. After all, his black coverall, with its half dozen extra pockets for God—or rather Blake—knew what, did stand out in contrast to the baby blues of the cadets and the instructor's pearl greys. However, only the silver disk at his upright collar, with its circle-with-crossbar *theta* emblem, testified that chief field instructor of engineering was not his only calling.

The gravity deck housed all mess, medical, and exercise facilities, a grouping most cadets found significant. Rotation kept the primary deck at oh-point-four gravities. Mass distribution in the training vessel was uneven and changed frequently to accommodate different testing and practice scenarios. The revolution rate needed to simulate earth-normal gravity, while more gyroscopically stable, would have entered unnecessary torque considerations into every maneuver. The cadets generally found things a little light on the grav deck, but Kopulos found it comfortably close to his native Mars.

Or what he remembered of his native Mars. He'd been in the Sol system twelve years—nearly twenty-three Terran standard years and spent less than a year of that time on his home world. None of it in the last standard decade. Of course, without family a home world was nothing more than another rock in space.

The officers' mess was a corner of the general mess demarked more by tradition than any actual barricade. In the mess hall, by academy tradition, rank was not recognized except when a direct order was being given or received. This prevented nervous cadets inadvertently scattering trays of food as they leapt to their feet every time they saw an officer. The practice also allowed the instructors who so chose to interact informally with their students.

Waiting his turn at the coffee urn, Kopulos nodded simply to any cadet who made eye contact, neither seeking out nor avoiding acknowledgement. Marcos, however, smiled at several of the young men and women, greeting most by name. The captain knew he would be remembered with respect by the cadets who trained under him, but Marcos would always occupy a warmer place in their hearts. There probably wasn't a graduate of Aphros who hadn't told the engineer their life story at one point, or come to him for advice about career or romance or personal direction.

Making his way to the officer's area, Kopulos sat with his back to the larger room, not wanting to contribute to the indigestion of cadets who might imagine they were under his watchful eye.

"So, give," said Marcos, sliding into the seat opposite.

"Bah. The usual complaint," Kopulos said. "Those who can't teach."

"On the contrary, my friend," Marcos replied. "Those who *can* teach. Any moron can do a job. To take what you know and instill it in others, that requires a special talent."

"And the usual counseling," Kopulos added.

"It must be working," Marcos grinned. "Already I see your mood has elevated from morose to dour."

"You are by far the strangest priest I have ever met."

"I keep telling you we're not priests," Marcos leaned back in his chair. "Some of us who have studied the Word are simply called to share our understanding with others."

"I doubt your Blessed Blake had much to say about old star captains who never amounted to enough to be a has-been," Kopulos' mouth quirked as he swirled the liquid in his cup. "But I appreciate the coffee."

"Oh, I'll grant your career did not involve much buckling of your swash, whatever that is," the younger man agreed. "But it was your thirty years of steady service—three decades of intelligent dependability-that earned you the posting to the Military Academy of Aphros.

"Flashy exhibitionists are entertaining, even useful at times," Marcos shrugged, his ready grin popping back into place. "But civilization depends on the ones who get the job done, and done right, day after day."

Kopulos regarded the engineer through his brow.

"You, my adaptable Adept," he said, pointing with the index finger of the hand wrapped around his mug, "missed your calling when you went into JumpShip Operations. You should have gone into counseling. Or public relations."

## *Terran System Military Academy of Aphros Training Vessel* Sheridan *07 December 3067*

"Sir?" It was Edelweiss, late of engineering and currently on tactical. She glanced to be sure she had Acting Master Grainger's attention. "I've got multiple jumps."

Kopulos frowned. The report was partial, which was not good, and completely unexpected, which was even less good.

The *Sheridan* was above the elliptic, giving Mars the prescribed wide berth on the final leg of their tour.

After the disaster of being smashed by orbiting Jovian icebergs, the exercises had gone exceptionally well, with every bogie hidden in the asteroid belt located and neutralized in near record time. Among the targets destroyed was a three-kilo pot-roast flashed to vapor. A catapult, powered by the retraction piston for the dorsal sensor array shroud, had launched the ill-fated beef. Its clever design and placement had earned Gerald a few points unawares, though not enough to undo the damage of destroying the ship.

For the last forty hours they'd been coasting, all internal systems at minimum, while freshman repair crews frantically patched "battle damage" to the hull. Soon they would discover corrupted plasma injectors that would require complete replacement before the corvette could decelerate. It was a tricky operation, but most crews usually got it done in time for their final approach to Venus. There were rare overshots, of course, and last-minute three-gravity burns were not uncommon.

There was nothing in any of the scenarios about unexpected JumpShip arrivals.

Particularly since the zenith jump point was eight days away at single-gee. Not close enough for arriving ships to register.

"Where away?" asked Grainger, apparently reaching the same conclusion.

"Bearing three-four-oh mark three-oh-oh, range—" her voice trailed off in doubt. "Sir, I may have a sensor malfunction. I show ships jumping in system inside Mars orbit." "Tac, feed your numbers to Navigation," Kopulos ordered, breaking protocol. "Cadet Rice, using those coordinates to plug-and-test, can you project a Mars-Terra-Sol LaGrange point?"

The bridge had gone electric with his first words. Stepping in without asking permission announced "this is not a drill" as loudly as any alarm klaxon.

"Ninety-seven percent match," Rice confirmed after a moment's calculation. "They lead it a little, but it's a pirate point."

Kopulos nodded once, sharply, acknowledging the junior's quick analysis.

"Terra or Mars, Edelweiss?"

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The young woman did not answer immediately but studied her screen, one index finger slightly raised. Telling him to wait while the intruders built up enough thrust for their course to be apparent. Good.

"Mars, sir," she said a moment later. "Looks like one-point-two gees acceleration. Estimate Mars orbit in twenty-three hours."

"Confirmed, sir," Rice let him know Tac's numbers were still being echoed on his screen.

"Are they flying colors?"

The cadets looked at him blankly.

"Can we read their identity transponders?" he asked patiently.

"No IFF transmissions, Precentor Captain," Edelweiss responded as though answering an exam question. She had the wit not to remind him protocols assumed ships running dark were hostile.

Kopulos reached for the intercom built into the arm of the command chair. Grainger leaned as far out of his way as the zero-gee retention straps would let him.

"Commander Palmer?"

"Here, Captain."

"Hope you haven't set up the next surprise, Marcos," Kopulos said, giving the ashen Grainger a sour grin. "We're going to need those engines."



Thirteen centuries ago, naval battles had been fought like space battles. Hours would pass between first sighting of an enemy's sail and the firing of the first shot. Hours of maneuvering and planning and positioning for what could in the end be only moments of gunfire. Or days.

Kopulos envied his spiritual ancestors their poop decks to pace as he sat, held to the command chair by two gravities thrust—six times the field he'd grown up in. Though his long frame had hardened to standard gees decades ago, on long, steady pulls his bones still ached. Now only his eyes moved, flicking from repeater screen to repeater screen as he watched the tactical situation unfold.

If he were still on active duty and the *Sheridan* a commissioned vessel, he could have contacted system defense, coordinated with real WarShips. As it was, Kopulos and his young charges were playing a lone hand against unknown odds. He had no illusions that the *Sheridan* would be anything other than a diversion. But anything that weakened the invaders' thrust against his homeworld was a weapon.

To that end, he was not approaching the aggressor fleet too quickly. Ships in space did not actually see other ships until they were within weapons range. At distance they identified other vessels by transponders and by electronic signature. Each class of ship could be identified by its distinctive array of sensors and communicators. Such as the readings that told him, for example, that the attacking fleet was built around a *Congress* and a *Sovetskii Soyuz*—that last determining their approach speed.

However, the *Sheridan* was a training vessel intended to prepare cadets for service on a wide range of WarShips. It had several electronic suites arranged in parallel from which they could select to emulate whatever ship a given exercise warranted.

At first Kopulos had been tempted to rotate through the repertoire in an effort to create the illusion of a small fleet, but he'd abandoned that plan as too easily penetrated. Instead he'd configured the *Sheridan*'s electronic array to mimic a more formidable contemporary of the *Bonaventure*-class corvette; something potent enough to give them pause in their assault on Mars. So he held his approach to two gravities, arcing wide as though seeking to pin the invaders against the planet. It was a balancing act, trying to appear a threat while keeping distance and giving the enemy time to wonder how many *Aegis*-class heavy cruisers Terra had at their disposal.

As long as they kept maneuvering vectors consistent with the larger vessel, the enemy should not be able to penetrate the ruse until the *Sheridan* was close enough for direct scans to reveal it lacked two-thirds the necessary mass.

The plan was simple. If and when the invaders responded to the threat of the "cruiser," the *Sheridan* would lead any ships that attempted to engage as far out of formation as possible. With three gravities of thrust available, they could outrun anything in the aggressor fleet.

Assuming none of those ships was pulling the same electronic subterfuge they were. It would be a shame to find themselves suddenly confronted by a flotilla of *Kirishima*s.

So far, however, the invading force was showing no interest in the "Aegis" closing from above the elliptic. Though no doubt aware of the ship, they maintained focus on the apparently primary target, letting the interceptor burn its fuel coming to them if it dared.

Kopulos gave them points for solid tactics.

For his part, Commander Palmer had devoted the last twenty hours to an effort to bring some sort of weapon system on line. He'd explained to Kopulos that at some point someone may try to shoot at the *Sheridan* and being able to shoot back might be a good idea.

Nothing could be done about the missile launchers and autocannon, of course. Marker rounds looked enough like the real thing to give an enemy pause until the first salvo landed, but that was about all they could be counted on. The ship simply didn't have any live munitions.

Instead Marcos focused on getting the governors off the lasers and routing power through capacitors that could handle a full weapons load. There were no weapons grade assemblies aboard, of course, but there were plenty of spare parts for "emergency" repairs on the training units they had. Enough for him to cobble together parallel banks sufficient to contain the surging energy flow. However, connecting the banks to the actual weapons was requiring some creative and hasty fabrication carried out under two gravities.

There was no time to test the new systems, of course. Kopulos hoped they'd never be used. They wouldn't be, if his plan worked.

And if Mars mounted any sort of defense.

That was one aspect of being an academy instructor and not commanding an active WarShip. Kopulos had only the vaguest sense what forces were in the Terran system. Other than avoiding posted no-traffic zones, he'd had no reason to pay close attention to the comings and goings of local defense forces. He had no idea what resources Mars had with which to meet the attack.

Tactical had reported a single *Naga* in polar orbit. Though much slower than a *Bonaventure*, the aged destroyer had over twice the *Sheridan*'s mass and ample firepower to make a difference. But the ship was simply following its orbit, to all appearances an empty hulk.

Probably the next generation's training vessel.

Kopulos ran his eye over the repeater screens, knowing one of the cadets would already have called out any sightings. If anyone else in-system was burning to the planet's aid, they weren't showing up on the *Sheridan*'s sensors.

In-system jumps were always possible, of course, but LaGrange points far enough from Mars to be safe were nearly a quarter-million kilometers out. Too far for anything that hadn't arrived already to engage the invaders before they reached the red planet.

It looked like the open stages of the battle were up to the *Sheridan* and whatever Mars Defense had on hand. They *might* give the invaders pause if they appeared to be more of a threat.

"Commander Palmer?" he asked into the intercom, pleased his voice did not betray him.

"Here, Captain."

"How are we coming with those weapons systems?"

"Port side thirty-five and large lasers are still a light show, but we've upped the wattage," Marcos reported. "If we don't hit anything and give them a chance to get an accurate energy reading, they *look* like a full-power array." Kopulos nodded a millimeter, knowing the intercom wouldn't pick up the gesture but trusting Marcos to sense it. He hadn't really expected more.

"Starboard array has a little more punch," Marcos surprised him. "No threat to a capital ship, but we should earn the respect of aerospace."

"Enough power to take out heavy fighters?"

"More like annoy them severely," the engineer chuckled. "But we've got enough juice to make them cautious."

"Good work," Kopulos said, and meant it. Anything that had the potential to tie up enemy assets was an advantage.

"Sir?"

They had worked through the watches during their long intercept and Edelweiss was again on tactical, looking to be sure she had his attention before reporting.

"Cadet Edelweiss, we are in a situation where seconds could be vital," Kopulos kept his voice smooth. "Your good manners could cost lives. Please report without prompting."

"Sir, yes, sir," the cadet came to attention in her chair. "Multiple drive plumes in Mars polar orbit, sir. Unfamiliar configurations."

Kopulos brought her screen up on his main repeater.

Multiple was right. Some form of energy field, probably an ECM developed after his retirement, was fogging the readings, but he counted three dozen, maybe four, vessels pushing up out of Mars orbit. Their layered formation made picking out individual ships difficult.

It was unsurprising their sensor patterns weren't in the *Sheridan*'s database or Kopulos' own memory. Neither an aged training vessel or a retired captain had the security clearance to be privy to cutting-edge weapons systems.

New WarShips? Possible, particularly given the interdict against close Mars approach. DropShips, too. If he was reading the thermals right, there were at least three classes of vessels in the mystery fleet.

On the heels of that thought came the realization why the invaders had been ignoring the "*Aegis*" closing in on them.

"We walk like a duck, we sound like a duck, and we look like a duck," he said quietly. "But we don't fart like a duck."

"Sir?" Rice this time, again at Navigation.

"Our decoy action." Kopulos answered. His mistake could at least further the cadets' education. "When impersonating a vessel with three times your mass, remember to triple the volume of your exhaust gasses."

"Our thermal mass signature," Tomas, the cadet at helm, said. "They can read our heat."

"Wouldn't that be impossible to fake?" Rice asked. "With three times the exhaust we'd have to be either three times more massive or three times faster."

"Vent omnifuel vapor?" Edelweiss suggested. "Maybe superheat it with a small laser?"

"Good thinking, Cadet," Kopulos acknowledged. "The temperature would be wrong, but close enough to instill serious doubt. I wish I'd thought to consult you sooner."

Edelweiss tucked her chin into her chest, smiling under the compliment.

Kopulos' own smile drifted back into a frown as he considered the problem of the unknown ships. Were they sufficient to turn back the invaders? He didn't know enough to begin to speculate. Not taking his eyes from the unfamiliar readings, he thumbed on the intercom.

"Commander Palmer, I'd like you on the bridge," he said, his voice in the conversational calm that struck fear in the hearts of cadets. "We have a mystery I think only an engineer can solve."



Watching the commander's profile as he studied the mystery craft on the screens, Kopulos realized his friend knew exactly what he was looking at. What Marcos was obviously struggling with was how much he could say about what he knew.

"Are they enough to stop the invasion?" he asked, trying to break things down into yes/no questions that could be answered without compromising security. "I don't know," Marcos answered quietly, glancing toward the cadets at their stations and Reed at the helm. His voice didn't carry.

Lieutenant Reed had relieved Cadet Tomas at helm; Kopulos wanted the best hands he knew of on the controls if the *Sheridan* was going into battle. He'd ordered thrust cut. They were close to terminal velocity for making Mars. The math of accel/decel dictated they'd get there faster if they dropped in on current inertia ending with a full-bore three-gravity braking burn than if they'd made the standard mid-point flip.

"They weren't meant for this," Marcos said in the same quiet tone.

Kopulos could believe it. A second group of planetary defense vessels had mobilized in the time it had taken Marcos to reach the bridge. Perhaps sixty craft total, only moments from engaging the incoming fleet. But not as a cohesive force. Each ship was clearly coming at the invaders ASAP with individual ships outstripping the whole with no sense of formation. As though someone, caught by surprise, was simply throwing whatever came to hand at the threat.

Which probably wasn't too far wrong, now that he thought of it. The Sol system had gotten complacent in its security.

Not so the invaders. A half dozen assault DropShips were deployed to protect troop and 'Mech carriers. The database identified a *Fortress*, and a mix of *Intruders* and *Hannibals*. Two DropShops hanging back were tagged *Vengeance*, which implied—given the aerospace compliments of the *Congress* and *Soyuz* WarShips—at least three Level IIIs of aerospace fighters in the swarm defending the descending fleet.

Mars was flinging a handful of gravel at an oncoming boulder.

And to their aid came the *Sheridan*, old and toothless as her captain, snarling ineffectually at the juggernaut's heels.

The battle was joined.

The tactical computer updated its estimates on positioning of the aerospace screen as weapons fire and explosions gave it hard numbers.

Incredibly, the first defenders, small DropShips according to the *Sheridan*'s targetting computer, seemed to cut through the wall of fighter cover with no losses. None engaged the fighters, pressing on to larger targets. Reaching the fleet, and again there was no apparent formation or plan to their attack, the defender ships swarmed the *Fortress*. They avoided the invader's fire with high-gee flip and burn maneuvers Kopulos thought would have challenged heavy fighters.

"Going to be a lot of loose teeth and sore backs on those ships," he commented quietly to his friend.

Marcos grunted noncommittally, watching the screens.

Kopulos realized his friend was caught up in the battle. So was he, but three decades of naval command had given him a gallows humor his young friend apparently didn't appreciate.

The second wave, if the helter-skelter clot of defenders could be called that, cut through the screen of aerospace fighters. But unlike their earlier cousins, they took losses, one of them exploding once it was past the fighters but before it had reached the invading DropShips.

"Tactical?"

"Looks like concentrated aerospace fire from behind, sir," Edelweiss answered promptly. "Readings of the explosion force patterns indicate seventy percent probability they're susceptible to aft attack."

"Damn," Kopulos said quietly, his sardonic humor of a moment before gone.

If his cadets could figure that out it was a cinch the invaders already had. What would be the crew of a small attack craft like that? A dozen? Twenty? It didn't matter. One life lost to the invaders was too many.

To the unpracticed eye the battle unfolding on the screen became a melee as more defenders penetrated the screen and more screening fighters dropped back to engage them.

The invasion fleet shifted formation slightly, but it was still a tight formation, still under cohesive overall control as the DropShips reformed to offer each other what cover fire they could. Not a usual maneuver with aerospace coverage so dense, but the swarm of defenders, dancing through the web of weapons fire with bonesnapping agility, was necessitating unusual measures.

The defenders were hurting the invaders. Attacking DropShips were going dark or igniting in flares of venting plasma and atmosphere. The fourth and last group had passed the aerospace screen without firing a shot, most of the fighters having pulled back to close defense of the fleet. These defenders had ignored the DropShips as well, carrying their dodging and flipping attack directly to the WarShips.

But it was not enough.

One by one the torches of the defenders' thrusts were being extinguished under the disciplined fire of the attackers' coordinated defense. The boulder was crushing the pebbles thrown against it.

There may have been other fleets of defenders, hanging in silent orbit as these had been, but if there were there was no sign. The defense of Mars was in the hands of the dozen defenders still harrying the WarShips.

And the Sheridan.

They were closing, close enough for even a *Bonaventure* to have deserved a little attention, but still being ignored. The invaders were clearly going to clean up the immediate threat before turning their attention to the lone ship dropping down from above. Sound tactics even if they didn't know the old trainer had no weapons.

No weapons except...

"Order all hands to EV suits," Kopulos ordered. "Man all evacuation stations."

"Teo—"

Kopulos cut Marcos off with a hard glare as the cadet at communications relayed the order through the ship..

"Lieutenant Reed, Cadet Rice, I want a spiral," Kopulos said, still meeting the commander's eye. "Point three gee thrust. Once around Mars then intercept the hostiles."

"You're going to ram," Marcos said. It wasn't a question. "You're going to drop the cadets on Mars, then ram one of those WarShips."

"Sir!" protested Rice.

"Nonsense, Marcos."

"Permission to stay on board," Edelweiss cut in, the cadets at communications and engineering a beat behind her.

"Denied," Kopulos snapped. Then, once again his studied calm: "All of you have done excellent work, but we're dismissing class ahead of schedule." Not a cadet moved. Holding themselves against the air currents, they each regarded Kopulos with level suspicion. Only Reed continued to work, laying the complex course into the flight control.

"I have no intention of throwing my life away," Kopulos assured them. To a real crew, a seasoned crew, he would not have made the gesture. But these were, after all, cadets and, in many ways they'd rather die than admit, they were still children "There's no real danger."

"Right," Marcos said. "What's your plan?"

Normally such a question would be unthinkable, but Kopulos saw the commander was helping. Giving him an opportunity to provide a rationale to make the cadets more comfortable in abandoning their captain.

"Swing over the horizon, lasers blazing," Kopulos said easily. "See if I can't draw their aerospace cover out of position long enough to give our boys a clear shot."

"The helm is locked down, you could set the simulator to fire the lasers. There's no reason for you to remain onboard."

"The hostiles could move," Kopulos pointed out. "Course may need a few last minute adjustments. It's a long shot, it's doubtful the invaders will spare *Sheridan* a glance, but I don't want to carry young officers into potential danger unnecessarily."

"Of course," said Marcos.

VIIIECORPS

Flashes on the sensor screens and, more faintly, through the viewport. The battle for Mars continued.

"Get in your suits and to your pods," Kopulos ordered.

The cadets rose, pulling themselves to attention, and brought fingertips to brow. Their captain, glaring through the sudden sting in his eyes, pulled himself upright and returned their salute.

"I'm going to have to make a call," Marcos said when they had left.

Kopulos nodded, indicating the communications station. No doubt a planet under attack was going to need reassurances about a dozen small craft suddenly appearing in orbit.

Marcos moved to the console, keeping his body between Kopulos and the screen as he adjusted frequency.

"Voice identification," he said clearly. "Adept XII Rho Marcos Palmer—" he lapsed into a series of syllables that conveyed nothing to the others on the bridge. "Annie," Kopulos said quietly. "Lock down helm and get to the pods."

"Like hell."

"Shooting you in the leg and dragging you isn't my first choice, but it is an option," he hardened his voice. "That was an order, Lieutenant."

"Sir, yes, sir," Reed locked down her station. "If you need to make any course corrections..."

"I know how to bypass the interlocks," Kopulos cut her off gently as he pushed himself toward tactical.

"Sir."

Kopulos paused. Bracing himself to attention, he returned her salute.

It took him less than a minute to slave fire control from tactical over to helm. By the time he was done, Marcos was again standing by the command chair, evidently waiting.

"You don't have to do this, Teo," he said. "Mars defense got caught flat-footed, but they should be able to handle this."

"'Should' being the operative word, Marcos," Kopulos said. "Mars is my home. I'm as much Mars defense as any of those ships getting shot up out there."

"Coming over the horizon you won't have time to make more than minor course corrections."

"That should be enough."

"What if you miss?"

"Then I'll be a foolish old man in Solar orbit," Kopulos smiled. "Do me a favor and don't send a rescue party."

"Can't promise that," Marcos said solemnly. "The *Sheridan* is a valuable ship."

Kopulos grunted.

"Do me a favor?" Marcos asked. "If you come over the horizon and see Mars has mounted a heavier defense, go for that solar orbit." "Of course," Kopulos extended his hand. "Now get to your escape pod."



Kopulos would have liked to spend his last moments in the command chair, but was prevented by the irony of command. For all his responsibility and authority, the captain of a WarShip didn't actually *do* anything. He needed control of the *Sheridan* on her final run, and for that he had to sit at helm control.

Marcos had been right, he saw as he came above the horizon. Mars Defense had somehow mobilized dozens, scores, more of the mysterious ships. They were swarming the invaders. The attacking fleet, he saw, had lost its cohesion in the face of the frantic, unorganized onslaught of the defenders. Instead of covering each other as they had, DropShips and JumpShips and WarShips were all locked in individual battles for their lives. Many more of the hostile DropShips had gone dark in the hour it had taken him to ensure the safety of his cadets, and the *Soyuz* WarShip was clearly dying.

But some of the DropShips were getting through, he could see them descending under power for the surface. And the *Congress* was breaking free. If it could regroup, organize the fighter screen—

But it was breaking his way, almost directly toward him, and its gunners continued to ignore the toothless training vessel.

Triggering the slaved fire controls, he launched a volley of LRMs. Paintballs. But they might distract the invader's ECM and point defense into wasting time and attention.

Kopulos tapped the thruster controls. He wasn't the best of pilots, but only the slightest corrections were necessary. He rotated the *Sheridan*, bringing Mars into view; stopping when his home, the Terran god of war, filled the sky above him

Satisfied, he fired the lasers. A light show, flash without force, but that was all he needed. He wanted the WarShip looking at him. He wanted them to realize what was about to happen.

They did. Tactical lit up with multiple weapons lock alarms as the WarShip's batteries locked. Too late.

Teodore Kopulos palmed emergency thrust. Beneath him the *Sheridan* gathered itself and lunged. Aged captain and ancient ship, they leapt into the heart of the enemy under the blood red sky of Mars.

The End

