

NOVELETTE

ON THE ACCOUNT

If you want to catch lightspeed, try just standing still before it!

A. BERTRAM CHANDLER

I

COMMODORE GRIMES sat at his desk, looking down at the transcript of a Carlottigram from Port Listowel. *Lord Of The Isles*, one of the lightjammers on the run between the Rim Worlds and the Llanithi Consortium, was overdue. She, using her own Carlotti equipment, had beamed a final message to Port Forlorn before breaking the light barrier. Once the speed of light had been exceeded she was in a weird, private universe of her own—stranger even than the private universes of ships running under the space-time-twisting Mannschenn Drive—and unable to communicate with any planetary base or any other ship. Toward the end of her voyage she had made her routine reduction of speed to a sublight velocity and had started to send her ETA to the Carlotti Station on Llanith. She had gotten as far as giving her name and then, according to the Llanithi Carlotti operator on watch, had experienced what seemed to be in-terference, on the band in use. Nothing more had been heard from her. And now she was all of ten days overdue.

The communicator buzzed sharply.

Grimes pressed the button that would admit the incoming call. The screen lit up and on it appeared the fleshy, ruddy face of Admiral Kravitz. "Ah, Grimes."

The commodore repressed the temptation to counter with, *And whom the hell else did you expect?* Legally speaking the admiral was not his superior officer except when Grimes was called back to active duty with the Rim Worlds Navy, but there would be no sense in an-tagonizing the man.

"Sir?" Grimes replied curtly. "This *Lord Of The Isles* business, Grimes?"

"You have a transcript of the signal from Port Listowel, sir?"

"Of course. We do have an in-telligence branch, you know. What do you make of it?"

"I don't like it. Especially coming right after the vanishing of *Sea Witch* under very similar circumstances."

"What are you doing about it, Grimes?"

"I could ask you the same question, sir."

"We cleaned up the energy-eaters for you, Grimes, and we made a clean sweep. *Rim Culverin* has been maintaining a patrol ever since the conclusion of Operation Rimhunt and has reported no further in-vasion of our territorial space by those entities." The admiral paused, then went on: "I'm not altogether happy about those light-jammers of yours, Grimes. As you know, we're having some built for the Navy, but I'm beginning to feel like trying to get the program can-celed. They aren't safe. Sailing ships, indeed, in *this* day and age?"

"They're the only ships we have capable of trading with the Llanithi Consortium."

"At the moment, Grimes, at the moment. But our boffins are working on some other, simpler way of achieving a reversal of atomic charges."

"With what success, sir?" asked Grimes innocently.

Kravitz flushed. "None so far. But give them time, give them time. Meanwhile—"

"Sir?"

"Meanwhile, Grimes; I am recalling you to active duty. As long as the so-called ships of the line are still on our drawing boards we have to maintain an interest in sailing vessels. Furthermore, I have learned from your employers—from Rim Runners—that all further railings of the lightjammers have been suspended until such time as the mystery of the disappearance of *Lord Of The Isles* and *Sea Witch* has been cleared up. They are agreeable to the requisitioning and commissioning of *Pamir* as an auxiliary cruiser. You will sail in her."

Grimes grinned. "Thank you, sir. But I have to tell you that I'm not qualified in sail."

"*Pamir's* people are—and they all, like yourself, hold reserve commissions. Listowel's a full commander, isn't he? You'll be in overall charge of the ship and the expedition, but he can be your sailing master. We'll be putting aboard regular Navy personnel—gunnery specialists and the like. Satisfied?"

"Gunnery specialists?"

"You never know when weapons are going to come in handy, Grimes. It's better to have them than to be without them."

Grimes had to agree. He knew as well as anybody that the universe was not peaceful and that Man was not its only breaker of peace.

NOT at all reluctantly Grimes handed over his astronomical superintendent's duties to Captain Barsac, one of Rim Runners' senior masters. But it was with a certain degree of reluctance that he left his comfortable home in Port Forlorn for Port Erikson, the lightjammers' terminal. Sonya refused to accompany her husband. She detested cold weather. Port Forlorn's climate was barely tolerable. Only Esquimaux, polar bears or penguins—assuming that the immigration or importation of these from Earth could be arranged—would feel at home at Coldharbor Bay in Lorn's Antarctica.

Pamir was alongside at Port Erikson. The cargo she had brought from Llanith had been discharged but she had not commenced to load for the return voyage. As yet the advance party from the Admiralty Yards was still to arrive, although accommodations—looking like black, partially inflated balloons grounded in the snow—had been set up for them.

Grimes, accompanied by Captain Rowse, the Port Erikson harbor-master, went aboard *Pamir*. He was received by Ralph Listowel, the lightjammer's master.

"Glad to have you aboard, sir," said Listowel.

"Glad to be aboard, Com-mander."

Listowel scowled. "That's right, sir. Rub it in. I suppose you'll be taking over my quarters."

Grimes grinned. "No. You're to be my sailing master—and, as far as I'm concerned, this is still your ship and you're still the master of her. You've quite palatial passenger accommodations. That'll do me."

Listowel's scowl faded from his lean, dark face. "Thank you, sir. But what is going on?"

"Your ship has been requisitioned—and you and your officers have been called up for active duty in the Rim Worlds Navy."

"I know that. But what *is* going on?"

"I was hoping that you'd be able to tell me."

Listowel waved his visitors to seats, took a chair himself. He said, "Let's face it, Commodore. To date the lightjammers have been lucky, fantastically lucky. Even in *Flying Cloud*, where we had to make up the rules as we went along, we all came through in one piece. But sooner or later luck runs out."

"You think that's what happened to *Sea Witch* and *Lord Of The Isles*?"

"There are so many things that could happen. When we're running under sail, building up to a velocity just short of that light, we could hit something—"

"And the flare of the explosion would be seen from Llanith."

"All right, all right. Something could go wrong with the magnetic suspension of the sphere of

antiiron—"

"And with matter and anti-mat-ter canceling each other out the burst of released energy would be even more spectacular."

"Yes, Commodore. But what if it happened at trans-light speed? We know very little of conditions out-side the ship at that velocity. Would the explosion be witnessed in this universe— or in the next universe but three?"

"Mphm. You have something there, Listowel. Even so, we've two ships missing, one after the other. There's an old saying: Once is hap-penstance. Twice is coincidence. Three times is enemy action."

"There hasn't been a third time," said Listowel.

"Yet," pointed out Grimes. "But there's still the apparent jamming of *Lord Of The Isles'* last call to be considered."

BACK in Rowse's office Grimes asked for the manifests of the cargoes carried by the two missing ships. It was possible that there had been some item of freight which, at trans-light speeds and with the reversal of atomic charges, had be-come chemically or physically un-stable with fatal consequences. This was an idea worth considering. But no radioactives had been listed. No industrial chemicals, dangerous or otherwise, had been listed. Mainly the freight carried in each ship had consisted of luxury goods—preserved foodstuffs, liquor, fine textiles and the like. A few ship-ments of machine tools and some drugs had also been part of the cargoes.

One drug in particular—Anti-geriatridine—caught Grimes' at-tention. The substance was not manufactured on any of the Rim Worlds. It came from Marina, a planet in the Pleiades Sector. It was an extract from the glands of an in-digenous sea slug and could not be synthesized. It was fantastically expensive and, on most worlds, was controlled by the state, rationed out only to deserving citizens. It was Marina's main source of income, exported to any planet that could afford to pay for it. In recent years the Llanithi Consortium had been placed on Marina's list of cus-tomers. Transshipment for Llanith was made from Lorn.

Grimes' memory carried him back to the long ago days when he had been a newly commissioned ensign in the Federation Survey Service. He had played a part in bringing the pirates who had cap-tured the merchant vessel *Epsilon Sextans* to book. *Epsilon Sextans* had been carrying Antigieriatridine, which had made her a worthwhile prey.

Perhaps Admiral Kravitz' insis-tence that *Pamir* be armed made sense.

But piracy?

It was not the continued existence of the crime itself that Grimes found hard to comprehend, but rather the actual mechanics of it. Piracy was not unknown along the spaceways, but both predators and victims had always been conven-tional starships, with inertial drive and Mannschenn Drive and auxiliary rocket power for use in emergencies. Under inertial drive only, maintaining a comfortable 1G acceleration, a ship could build up almost to the speed of light if she took long enough about it. But, as soon as possible, she usually ran under Mannschenn Drive which, in effect, gave her FTL velocity. In these conditions she was un-touchable unless the vessel at-tacking her succeeded in synchro-nizing her own rate of temporal precession. The captains of warships—and of such vessels as have from time to time sailed on the plundering account—were reason-ably competent in the practice of this art.

But it would be impossible for a ship proceeding under inertial drive only to match velocities with a lightjammer under sail. And a ship running under Mannschenn Drive would have to return to the normal space-time continuum before her weapons could be brought to bear on a lightjammer—and, once again, the matching of velocities would be impossible.

Hijacking was a form of piracy, of course.

Grimes turned from the missing ships' cargo manifests to their passenger lists. The names meant nothing to him, neither those of Rim Worlds citizens nor of Llanithans. No doubt the police could help him in this respect. Perhaps one or more of those passengers had a criminal record. But the hypothesis made little ap-peal to him. He just could not imagine the officers of either of the vessels submitting

meekly—and he could not imagine any passenger being able to handle a lightjammer. Sail spacemanship was an art rather than a science and the only practioners of the art—Grimes told himself—consisted of the handful of Rim Runners' personnel trained and qualified for lightjammers.

He filled and lit his pipe, looked down at the manifests and passenger lists on the desk. He had a hunch that the manifests meant more than the passenger lists—no more than a hunch, hut his hunches were often right. Any ship --even a pirate ship—anywhere in space between Lorn and Llanith and in position to receive the beamed Carlotti transmissions from one planet to the other, would be able to read the routine signals sent im-mediately after the lift-off of one of the lightjammers. Date and time of departure—passengers carried—a listing of freight aboard. Nothing was encoded. There had never been any need for secrecy until now.

Only the actual mechanics of at-tack, seizure and boarding puzzled him.

HE CALLED Sonya, told her that she had better come to Port Erikson. "You're the in-telligence officer in this family," he said. "This job calls for in-telligence." Reluctantly she agreed to join him.

The following morning he stood in the Port Erikson control tower, looking out through the wide win-dows at the bleak landscape. *Pamir* was alongside at her wharf, a great, dull-gleaming torpedo shape on the dark water. The sleekness of her lines was broken only by the pods that housed her airscrews and their engines. Out on Coldharbor Bay a small tug, *Bustler*, was chuffing busily back and forth, functioning as an icebreaker, keeping the har-bor clear of any accumulation of ice heavy enough to impede surface maneuvers. Grimes had decided that *Pamir* must keep to her original schedule, which meant that her conversion to an auxiliary cruiser would be a skimpy one.

There would be time for the in-stallation of an extra generator and the fitting of two batteries of laser cannon, but no more.

A familiar voice issued from the traffic controller's transceiver. "Pinnacle *Firefly* to Port Erikson. Do you read me? Over."

"Loud and clear, *Firefly*. Pass your message. Over."

Grimes went to stand by the traf-fic control officer. He heard Sonya say, "My ETA Port Erikson oh--nine-four-five hours, your time. Over."

So neither she—nor Admiral Kravitz—had wasted any time. And Sonya was doing her own piloting, which was typical of her.

"I have her on the screen, sir," announced the radar operator.

Grimes went to the window over-looking the Nullarbor Plain, al-most featureless under the blanket of snow. It was one of the rare clear days, and on the horizon stood the distant, jagged battlements of the Great Barrens. And was that a tiny, glittering speck in the pale sky? Yes. It expanded rapidly and even in the control tower, through the thick glass of the windows, the irri-tated snarl of an inertial drive unit operating at maximum capacity was distinctly audible.

"That's her," said Captain Rowse.

"That's her," agreed Grimes. He shrugged into his heavy cloak, put on his cap and went down to the airstrip to meet Sonya.

“**T**HE trouble with you, John," she said, "is that you've read too much of the wrong kind of history. Wooden ships and iron men and all that sort of thing. Pieces of eight. Broadships of car-ronades. The Jolly Roger. Oh, there have been space pirates, I admit. But I still get my share of the bumf issued by the Federation Survey Service's intelligence branch—and I can tell you that today there just aren't any pirates. Not that sort of pirate, anyway. There's still the occasional hijacking."

Grimes' prominent ears flushed. He indicated with his hand the passenger lists. He said, "I've asked the Port Forlorn chief of police if any of these people have criminal records. He assures me that none of them have and that everybody aboard *Lord Of The Isles* and *Sea Witch* was a little, innocent woolly lamb—"

"He'd know, wouldn't he?" She herself was flushed, her fine features literally glowing under the glossy auburn hair. "And you have all these bright ideas and drag me out here, where all the brass monkeys are singing falsetto, to join you in this comfortless shack to help you think."

"Not comfortless," said Grimes. The quarters that he had been given were commodious and comfortable enough, although lacking in character. ACCOMMODATION, MAR-RIED COUPLE, FOR THE USE OF ...

"Well, what do you intend doing? Put me in the picture."

"*Pamir* will sail on time, having loaded the cargo that's been booked for her. That will include a shipment of Antigieratridine. The usual routine signals will be made once she has lifted off. And then we wait to see what happens next."

"We?"

"I suppose you'll be coming along."

"I might as well get a free trip to Llanith out of it."

"All right. You. Me. Ralph Listowel and his officers. The gunnery officer from the Navy who'll be looking after the laser batteries. The two dozen or so marines who'll be traveling as passengers."

"Anybody would think that you were contemplating embarking on a career of piracy yourself."

Grimes laughed. "Why not? After all, one of my ancestors sailed on the account."

"And what happened to him?" "He was eventually hanged from his own yardarm."

She joined him in his laughter. "Then you'd better be careful. After all, the lightjammers are the only ships that run to masts and yards!"

II

PAMIR was ready for space. The extra generator had been installed, as had been the batteries of laser cannon. Stores for the voyage and the cargo had been loaded. The passengers were embarked. Grimes and Sonya, together with Major Trent, the marine officer, and Lieutenant Fowler, the gunnery officer, sat with Listowel and his wife, Sandra, in the master's day cabin.

Listowel sipped his coffee rather glumly. He asked Grimes stiffly, "Have I your permission to cast off, sir, at the arranged time?"

"Of course, Listowel. You're the master still. The rest of us are just along for the ride."

"It's a ride I'm looking forward to," put in Fowler enthusiastically. He was a young giant with short-cropped yellow hair, the perpetual schoolboy so common in all the armed services. "It'll give me some time in sail and I'll be all set for our own ships of the line when they come out."

"It's not a free ride we're here for," commented the major sourly.

"More coffee anybody?" asked Sandra cheerfully.

"No thanks," replied Listowel, looking at his watch. "It's time we got the show on the road."

"Can I come up to control, sir?" asked Fowler.

"Of course, Lieutenant. You're welcome on the bridge. And so are you, major."

Grimes and Sonya went along with the others. They had witnessed *Pamir's* departure from the control position before, but it was so unlike the liftoff of a conventional space-ship as to remain fascinating. This time there was no need to use the tug, no need for the transverse thrust of the airscrews. The wind, what little there was of it, was northerly, blowing the ship bodily off from the wharf, the brash ice piling up along her lee side but not impeding her. When she was well out into the bay water, ballast was dumped and—the sphere of anti-matter giving her positive buoyancy—she went up like a balloon or a rocket—silently. Within seconds she was driving through the low cloud ceiling and then had broken through into the clear upper air. Fast she rose ---and faster—into blackness, while below her Lorn became an opalescent globe hanging in nothingness.

The directional gyroscopes rumbled and whined, rumbled again and then lapsed into silence. She was steadied on course now, with Lorn to one side and the Lorn sun astern. The tiny cluster of stars—the anti-matter suns around which revolved the planets of the Llanithi Consortium—was directly

ahead.

The control room guests crowded to the side ports of the bridge, looking aft to watch as Listowel made sail. The stubs of the tele-scope masts extended themselves rapidly, sprouting yards as they elongated. The yards and the great sails, spreading to catch the star wind, the royals, the topgallants, the upper topsails and the lower topsails, the main courses. . . The polarized glass of the viewports dimmed the glare of the sun and black against it stood the driving surfaces, filling to the photon gale. The inertialess ship was already scudding before it and the Doppler Log was clicking and flashing like a clock gone mad.

"Roll and go," murmured Listowel.

"Wonderful!" breathed Fowler.

Major Trent only grunted, then said, "I'd better get down to see to my men."

Fowler said, "And I'd better check my cannon."

"We'll not be needing them yet," Grimes told him.

THE ship drove on, steadily accelerating.

It was like the first voyage that Grimes and Sonya had made in *Pamir*—and yet, in some ways, un-like. The atmosphere on board was different, mainly because there were no civilian passengers. Major Trent and his marines were passengers of a sort, of course—there was little that they could do about the ship until such time as their professional services would be required. But Trent maintained his own standards of discipline and there was altogether too much heel-clicking and saluting. And Listowel's officers were all too conscious of their temporary standing as commissioned personnel of the Rim Worlds Navy, serving aboard an auxiliary cruiser of that same service. Their captain didn't like it.

He complained to Grimes over a quiet drink in the commodore's quarters: "Damn it all, sir, I'm just a shipmaster and my people are my mates and engineers and all the rest of it. But now I have Mr. bloody Willoughby putting on airs and graces and expecting to be addressed as Lieutenant Commander every time anybody talks to him."

Grimes chuckled. "It doesn't matter. He can call himself what he likes—he's still a very good chief officer."

"Even so—" Then Listowel managed a wry chuckle of his own. "All right. I'll let him and the others have their fun. But it still reminds me of small boys playing at pirates."

"Talking of pirates—" Grimes pulled a key from his pocket and unlocked a drawer of the desk that was part of the cabin's furniture. "I asked you in for a talk as well as a drink. You remember that coded Carlottigram that came through for me on the teletype this morning?" He took a sheet of paper out of the drawer.

"This contains the decode. TOP SECRET-YOUR EYES ONLY. To Be Destroyed By Fire Before Reading—and all the rest of it. When it comes to playing childish games the Admiralty is at least as bad as anybody else. And this message concerns us all in this vessel.

"Navy has an intelligence service, you know. According to Sonya it's not a patch on the intelligence branch of the Federation Survey Service, but its officers do flap their ears and twitch their little pink noses now and again. Unluckily Admiral Kravitz didn't get his paws on their reports concerning the Duchy of Waldegren until after we'd sailed."

"Waldegren?"

"Yes. It seems that our people managed to plant some monitor buoys in the territorial space of the Duchy. I've heard those gadgets described as miracles of miniaturization. See all, hear all, and punch it all back to Port Forlorn on tight-beam Carlotti in one coded parcel before the automatic self-destruction. And that, of course, occurs when anything approaches within ten kilometers.

"Well, there's been something going on around Darnstadt—the fortress planet, so-called. There's a photograph of a lightjammer under sail. There are monitored signals—both Carlotti and NST." He tapped the sheet of paper. "Kravitz sent me translations of some of the messages. 'Clear of atmosphere, making sail.' 'Arrange berthage for prize.' The sort of things you send just after departure and just prior to

arrival."

"I don't take any prizes, Commodore."

"You might yet." Grimes looked at his watch. "Time we went to see Mr. Fowler get a prize for good shooting."

"Didn't you specialize in gunnery yourself, sir, when you were in the Survey Service?"

"At one time, yes. But I never had a practice shoot at point eight the speed of light. This should be interesting."

"Surely no more so than any other practice shoot, Commodore. As far as the target rocket and the ship are concerned, there'll be no great relative velocities. The target will just run parallel to us once it's been launched. If it took evasive action it would drop astern too fast for Fowler to get a shot at it. We're still accelerating, you know."

"Mphm?" Grimes locked away the message. "Let's go to watch the fireworks."

THE watchkeeper—Denby, the second officer—and all off-duty officers were in the control room. Sonya was there, too, as was Sandra. Major Trent was there, accompanied by his sergeant. Wallasey, the third officer, was assisting Lieutenant Fowler. The gunnery officer sat at his fire control console. Young Wallasey was at the smaller set of controls, part of the ship's normal equipment, from which signal and sounding rockets were handled. He was managing to look at least as important as Fowler.

"Let battle commence!" whispered Grimes to Sonya.

Fowler overheard this and scowled. But he said nothing. Commodores, even commodores on the Reserve List, were entitled to their pleasantries at the expense of mere lieutenants.

"Targets in readiness, Mr. Fowler," reported Wallasey.

"Thank you, Mr. Wallasey," replied Fowler stiffly. Then, to Grimes: "Permission to commence practice shoot, sir?"

"This is Captain Listowel's ship, Mr. Fowler," said Grimes.

The young man flushed and repeated his question to Listowel. "Carry on, Mr. Fowler."

"Fire one," he ordered.

"Fire one," repeated Wallasey.

Grimes, looking aft with the others, saw the gout of blue flame, intensely bright against the black backdrop with its sparse scattering of stars, as the missile was ejected from its launch tube. It fell away from the ship on a slightly divergent course, pulling ahead, but slowly, at first.

"Open the range, Mr. Wallasey," ordered Fowler.

"Range opening. One kilometer. Two. Four. Ten—"

The rocket now was only a bright spark against the darkness.

Fowler worked at his console. Aft of the control room but forward of the masts and sails the quadruple rods of the starboard laser battery turned and wavered like the hunting antennae of some huge insect. "Fire—" muttered Fowler to himself. A faint glow showed at the tips of the rods, nothing more. Here there was no air, with its floating dust motes, to be heated to incandescence. Out to starboard the bright spark persisted, neither extinguished nor flaring into sudden explosion.

Fowler muttered something about the calibration of his sights, then ordered, "Close the range."

"Range closing, Mr. Fowler. Ten. Nine. Eight—damn!"

"What's wrong?"

"Burnout." The bright spark had vanished now.

"All right. Fire two."

"Fire two."

The second missile was thrown from its tube.

"Range, Mr. Wallasey?"

"One kilometer. Opening."

"Hold at one kilometer." Then, to himself: "It's right in the sights. I can't miss—"

"But you're doing just that," re-marked Grimes.

"But I can't be!" Fowler sounded desperate. "With a single cannon, perhaps. But not with a battery of four. And the sights can't be out."

Grimes grunted thoughtfully. Then: "Tell me, Mr. Fowler, has anybody ever tried to use laser in these conditions before?"

"From a lightjammer, you mean, sir? From a ship traveling at almost the speed of light?"

"Yes."

"You know that this is the first time, sir."

"And it's been an interesting experiment, hasn't it? Oh, I could be wrong, but I have a sort of vision of photons being dispersed like water from the spray nozzle of a hose. Perhaps if the ship were not accelerating the tight, coherent beam would be maintained. . . Is there a physicist in the house?"

"You know there's not," said Sonya sharply.

"Unfortunate, but true. So in these conditions our laser is about as effective as a searchlight and we've nobody to tell us what to do about it."

Fowler was slumped in his seat, a picture of dejection. He was a gunnery officer whose weapons were as lethal as toy pistols. "Cheer up," Grimes told him. "I've a job for you."

"But what is there for me to do, sir? As you've pointed out already, I'm not a physicist."

"But you are a weapons specialist." Grimes turned to Wallasey. "How many rockets have you left?"

"Six, sir."

"Then I suggest that you and Mr. Fowler, assisted by the engineering staff, convert them into weapons."

"What about warheads?"

Grimes sighed heavily. "You'd never have made a living as a cannoner in the early days of artillery, Mr. Fowler. Those old boys used to cast their own cannon and mix their own powder—and they didn't have the ingredients that we have aboard this ship. Ammonium nitrate, for example—one of the chemical fertilizers we use in the hydroponic tanks. We should be able to cook up something packing far more of a wallop than gunpowder."

"You're convinced that we shall need weapons, John?" put in Sonya.

"I'm not convinced of anything. But somebody once said—Cromwell, wasn't it?—'Trust in God, and keep your powder dry.' Furthermore, my dear, this vessel is rated as an auxiliary cruiser, a unit of the Rim Worlds Navy. Our lords and masters of the Admiralty have, in their wisdom, equipped her with weaponry. We have discovered that this weaponry is useless. So—we improvise."

"I'm surprised," she said, "that you don't follow in the footsteps of your piratical ancestor and fit *Pamir* out with a couple of broadsides of muzzle-loading cannon."

A slow smile spread over Grimes' rugged features. "Why not?" he murmured happily. "Why not?"

ALL deep space ships carry a biochemist. In large passenger vessels and warships he is a departmental head, but usually he is one of the officers who has been put through a crash course and looks after the life-support systems in addition to his other duties. *Pamir's* biochemist was Sandra Listowel, who was also purser and catering officer. Even a fulltime, fully qualified biochemist is not an industrial chemist. Sandra most certainly was not. Nonetheless, she succeeded—losing her eyebrows and a little more than half of her blond hair in the process—in brewing up a batch of what Grimes referred to as sort-of-kind-of amatol. After all, cooking oil is not toluene. Lieutenant Fowler, given the freedom of the engineer's workshop, was told to produce a half-dozen impact fuses. He was a good worker and not unintelligent but sadly lacking, Grimes concluded, in initiative. He was a good gunnery officer only when he had all the resources of a naval arsenal behind him.

Grimes, however, loved improvising. Many years ago, when he had been Federation Survey Service lieutenant, commanding the courier *Adder*, he had made some missiles, using large plastic bottles as the casings and black powder as the propellant. After a browse through the chemical fertilizers in the "farm's" storerooms he decided that he had the necessary ingredients for more black powder. He wanted something relatively slow-burning for the weapons he had in mind.

He had seen *Pamir's* manifest of cargo on the completion of loading. One item was a consignment of metal piping with a bore of 100 millimeters. Fortunately this was easily accessible in the hold. It was backbreaking work to lug the heavy sections out of their stowage and to the ship's workshop, but Major Trent's marines were able to accomplish this without too much grumbling. The pipe sections were cut to size, each two and a half meters in length. One end of each of the tubes was sealed with a heavy, welded flange. The crude cannon, eight of them, were beginning to take shape.

There was no time to introduce too many refinements. *Pamir* had broken through the light barrier, was well away on the second leg of her voyage. It was when she decelerated, to complete the passage to Llanith under sail, that the pirate would strike. This was a probability if not a certainty. The evidence indicated that this was what had happened to *Lord of the Isles* and to *Sea Witch*.

Grimes discussed the prospect with Listowel, Willoughby, Major Trent and Sonya. He said, "Let's face it. The principles of our light-jammers aren't secret. We're the only people who have had such ships simply because we're the only people with inhabited anti-matter systems in our sector of space. But there have been articles a-plenty in both scientific and shipping journals. And the Waldegrenese can read."

"Waldegren?" asked Trent.

"Yes. Waldegren. The Duchy has a bad record of harboring pirates." He spread a chart on Listowel's desk. "Now, just suppose that Waldegren is monitoring our traffic with Llanith on the Carlotti bands. Oh, I know that the beam between our two systems doesn't pass near any of the worlds of the Duchy—but a small relay station, possibly fully automated, could have been planted anywhere along the line of sight. *If* we knew just where to look for it we could find it. Mphm. Well, one of our lightjammers lifts off from Lorn. The routine message is sent. ETA and all the rest of it. Cargo such and such, consigned to so and so. Then the pirate—a light-jammer, of course—lifts off from Darnstadt. . . So far I've told only two people of the contents of the signal I received from Admiral Kravitz—Captain Listowel, of course, and Sonya. She helped with the decoding. But it all ties in. There has been lightjammer activity in the Duchy—and what would Waldegren want lightjammers for?"

"Piracy," said Listowel.

"Still, we must be careful. We aren't at war with Waldegren. The evidence indicates, however, that Waldegren has built at least one lightjammer. After all, the essential guts of such a ship, a sphere of anti-matter, aren't all that hard to come by. There are other anti-matter systems besides the Llanithi Consortium. But where was I? Oh, yes. The pirate lifts off from Darnstadt, sets course and adjusts speed so as to intercept our ship as she decelerates to sub-light velocity. She jams the Carlotti bands, attacks, seizes."

"And what about the passengers and crew?" asked Listowel.

"If they're lucky, Captain, they'll be prisoners on Darnstadt. That's why we want to take prisoners ourselves."

"The pirate," said Trent, "will probably be armed with rockets, or projectile cannon. Not laser—unless the Waldegren scientists have worked out some way of making it effective at near-light speeds. Quick-firing cannon, I'd say."

"Quicker than your muzzle-loaders," said Sonya to Grimes.

"Almost certainly," he agreed. "But surprise is a good weapon."

III

PAMIR sped through the nothingness the work of arming her progressed. Ahead of her blazed the stars, those toward which she was steering and those whose laggard light she was overhauling. Filters and shields protected her, crew from the dangerous radiations that were a resultant of her velocity. Yet there was still visible light, harsh, intensely blue, light that should not have been seen but that, nonetheless, seemed to penetrate even opaque plating.

But apart from the watch officers nobody had time to look out into space. Those cannon had to be finished and mounted. There was black powder to be mixed and tested, the charges to be packed in

plastic bags. There were the springs to be contrived to carry and dampen the recoil of the guns. There were bags of shot to be made up.

Pamir, fortunately, was so designed as to make the mounting of archaic cannon practicable. As a lightjammer, handled inside a planetary atmosphere like an air-ship, she was fitted with ballast tanks which, of course, were emptied on lift-off. Grimes decided to place his batteries, each of four guns, in the port and starboard wing tanks. To begin with, two crude airlocks were made and welded to the manhole doors leading into the compartments. Spacesuited and carrying laser tools the chief officer and the engineer went into the tanks, first to cut the gunports, then to strengthen the frames to take the weight of the artillery, the thrust of the recoil. The gun mountings were then passed in and welded into place.

The pieces themselves slid in cradles and, on being fired, would be driven back against powerful springs, locking in the fully recoiled position. Loading was fast enough—first the bag of powder, then the shot, with a ram-rod to shove all well home. Firing would have to be deferred until the guns were run out again. For firing Grimes had first considered electrical contacts, then some sort of flintlock. He was amused by his final solution—touch-hole and slow match. Even though hand lasers were the slow matches within the confines of the ship they worked well enough—the principle was a reversion to the very earliest days of firearms.

Then there was the drilling of Trent's marines. They took it all cheerfully enough, making a game of it.

Finally Grimes was satisfied with the rate of fire—although none of the guns had yet actually been fired—under simulated conditions.

Grimes checked personally the ready-use lockers for the bagged charges, the lockers for the im-provised shot, the arrangements for passing more ammunition through into the tanks should it become necessary, communications. But there was one more problem. A row of gunports, with the muzzles of guns protruding, is easily de-tectable. He decided that the cannon would be retained in the fully recoiled position until just before firing and the ports concealed by sheets of plastic. He ordered, too, that the laser batteries be with-drawn into their recesses. They were of no use, anyhow.

“**D**ECCELERATION stations,” Listowel ordered. “Make that action stations,” said Grimes quietly. “I’m taking over now, Captain.”

“So I’m just your sailing master,” Listowel commented, but cheerfully enough. “At your service, Commodore.” He pressed the bell push. A coded clangor sounded and resounded, short long, short long, short long—the Morse A. Fowler fidgeted in his seat at the console, the one from which he would fire and, hopefully, direct the sounding rockets, each of which was now fitted with a high-explo-sive warhead. The batteries of muz-zle loaders were manned. Spacesuited marines were standing by the drainpipe artillery, three to a gun. Handy to the airlocks over the manhole doors were the am-munition parties.

“Cut reaction drive.”

“Cut reaction drive, sir.”

The muted thunder of the rockets suddenly ceased.

Slowly, carefully, as though this were no more than a routine deceleration, Listowel trimmed his sails, pivoting them about the masts so that the light from the glaring Llanithi stars, almost dead ahead, was striking their reflecting sur-faces at an oblique angle. It had to be done gradually. If *Pamir* were suddenly taken aback she would be dismasted. The Doppler Log was starting to wind down. 25.111111 . . . 25.111110. . . 25.111109. . . The lower courses were turned to exercise full braking effect. The lower topsails next—the upper topsails—the top gallants. Speed was dropping fast. Inside the iner-tialess ship there was no sensory hint of the titanic forces being brought into play, forces that in a normal vessel would have smeared ship and crew across the sky in a blaze of raw energy.

The log was still winding down, although the count was slowing.

1.000007 . . . 1.000005 . . .

1.000003. . . 1.000001. . . 1.000001...

1.000001...

1.000000...

Now there was sensation, a feeling of unbearable tension. Something had to give. Something, somewhere, snapped suddenly. Ahead the sparse scattering of stars diminished in number. The Rim Suns—astern in actuality—suddenly flickered out, reappeared in their proper relative bearing.

"Mr. Wallasey," said Listowel, "make the routine ETA call to Llanith." He looked inquiringly toward Grimes, who said, "Yes. We maintain routine—until somebody or something interferes with it."

Wallasey was having his troubles. From the switched-on Carlotti transceiver issued a continuous warbling note.

"Interference—" he muttered. "Jamming," amended Grimes. "This is it, Captain. Any moment now." He looked around the control room. Fowler was tense over his console, as was Denby, the second officer, at the radar. Wallasey was still twiddling knobs at the Carlotti set. Sonya and Sandra were sitting quietly in their chairs, apparently taking only a mild interest in the proceedings—but either woman, Grimes well knew, could spring into action at an instant's notice. And Sandra, after all, could handle a lightjammer almost as well as her husband.

There was nobody else on the bridge. Willoughby was below, in charge of the damage control party, and Major Trent was looking after the guns manned by his men.

"Target," reported Denby. "Green seventy-five. Range fifty kilometers. Closing."

"Thank you, Mr. Denby. Keep us informed," said Grimes.

"Green now seventy-five, still. Positive altitude five degrees, increasing."

"Range?"

"Forty—and closing."

Grimes spoke into the microphone that carried his voice through the ship and into the gunners' helmet speakers. "This is the commodore. The enemy has been sighted. She is closing fast. From now on there will be frequent changes of trajectory. Stand by to open fire on command. Over."

Trent's voice came in reply, "All is ready, sir. Guns loaded, but not yet run out."

"Don't run them out until you get the order to fire, Major."

"Green seventy-four, sir. Range thirty, closing. Positive altitude seven degrees. Increasing slowly."

"Captain," said Grimes, "roll us seven degrees to port. I want to keep our friend exactly on the plane of our ecliptic. We can't aim the guns individually—we have to aim the ship. Understand?"

"Understood, Commodore." The directional gyroscopes rumbled briefly as *Pamir* was turned about her long axis.

"And now, Captain, start altering course to port. Just behave as you would normally in trying to avoid a close quarters situation."

Looking through the viewports Grimes saw the sails being trimmed. With the light from the Llanith sun as the wind, *Pamir* was being steadied on to a starboard tack.

"Green eighty-five, opening.

Range twenty-five, holding.

Altitude zero."

Grimes got up from his chair, went to the big binoculars on their universal mount. He had no trouble picking up the intruder. Her suit of sails made her a big enough target.

He said, "Mr. Wallasey, don't bother any more with the Carlotti set. Try calling on NST."

"Very good, sir." The third officer turned to the normal space-time transceiver, equipment suitable for use only at short ranges. "What shall I say, sir?"

"*Pamir* to unidentified vessel. What ship? What are your intentions? You know."

"*Pamir* to unidentified vessel," said Wallasey, speaking slowly and distinctly. "Come in, please."

Almost immediately a voice replied, "Unidentified vessel to *Pamir*. Maintain your present course and speed. Open your airlocks to receive my boarding party." There was a slight accent. Waldegren? It sounded like it.

Listowel turned to Grimes. "What now, Commodore?"

Grimes grinned. "If we didn't have ladies present I'd tell him to get stuffed. Pass me the mike, Mr. Wallasey." Then he said, in what Sonya referred to as his best quarterdeck voice, "*Pamir* to

unidentified vessel. Identify your-self at once. And sheer off. You are getting in my way."

"Unidentified vessel to *Pamir*. Open your airlock doors. Prepare for boarding party. Do not offer resistance. Over."

"Mphm," grunted Grimes, re-leasing the pressure of his thumb on the TRANSMIT button of the microphone. "I want you to turn away, Listowel. You are master of an unarmed merchant vessel. You can't fight, so you run. Put the Llanith sun dead astern. As long as he sees us doing all the right things he'll be lulled into a sense of security."

Driving surfaces pivoted about their masts, the east sails presenting their black sides to the source of light, the west sails their reflective sides. The ship came around fast. And then, on all four masts, the reflective surfaces were spread to catch the full force of the photon gale.

"Bearing green one six five. Altitude zero. Range nineteen. Closing."

"Must have hung out the crew's washing," commented Listowel. "I'm afraid that I can't squeeze any more out of *Pamir*."

"It doesn't matter," Grimes told him. "We want her to catch up." He looked astern through the binoculars. *Pamir's* sails cut off the glare from the Llanith sun and the raider was clearly visible on the starboard quarter. Like *Pamir* she was a four-master, with a cruciform rig, but additional triangular sails had been set between the masts. Running free this would give her a decided advantage.

"Range fifteen. Fourteen. Closing."

"Sir?" asked Fowler appealingly.

"No," said Grimes. "Not yet. We must consider the legalities. She must fire the first shot."

"But those legalities would only apply, sir, if we were a merchant vessel. But we aren't. We're an auxiliary cruiser of the Rim Worlds Navy—"

"A space-lawyer yet!" commented Grimes admiringly. The young man was right, of course. He, Grimes, should have played heavy commodore as soon as contact had been made with the pirate, demanding her unconditional surrender. He might have done just that if he had a real war-ship under his feet. He decided that, after all, his own way of playing it was the best, especially since the other ship obviously had the heels of *Pamir*. He said, "You can play with your rockets as soon as I give the word, not before. And when you do use them, try for the enemy's rigging, his masts and sails."

"Bearing green one five oh. Closing. Range nine. Closing."

"This is the commodore. Action will be opened shortly. It seems likely that the starboard broadside will be the first to be used."

"Unidentified ship to *Pamir*. You've been asking for trouble. You are about to get it. Over."

"You have our permission to tell him to get stuffed, John," said Sonya sweetly.

"Bearing green one two five. Range seven. Closing."

Shortening sail, thought Grimes, watching through the binoculars. *There're those tri-s'ls or whatever he calls 'em coming in. And I can see ports opening. Boat bays? Or gunports?*

A gout of yellow flame spurted from one of the openings in the raider's hull, just abaft the masts. A long time later, it seemed, there was an explosion ahead of *Pamir*, about half a kilometer distant, a sudden rose of pale fire burgeoning in the blackness. So the pirate was using projectile weapons.

"Unidentified vessel—" the joke was wearing thin—"to *Pamir*. That was the last warning. Surrender or take the consequences."

"Bearing green ninety. Range five, four, three—closing."

No identification marks, thought Grimes, studying the other vessel through the powerful glasses. *Could be one of ours, save for a few, subtle points of difference...*

He said to Fowler. "All right, Lieutenant. You may open fire."

He saw the first rocket flash from its launching tube, trailing a wake of blue flame, spinning a flimsy filament of incandescence over the shortening distance between the two ships. It got a little over halfway, and then a stream of tracer came hosepiping from a gun-port, met it, eroded it into ragged and harmless fragments of spinning debris. The warhead didn't explode.

"Rapid fire!" ordered Grimes. "Get the other five rockets out and on the way as quickly as possible. Don't bother guiding them in. One might get through."

None did. The pirate's machine gunners were fast.

"Range one. Point seven five. Point five."

"Resistance is useless," came the voice from the NST transceiver.

"Starboard broadside, fire," said Grimes into the intercom microphone.

He was not altogether prepared for what happened. He was expecting to see the enemy's sails shredded, his masts cut down, by the shot that he had prepared, the same sort of shot that had been used so effectively during the days of sail on Earth, the bags of scrap metal, nuts and bolts, lengths of metal chain. He had forgotten, though, that one of the old men-o'-war never, when firing a broadside, fired all guns simultaneously—they were fired in quick succession.

Pamir lurched. It was more than a mere lurch. It was as though a giant palm had swatted her on her starboard side. The north and south masts were carried away, each of them falling to starboard as the ship was driven to port by the re-coil, the yards of each of them rip-ping the sails of the east mast, becoming inextricably entangled with the rigging.

"You got her, sir!" Fowler was yelling. "You got her!"

Grimes, who had been knocked down by the violent lateral acceleration, got groggily to his feet, staggered to the starboard viewports. The raider was, indeed, in a sorrier state than *Pamir*. In addition to the damage to her rigging there were gaping holes in her shell plating, through some of which smoke and flame flared explosively, like rocket exhausts. Her control room ports were bright with the ruddy glare of an internal fire. She was spinning slowly about her long axis. The one undamaged main spar, the east mast, which had been on her starboard side, shielded from *Pamir's* guns, lifted into view as she rolled, lifted, then dipped toward the other ship—and held steady, a long, metal lance. Freakishly, then, the rotary motion ceased. Perhaps a survivor was still exercising some sort of control, was determined to exact vengeance before his death. And on the far side air, mixed with the gases of combustion, was still escaping into the vacuum, inexorably driving the total wreck on to the near-wreck.

"Range closing," Denby was saying, over and over again. "Range closing. Range closing."

"Reaction drive!" ordered Grimes. "Get us out of here!" He could visualize the end of that long spar driving through *Pamir's* shell plating and piercing the vacuum chamber in which the sphere of anti-matter was suspended in the strong magnetic fields. It was not a nice thing to think about.

Listowel made no reply. The captain was slumped in his seat, unmoving.

Sandra was shaking her husband violently. "Ralph! Wake up! Wake up!" Then, snarling wordlessly, she pulled him from his chair, letting him drift to the deck. Before she was properly seated in his place her long fingers were on the controls. She snarled again, then snapped, "Something's wrong, Commodore!"

"Starboard broadside," ordered

Grimes into the intercom microphone. "Fire!" That should push them away and clear from their dying attacker.

"The guns are off their mounts," came a hysterical voice. "We have casualties—"

Denby was still calling out range figures—in meters now—but it was not necessary. The shattered, burning raider was too close and was getting closer.

"Roll her, Sandra!" shouted Grimes.

"But our east mast is some protection—"

"It's not. Roll her, damn you!"

"Roll her," repeated Sonya. "He knows what he's doing." She added quietly, "I hope."

The gyroscope controls and the gyroscopes themselves were still working. There was the initial rumble as the flywheels, started to turn, then the low hum. The drifting wreck slid slowly from view, dipping below the starboard viewport rims—but if Denby's radar readings were to be credited disaster was now only millimeters distant.

Grimes ordered, "Rotate through ninety degrees. Let me know when you're on eighty-five."

The next few seconds could have been twice that many years.

"Eighty-five," stated Sandra at last.

"Port battery—fire."

Again *Pamir* was slammed by that giant hand and was swatted clear of the dying raider's

mur-derous sidelong advance. The tracks of the two ships diverged—but not fast enough, thought Grimes. He said urgently, "I don't care how you do it, Sandra, but get some of our sails trimmed to catch the light from Llanith. We must get out of here, and fast!"

"But we should board," said Sonya. "There may be survivors. There will be evidence. The fire will burn itself out once the atmosphere in the ship is exhausted."

"Not that sort of fire. Do some-thing, Sandra."

Using the gyroscopes she turned the ship, at last getting the sails of the one surviving mast trimmed to the photon gale. Astern the wreck dwindled in a second to the merest point of light—and then, briefly, became a speck of such brilliance as to sear the retinas of those who watched. It had happened as Grimes had been sure that it must happen. The casing of the sphere of anti-matter had been warped by the heat of the fire—or, perhaps, had been buckled by an explosion. Contact with normal matter had been inevitable.

The pirate was gone, every atom of her structure canceled out.

The pirate was gone and *Pamir* was drifting, crippled. It was the time for the licking of wounds, the assessment of damage before, hope-fully, limping into port under jury rig. Men aboard *Pamir* had been in-jured, perhaps killed. It had been an expensive victory. And Grimes knew that it would not have been so expensive had he remembered to fire the guns of his broadside in succession instead of all at once.

He realized that Fowler, the gun-ner-y officer, was saying something to him. "It was brilliant, sir, brilliant, the way you fought the action—"

He replied slowly, "We won. But—"

"But?" The young man's face wore a puzzled expression.

"But you can't make an omelet without breaking a few eggs," contributed Sonya rather too brightly.

"But you should be able to make one without blowing up the kitchen," was all that Grimes was able to manage in way of reply.