

## Proxima Centauri

THE ADASTRA, FROM a little distance, already shone in the light of the approaching sun. The vision disks which scanned the giant space ship's outer skin relayed a faint illumination to the visiplates within. They showed the monstrous, rounded bulk of the metal globe, crisscrossed with girders too massive to be transported by any power less than that of the space ship itself. They showed the whole, five-thousand-foot globe as an ever so faintly glowing object, seemingly motionless in midspace.

In that seeming, they lied. Monstrous as the ship was, and apparently too huge to be stirred by any conceivable power, she was responding to power now. At a dozen points upon her faintly glowing side there were openings. From those openings there flowed out tenuous purple flames. They gave little light, those flames—less than the star ahead—but they were the disintegration blasts from the rockets which had lifted the Adastras from the surface of Earth and for seven years had hurled it on through interstellar space toward Proxima Centauri, nearest of the fixed stars to humanity's solar system.

Now they hurled it forward no more. The mighty ship was decelerating. Thirty-two and two-tenths feet per second, losing velocity at the exact rate to maintain the effect of Earth's gravity within its bulk, the huge globe slowed. For months braking had been going on. From a peak speed measurably near the velocity of light, the first of all vessels to span the distance between two solar systems had slowed and slowed, and reach a speed of maneuver some sixty million miles from the surface of the star.

Far, far ahead, Proxima Centauri glittered invitingly. The vision disks that showed its faint glow upon the space ship's hull had counterparts which carried its image within the hull, and in the main control room it appeared enlarged very many times. An old, whitebearded man in uniform regarded it meditatively. He said slowly, as if he had said the same thing often before: "Quaint, that ring. It is double, like Saturn's. And Saturn has nine moons. One wonders how many planets this sun will have."

The girl said restlessly: "We'll find out soon, won't we? We're almost there. And we already know the rotation period of one of them! Jack said that—"

Her father turned deliberately to her. "Jack?"

"Gary," said the girl. "Jack Gary."

"My dear," said the old man mildly, "he seems well disposed, and his abilities are good, but he is a Mut. Remember!"

The girl bit her lip.

The old man went on, quite slowly and without rancor: "It is unfortunate that we have had this division among the crew of what should have been a scientific expedition conducted in the spirit of a crusade. You hardly remember how it began. But we officers know only too well how many efforts have been made by the Muts to wreck the whole purpose of our voyage. This Jack Gary is a Mut. He is brilliant, in his way. I would have brought him into the officers' quarters, but Alstair investigated and found undesirable facts which made it impossible."

"I don't believe Alstair!" said the girl evenly. "And, anyhow, it was Jack who caught the signals. And he's the one who's working with them, officer or Mut! And he's human, anyhow. It's time for the signals to come again and you depend on him to handle them."

The old man frowned. He walked with a careful steadiness to a seat. He sat down with an old man's habitual and rather pathetic caution. The Adastras, of course, required no such constant vigilance at the controls as the

interplanetary space ships require. Out here in emptiness there was no need to watch for meteors, for traffic, or for those queer and yet inexplicable force fields which at first made interplanetary flights so hazardous.

The ship was so monstrous a structure, in any case, that the tinier meteorites could not have harmed her. And at the speed she was now making greater ones would be notified by the induction fields in time for observation and if necessary the changing of her course.

A door at the side of the control room opened briskly and a man stepped in. He glanced with conscious professionalism at the banks of indicators. A relay clicked, and his eyes darted to the spot. He turned and saluted the old man with meticulous precision. He smiled at the girl.

"Ah, Aistair," said the old man. "You are curious about the signals, too?"

"Yes, sir. Of course! And as second in command I rather like to keep an eye on signals. Gary is a Mut, and I would not like him to gather information that might be kept from the officers."

"That's nonsense!" said the girl hotly.

"Probably," agreed Alstair. "I hope so. I even think so. But I prefer to leave out no precaution."

A buzzer sounded. Alstair pressed a button and a vision plate lighted. A dark, rather grim young face stared out of it.

"Very well, Gary," said Alstair curtly.

He pressed another button. The vision plate darkened and lighted again to show a long corridor, down which a solitary figure came. It came close and the same face looked impassively out. Aistair said even more curtly: "The other doors are open, Gary. You can come straight through."

"I think that's monstrous!" said the girl angrily as the plate clicked off. "You know you trust him! You would have to! Yet every time he comes into officers' quarters. you act as if you thought he had bombs in each hand and all the rest of the men behind him!"

Aistair shrugged and glanced at the old man, who said tiredly, "Aistair is second in command, my dear, and he will be commander on the way back to Earth. I could wish you would be less offensive."

But the girl deliberately withdrew her eyes from the brisk figure of Aistair with its smart uniform, and rested her chin in her hands to gaze broodingly at the farther wall. Alstair went to the banks of indicators, surveying them in detail. The ventilator hummed softly. A relay clicked with a curiously smug, self-satisfied note. Otherwise there was no sound.

The *Adastra*, mightiest work of the human race, hurtled on through space with the light of a strange sun shining faintly upon her enormous hull. Twelve lambent purple flames glowed from holes in her forward part. She was decelerating, lessening her speed by thirty-two point two feet per second per second, maintaining the effect of Earth's gravity within her bulk.

Earth was seven years behind and uncounted millions of billions of miles. Interplanetary travel was a commonplace in the solar system now, and a thriving colony on Venus and a precariously maintained outpost on the largest of Jupiter's moons promised to make space commerce thrive even after the dead cities of Mars had ceased to give up their incredibly rich loot. But only the *Adastra* had ever essayed space beyond Pluto.

She was the greatest of ships, the most colossal structure ever attempted by men. In the beginning, indeed, her design was derided as impossible of achievement by the very men who later made her building a fact. Her framework beams were so huge that, once cast, they could not be moved by any lifting contrivance at her builders' disposal. Therefore the molds for them were built and the metal poured in their final position as a part of the ship. Her rocket tubes were so colossal that the necessary supersonic vibrations-to neutralize the disintegration effect of the Caidwell field-had

to be generated at thirty separate points on each tube, else the disintegration of her fuel would have spread to the tubes themselves and the big ship afterward, with even the mother planet following in a burst of lambent purple flame. At full acceleration a set of twelve tubes disintegrated five cubic centimeters of water per second.

Her diameter was a shade over five thousand feet. Her air tanks carried a reserve supply which could run her crew of three hundred for ten months without purification. Her stores, her shops, her supplies of raw and finished materials, were in such vast quantities that to enumerate them would be merely to recite meaningless figures.

There were even four hundred acres of food-growing space within her, where crops were grown under sun lamps. Those, crops used waste organic matter as fertilizer and restored exhaled carbon dioxide to use, in part as oxygen and in part as carbohydrate footstuffs.

The *Adastra* was a world in herself. Given power, she could subsist her crew forever, growing her food supplies, purifying her own internal atmosphere without loss and without fail, and containing space within which every human need could be provided, even solitude.

And starting out upon the most stupendous journey in human history, she had formally been given the status of a world, with her commander empowered to make and enforce all needed laws. Bound for a destination four light-years distant, the minimum time for her return was considered to be fourteen years. No crew could possibly survive so long a voyage undecimated. Therefore the enlistments for the voyage had not been by men, but by families.

There were fifty children on board when the *Adastra* lifted from Earth's surface. In the first year of her voyage ten more were born. It had seemed to the people of Earth that not only could the mighty ship subsist her crew forever, but that the crew itself, well-nourished and with more than adequate facilities both for amusement and education, could so far perpetuate itself as to make a voyage of a thousand years as practicable as the mere journey to Proxima Centauri.

And so it could, but for a fact at once so needless and so human that nobody anticipated it. The fact was tedium. In less than six months the journey had ceased to become a great adventure. To the women in particular, the voyage of the big ship became deadly routine.

The *Adastra* itself took on the semblance of a gigantic apartment house without newspapers, department stores, new film plays, new faces, or even the relieving annoyances of changeable weather. The sheer completeness of all preparations for the voyage made the voyage itself uneventful. That meant tedium.

Tedium meant restlessness. And restlessness, with women on board who had envisioned high adventure, meant the devil to pay. Their husbands no longer appeared as glamorous heroes. They were merely human beings. The men encountered similar disillusionments. Pleas for divorce flooded the commander's desk, he being legally the fount of all legal action. During the eighth month there was one murder, and in the three months following, two more.

A year and a half out from Earth, and the crew was in a state of semi-mutiny originating in sheer boredom. By two years out, the officers' quarters were sealed off from the greater part of the *Adastra's* interior, the crew was disarmed, and what work was demanded of the mutineers was enforced by force guns in the hands of the officers. By three years out, the crew was demanding a return to Earth. But by the time the *Adastra* could be slowed and stopped from her then incredible velocity, she would be so near her destination as to make no appreciable difference in the length of her total voyage. For the rest of the time the members of the crew strove to relieve utter monotony by such vices and such pastimes as could be improvised in the absence of any actual

need to work.

The officers' quarters referred to the underlings by a term become habitual, a contraction of the word "multineers." The crew came to have a queer distaste for all dealing with the officers. But, despite Alstair, there was no longer much danger of an uprising. A certain mental equilibrium had—very late—developed.

From the nerve-racked psychology of dwellers in an isolated apartment house, the greater number of the Adastra's complement came to have the psychology of dwellers in an isolated village. The difference was profound. In particular the children who had come to maturity during the long journey through space were well adjusted to the conditions of isolation and of routine.

Jack Gary was one of them. He had been sixteen when the trip began, son of a rocket-tube engineer whose death took place the second year out. Helen Bradley was another. She had been fourteen when her father, as designer and commanding officer of the mighty globe, pressed the control key that set the huge rockets into action.

Her father had been past maturity at the beginning. Aged by responsibility for seven uninterrupted years, he was an old man now. And he knew, and even Helen knew without admitting it, that he would never survive the long trip back. Aistair would take his place and the despotic authority inherent in it, and he wanted to marry Helen...

She thought of these things, with her chin cupped in her hand, brooding in the control room. There was no sound save the humming of the ventilator and the infrequent smug click of a relay operating the automatic machinery to keep the Adastra a world in which nothing ever happened. A knock on the door. The commander opened his eyes a trifle vaguely. He was very old now, the commander. He had dozed.

Aistair said shortly, "Come in!" and Jack Gary entered.

He saluted, pointedly to the commander. Which was according to regulations, but Aistair's eyes snapped.

"Ah, yes," said the commander. "Gary. It's about time for more signals, isn't it?"

"Yes, sir."

Jack Gary was very quiet, very businesslike. Only once, when he glanced at Helen, was there any hint of anything but the formal manner of a man intent on his job. Then, his eyes told her something, in an infinitely small fraction of a second, which changed her expression to one of flushed content.

Short as the glance was, Aistair saw it. He said harshly: "Have you made any progress in deciphering the signals, Gary?"

Jack was setting the dials of a pan-wave receptor, glancing at penciled notes on a calculator pad. He continued to set up the reception pattern.

"No, sir. There is still a sequence of sounds at the beginning which must be a form of call, because a part of the same sequence is used as a signature at the close. With the commander's permission I have used the first part of that call sequence as a signature in our signals in reply. But in looking over the records of the signals I've found something that looks important."

The commander said mildly: "What is it, Gary?"

"We've been sending signals ahead of us on a tight beam, sir, for some months. Your idea was to signal ahead, so that if there were any civilized inhabitants on planets about the sun, they'd get an impression of a peaceful mission."

"Of course!" said the commander. "It would be tragic for the first of interstellar communications to be unfriendly!"

"We've been getting answers to our signals for nearly three months. Always at intervals of a trifle over thirty hours. We assumed, of course, that

a fixed transmitter was sending them, and that it was signaling once a day when the station was in the most favorable position for transmitting to us."

"Of course," said the commander gently. "It gave us the period of rotation of the planet from which the signals come."

Jack Gary set the last dial and turned on the switch. A low-pitched hum arose, which died away. He glanced at the dials again, checking them.

"I've been comparing the records, sir, making due allowance for our approach. Because we cut down the distance between us and the star so rapidly, our signals today take several seconds less to reach Proxima Centauri than they did yesterday. Their signals should show the same shortening of interval, if they are actually sent out at the same instant of planetary time every day."

The commander nodded benevolently.

"They did, at first," said Jack. "But about three weeks ago the time interval changed in a brand new fashion. The signal strength changed, and the wave form altered a little, too, as if a new transmitter was sending. And the first day of that change the signals came through one second earlier than our velocity of approach would account for. The second day they were three seconds earlier, the third day six, the fourth day ten, and so. on. They kept coming earlier by a period indicating a linear function until one week ago. Then the rate of change began to decrease again."

"That's nonsense!" said Alstair harshly.

"It's records," returned Jack curtly.

"But how do you explain it, Gary?" asked the commander mildly.

"They're sending now from a space ship, sir," replied Jack briefly, "which is moving toward us at four times our maximum acceleration. And they're flashing us a signal at the same interval, according to their clocks, as before."

A pause. Helen Bradley smiled warmly. The commander thought carefully. Then he admitted:

"Very good, Gary! It sounds plausible. What next?"

"Why, sir," said Jack, "since the rate of change shifted, a week ago, it looks as if that other space ship started to decelerate again. Here are my calculations, sir. If the signals are sent at the same interval they kept up for over a moment, there is another space ship headed toward us, and she is decelerating to stop and reverse and will be matching our course and speed in four days and eighteen hours. They'll meet and surprise us, they think."

The commander's face lighted up. "Marvelous, Gary! They must be far advanced indeed in civilization! Intercourse between two such peoples, separated, by four light-years of distance! What marvels we shall learn! And to think of their sending a ship far beyond their own system to greet and welcome us!"

Jack's expression remained grim. "I hope so, sir," he said dryly.

"What now, Gary?" demanded Alstair angrily.

"Why," said Jack deliberately, "they're still pretending that the signals come from their planet, by signaling at what they think are the same times. They could exchange signals for twenty-four hours a day, if they chose, and be working out a code for communication. Instead, they're trying to deceive us. My guess is that they're coming at least prepared to fight. And if I'm right, their signals will begin in three seconds, exactly."

He stopped, looking at the dials of the receptor. The tape which photographed the waves as they came in, and the other which recorded the modulations, came out of the receptor blank. But suddenly, in just three seconds, a needle kicked over and tiny white lines appeared on the rushing tapes. The speaker uttered sounds.

It was a voice which spoke. So much was clear. It was harsh yet sibilant, more like the stridulation of an insect than anything else. But the

sounds it uttered were modulated as no insect can modulate its outcry. They formed what were plainly words, without vowels or consonants, yet possessing expression and varying in pitch and tone quality.

The three men in the control room had heard them many times before, and so had the girl. But for the first time they carried to her an impression of menace, of threat, of a concealed lust for destruction that made her blood run cold.

## II

The space ship hurtled on through space, her rocket tubes sending forth small and apparently insufficient purple flames which emitted no smoke, gave off no gas, and were seemingly nothing but small marsh fires inexplicably burning in emptiness.

There was no change in her outer appearance. There had been none to speak of in years. At long, infrequent intervals men had emerged from air locks and moved about her sides, bathing the steel they walked on and themselves alike with fierce glares from heat lamps lest the cold of her plating transmit itself through the material of the suits and kill the men like ants on red-hot metal. But for a long time no such expedition had been needed.

Only now, in the distant faint light of Proxima Centauri, a man in a space suit emerged from such a tiny lock. Instantly he shot out to the end of a threadlike life line. The constant deceleration of the ship not only simulated gravity within. Anything partaking of its motion showed the same effect. The man upon its decelerating forward side was flung away from the ship by his own momentum, the same force which, within it, had pressed his feet against the floors.

He hauled himself back laboriously, moving with an exaggerated clumsiness in his bloated space suit. He clung to handholds and hooked himself in place, while he worked an electric drill. He moved still more clumsily to another place and drilled again. A third, and fourth, and fifth. For half an hour or more, then, he labored to set up on the vast steel surface, which seemed always above him, an intricate array of wires and framework. In the end he seemed content. He hauled himself back to the air lock and climbed within.

The Adastra hurtled onward, utterly unchanged save for a very tiny fretwork of wire, perhaps thirty feet across, which looked more like a microscopic barbed-wire entanglement than anything else.

Within the Adastra, Helen Bradley greeted Jack warmly as he got out of his space suit.

"It was horrible!" she told him, "to see you dangling like that! With millions of miles of empty space below you!"

"If my line had parted," said Jack quietly, "your father'd have turned the ship and caught up to me. Let's go turn on the inductor and see how the new reception grid works."

He hung up the space suit. As they turned to go through the doorway their hands touched accidentally. They looked at each other and faltered. They stopped, Helen's eyes shining. They unconsciously swayed toward each other. Jack's hands lifted hungrily.

Footsteps sounded close by. Aistair, second in command of the space ship, rounded a corner and stopped short.

"What's this?" he demanded savagely. "Just because the commander's brought you into officers' quarters, Gary, it doesn't follow that your Mut methods of romance can come, too!"

"You dare!" cried Helen furiously.

Jack, from a hot dull flush, was swiftly paling to the dead-white of rage.

"You'll take that back," he said very quietly indeed, "or I'll show you Mut methods of fighting with a force gun! As an officer, I carry one, too, now!" Alstair snarled at him.

"Your father's been taken ill," he told Helen angrily. "He feels the voyage is about over. Anticipation has kept up his strength for months past, but now he's—"

With a cry, the girl fled.

Alstair swung upon Jack. "I take back nothing," he snapped. "You're an officer, by order of the commander. But you're a Mut besides, and when I'm commander of the Adastra you don't stay an officer long! I'm warning you! What were you doing here?"

Jack was deathly pale, but the status of officer on the Adastra, with its consequent opportunity of seeing Helen, was far too precious to be given up unless at the last extremity. And, besides, there was the work he had in hand. His work, certainly, could not continue unless he remained an officer.

"I was installing an interference grid on the surface," he said, "to try to discover the sending station of the messages we've been getting. It will also act, as you know, as an inductor up to a certain range, and in its range is a good deal more accurate than the main inductors of the ship."

"Then get to your damned work," said Alstair harshly, "—and pay full attention to it and less to romance!"

Jack plugged in the lead wire from his new grid to the pan-wave receptor. For an hour he worked more and more grimly. There was something very wrong. The inductors showed blank for all about the Adastra. The interference grid showed an object of considerable size not more than two million miles distant and to one side of the Adastra's course. Suddenly, all indication of that object's existence blanked out. Every dial on the panwave receptor went back to zero.

"Damnation!" said Jack under his breath.

He sat up a new pattern on the controls, calculated a moment and deliberately changed the pattern on the spare bank of the main inductors, and then simultaneously switched both instruments to their new frequencies. He waited, almost holding his breath, for nearly half a minute. It would take so long for the inductor waves of the new frequency to reach out the two million miles and then collapse into the analyzers and give their report of any object in space which had tended to deform them.

Twenty-six, twenty-seven, twenty-eight seconds. Every alarm bell on the monstrous ship clanged furiously! Emergency doors hissed into place all over the vessel, converting every doorway into an air lock. Seconds later, the visiplates in the main control room began to flash alight.

"Reporting, Rocket Control!"

"Reporting, Air Service!"

"Reporting, Power Supply!"

Jack said crisply: "The main inductors report an object two million miles distant with velocity in our direction. The commander is ill. Please find Vice Commander Aistair."

Then the door of the control room burst open and Aistair himself raged into the room.

"What the devil!" he rasped. "Ringing a general alarm? Have you gone mad? The inductors—"

Jack pointed to the main inductor bank. Every dial bore out the message of the still clanging alarms. Alstair stared blankly at them. As he looked, every dial went back to zero. And Alstair's face went as blank as the dials.

"They felt out our inductor screens," said Jack grimly, "and put out some sort of radiation which neutralized them. So I set up two frequencies,

changed both, and they couldn't adjust their neutralizers in time to stop our alarms."

Alstair stood still, struggling with the rage which still possessed him. Then he nodded curtly.

"Quite right. You did good work. Stand by."

And, quite cool and composed, he took command of the mighty space ship, even if there was not much for him to do. In five minutes, in fact, every possible preparation for emergency had been made and he turned again to Jack.

"I don't like you," he said coldly. "As one man to another, I dislike you intensely. But as vice commander and acting commander at the moment, I have to admit that you did good work in uncovering this little trick of our friends to get wit-hin striking -distance without our knowing they were anywhere near."

Jack said nothing. He was frowning, but it was because he was thinking of Helen. The Adastra was huge and powerful, but she was not readily maneuverable. She was enormously massive, but she could not be used for ramming. And she possessed within herself almost infinite destructiveness, in the means of producing Caidwell fields for the disintegration of matter, but she contained no weapon more dangerous than a two thousand kilowatt vortex gun for the destruction of dangerous animals or vegetation where she might possibly land.

"What's your comment?" demanded Aistair shortly. "How do you size up the situation?"

"They act as if they're planning hostilities," replied Jack briefly, "and they've got four times our maximum acceleration so we can't get away. With that acceleration they ought to be more maneuverable, so we can't dodge them. We've no faintest idea of what weapons they carry, but we know that we can't fight them unless their weapons are very puny indeed. There's just one chance that I can see."

"What's that?"

"They tried to slip up on us. That looks as if they intended to open fire without warning. But maybe they are frightened and only expected to examine us without our getting a chance to attack them. In that case, our only bet is to swing over our signaling beam to the space ship. When they realize we know they're there and still aren't getting hostile, they may not guess we can't fight. They may think we want to be friendly and they'd better not start anything with a ship our size that's on guard."

"Very well. You're detailed to communication duty," said Aistair. "Go ahead and carry out that program. I'll consult the rocket engineers and see what they can improvise in the way of fighting equipment. Dismiss!"

His tone was harsh. It was arrogant. It rasped Jack's nerves and made him bristle all over. But he had to recognize that Aistair wasn't letting his frank dislike work to the disadvantage of the ship. Aistair was, in fact, one of those ambitious officers who are always cordially disliked by everybody, at all times, until an emergency arises. Then their competence shows up.

Jack went to the communications-control room. It did not take long to realign the transmitter beam. Then the sender began to repeat monotonously the recorded last message from the Adastra to the distant and so far unidentified planet of the ringed star. And while the signal went-out, over and over again, Jack called on observations control for a sight of the strange ship.

They had a scanner on it now and by stepping up illumination to the utmost, and magnification to the point where the image was as rough as an old-fashioned half-tone cut, they brought the strange ship to the visiplate as a six-inch miniature.

It was egg-shaped and perfectly smooth. There was no sign of external girders, of protruding atmospheric navigation fins, of escape-boat blisters. It was utterly featureless save for tiny spots which might be portholes, and



rocket tubes in which intermittent flames flickered.

It was still decelerating to match the speed and course of the Adastra.

"Have you got a spectroscope report on it?" asked Jack.

"Yeh," replied the observations orderly. "An' I don't believe it.

They're using fuel rockets—some organic compound. An' the report says the hull of that thing is cellulose, not metal. It's wood, on the outside."

Jack shrugged. No sign of weapons. He went back to his own job. The space ship yonder was being penetrated through and through by the message waves. Its receptors could not fail to be reporting that a tight beam was upon it, following its every movement, and that its presence and probable mission were therefore known to the mighty ship from out of space.

But Jack's own receptors were silent. The tape came out of them utterly blank. No—a queer, scrambled, blurry line, as if the analyzers were unable to handle the frequency which was coming through. Jack read the heat effect. The other space ship was sending with a power which meant five thousand kilowatts pouring into the Adastra. Not a signal. Grimly, Jack heterodyned the wave on a five-meter circuit and read off its frequency and type. He called the main control.

"They're pouring short stuff into us," he reported stiffly to Aistair. "About five thousand kilowatts of thirty-centimeter waves, the type we use on Earth to kill weevils in wheat. It ought to be deadly to animal life, but of course our hull simply absorbs it."

Helen. Impossible to stop the Adastra. They'd started for Proxima Centauri. Decelerating though they were, they couldn't check much short of the solar system, and they were already attacked by a ship with four times their greatest acceleration. Pouring a deadly frequency into them—a frequency used on Earth to kill noxious insects. Helen was— "Maybe they think we're dead! They'll know our transmitter's mechanical."

The G.C. phone snapped suddenly, in Aistair's voice.

"Attention, all officers! The enemy space ship has poured what it evidently considers a deadly frequency into us, and is now approaching at full acceleration! Orders are that absolutely no control of any sort is to be varied by a hair's breadth. Absolutely no sign of living intelligence within the Adastra is to be shown: You will stand by all operative controls, prepared for maneuver if it should be necessary. But we try to give the impression that the Adastra is operating on automatic controls alone! Understood?"

Jack could imagine the reports from the other control rooms. His own receptor sprang suddenly into life. The almost hooted sounds of the call signal, so familiar that they seemed words. Then an extraordinary jumble of noises—words in a human voice. More stridulated sounds. More words in perfectly accurate English. The English words were in the tones and accents of an officer of the Adastra, plainly recorded and retransmitted.

"Communications!" snapped Aistair. "You will not answer this signal! It is an attempt to find out if we survived their ray attack!"

"Check," said Jack.

Aistair was right. Jack watched and listened as the receptor babbled on. It stopped. Silence for ten minutes. It began again. The Adastra hurtled on. The babble from space came to an end. A little later the G.C. phone snapped once more:

"The enemy space ship has increased its acceleration, evidently convinced that we are all dead. It will arrive in approximately four hours. Normal watches may be resumed for three hours unless an alarm is given."

Jack leaned back in his chair, frowning. He began to see the tactics Aistair planned to use. They were bad tactics, but the only ones a defenseless ship like the Adastra could even contemplate. It was at least ironic that the greeting the Adastra received at the end of a seven-years' voyage through empty space be a dose of a type of radiation used on Earth to exterminate

vermin.

But the futility of this attack did not mean that all attacks would be similarly useless. And the Adastra simply could not be stopped for many millions of miles, yet. Even if Alstair's desperate plan took care of this particular assailant and this particular weapon, it would not mean—it could not!—that the Adastra or the folk within had any faintest chance of defending themselves.

And there was Helen—

### III

The visiplates showed the strange space ship clearly, now, even without magnification. It was within five miles of the Adastra and it had stopped. Perfectly egg-shaped, without any protuberance whatever except the rocket tubes in its rear, it hung motionless with relation to the Earth ship, which meant that its navigators had analyzed her rate of deceleration long since and had matched all the constants of her course with precision.

Helen, her face still tear-streaked, watched as Jack turned up the magnification, and the illumination with it. Her father had collapsed very suddenly and very completely. He was resting quietly now, dozing almost continuously, with his face wearing an expression of utter contentment.

He had piloted the Adastra to its first contact with the civilization of another solar system. His lifework was done and he was wholly prepared to rest. He had no idea, of course, that the first actual contact with the, strange space ship—was a burst of short waves of a frequency deadly to all animal life.

The space ship swelled on the visiplate as Jack turned the knob. He brought it to an apparent distance of a few hundred yards only. With the illumination turned up, even the starlight on the hull would have been sufficient to show any surface detail. But there was literally none. No rivet, no bolt, no line of joining plates. A row of portholes were dark and dead within.

"And it's wood!" repeated Jack. "Made out of some sort of cellulose which stands the cold of space!"

Helen said queerly: "It looks to me as if it had been grown, rather than built."

Jack blinked. He opened his mouth as if to speak, but the receptor at his elbow suddenly burst into the hootlike stridulations which were the signals from the egglike ship. Then English words, from recordings of previous signals from the Aastra. more vowelless, modulated phrases. It sounded exactly as if the beings in the other space ship were trying urgently to open communication and were insisting that they had the key to the Adastra's signals. The temptation to reply was great.

"They've got brains, anyhow," said Jack grimly.

The signals were cut off. Silence. Jack glanced at the wave tape. It showed the same blurring as before.

"More short stuff. At this distance, it ought not only to kill us, but even sterilize the interior of the whole ship. Lucky our hull is heavy alloy with a high hysteresis-rate. Not a particle of that radiation can get through."

Silence for a long, long time. The wave tape showed that a terrific beam of thirty-centimeter waves continued to play upon the Adastra. Jack suddenly plugged in observations and asked a question. Yes, the outer hull was heating. It had gone up half a degree in fifteen minutes.

"Nothing to worry about in that," grunted Jack. "Fifteen degrees will be

the limit they can put it up, with this power."

The tape came out clear. The supposed death radiation was cut off. The egg-shaped ship darted forward. And then for twenty minutes or more Jack had to switch from one outside vision disk to another to keep it in sight. It hovered about the huge bulk of the Adastras with a wary inquisitiveness. Now half a mile away, now no more than two hundred yards, the thing darted here and there with an amazing acceleration and as amazing a breaking power. It had only the rocket tubes at the smaller end of its egg-shaped form. It was necessary for it to fling its whole shape about to get a new direction, and the gyroscopes within it must have been tremendously powerful. Even so, the abruptness of its turns was startling.

"I wouldn't like to be inside that thing!" said Jack. "We'd be crushed to a pulp by their normal navigation methods. They aren't men like us. They can stand more than we can."

The thing outside seemed sentient, seemed alive. And by the eagerness of its movements it seemed the more horrible, flitting about the gigantic space ship it now believed was a monstrous coffin.

It suddenly reversed itself and shot back toward the Adastras. Two hundred yards, one hundred yards, a hundred feet. It came to a cushioned stop against the surface of the Earth vessel.

"Now we'll see something of them," said Jack crisply.

"They landed right at an air lock. They know what that is, evidently. Now we'll see them in their space suits."

But Helen gasped. A part of the side of the strange ship seemed to swell suddenly. It bulged out like a blister. It touched the surface of the Adastras. It seemed to adhere. The point of contact grew larger.

"Good Lord!" said Jack blankly. "Is it alive? And is it going to try to eat our ship?"

The general-communication phone rasped sharply: "Officers with arms to the air lock GH41 immediately! The Centaurians are opening the air lock from the outside. Wait orders there! The visiplat in the airlock is working and you will be informed. Go ahead!" The phone clicked off. Jack seized a heavy gun, one of the force rifles which will stun a man at anything up to eighteen hundred yards and kill at six, when used at full power. His side arm hung in its holster. He swung for the door.

"Jack!" said Helen desperately.

He kissed her. It was the first time their lips had touched, but it seemed the most natural thing in the world, just then. He went racing down the long corridors of the Adastras to the rendezvous. And as he raced, his thoughts were not at all those of a scientist and an officer of Earth's first expedition into interstellar space.

Jack was thinking of Helen's lips touching his desperately, of her soft body pressed close to him.

A G.C. speaker whispered overhead as he ran:

"They're inside the air lock. They opened it without trouble. They're testing our air, now. Apparently it suits them all."

The phone fell behind. Jack ran on, panting. Somebody else was running ahead. There were half a dozen, a dozen men grouped at the end of the corridor. A murmur from the side wall.

". . . rking at the inner airlock door. Only four or five of them, apparently, will enter the ship. They are to be allowed to get well away from the air lock. You will keep out of sight. When the emergency locks go on it will be your signal. Use your heavy force guns, increasing power from minimum until they fall paralyzed. It will probably take a good deal of power to subdue them. They are not to be killed if it can be avoided.

Ready!"

There were a dozen or more officers on hand. The fat rocket chief. The

lean air officer. Subalterns of the other departments. The rocket chief puffed audibly as he wedged himself out of sight. Then the clicking of the inner air-lock door. It opened into the anteroom. Subdued, muffled hootings came from that door. The Things—whatever they were—were inspecting the space suits there. The hootings were distinctly separate and distinctly intoned. But they suddenly came as a babble. More than one Thing was speaking at once. There was excitement, eagerness, an extraordinary triumph in These voices.

Then something stirred in the doorway of the air-lock anteroom. A shadow crossed the threshold. And then the Earthmen saw the creatures who were invading the ship.

For an instant they seemed almost like men. They had two legs, and two dangling things—tentacles—which apparently served as arms and tapered smoothly to ends which split into movable, slender filaments. The tentacles and the legs alike seemed flexible in their entire lengths. There were no "joints" such as men use in walking, and the result was that the Centaurians walked with a curiously rolling gait.

Most startling, though, was the fact that they had no heads. They came wabbling accustomedly out of the air lock, and at the end of one "arm" each carried a curious, semi-cylindrical black object which they handled as if it might be a weapon. They wore metallic packs fastened to their bodies. The bodies themselves were queerly "grained." There was a tantalizing familiarity about the texture of their skin.

Jack, staring incredulously, looked for eyes, for nostrils, for a mouth. He saw twin slits only. He guessed at them for eyes. He saw no sign of any mouth at all. There was no hair. But he saw a scabrous, brownish substance on the back of one of the Things which turned to hoot excitedly at the rest. It looked like bark, like tree bark. And a light burst upon Jack. He almost cried out, but instead reached down and quietly put the lever of his force gun at full power at once.

The Things moved on. They reached a branching in the corridor and after much arm waving and production of their apparently articulated sounds they separated into two parties. They vanished. Their voices dwindled. The signal for an attack upon them had not yet been given. The officers, left behind, stirred uneasily. But a G.C. phone whispered.

"Steady! They think we're all dead. They're separating again. We may be able to close emergency doors and have each one sealed off from all the rest and then handle them in detail. You men watch the air lock!"

Silence. The humming of a ventilator somewhere nearby. Then, suddenly, a man screamed shrilly a long distance off, and on the heels of his outcry there came a new noise from one of the Things. It was a high-pitched squealing noise, triumphant and joyous and unspeakably horrible.

Other squealings answered it. There were rushing sounds, as if the other Things were running to join the first. And then came a hissing of compressed air and a hum of motors. Doors snapped shut everywhere, sealing off every part of the ship from every other part. And in the dead silence of their own sealed compartment, the officers on guard suddenly heard inquiring hoots.

Two more of the Things came out of the air lock. One of the men moved. The Thing saw him and turned its half-cylindrical object upon him. The man—it was the communications officer—shrieked suddenly and leaped convulsively. He was stone dead even as his muscles tensed for that incredible leap. And the Thing emitted a high-pitched triumphant note—which was exactly like the other horrible sound they had heard, and sped eagerly toward his body. One of the long, tapering arms lashed out and touched the dead man's hand.

Then Jack's force gun began to hum. He heard another and another open up. In seconds the air was filled with a sound like that of a hive of angry bees. Three more of the Things came out of the air lock, but they dropped in the barrage of force-gun beams. It was only when there was a sudden rush of

air toward the lock, showing that the enemy ship had taken alarm and was darting away, that the men dared cease to fill that doorway with their barrage. Then it was necessary to seal the air lock in a hurry. Only then could they secure the Things that had invaded the Adastras.

Two hours later, Jack went into the main control room and saluted with an exact precision. His face was rather white and his expression entirely dogged and resolved. Alstair turned to him, scowling.

"I sent for you," he said harshly, "because you're likely to be a source of trouble. The commander is dead. You heard it?"

"Yes, sir," said Jack grimly. "I heard it."

"In consequence, I am commander of the Adastras," said Alstair provocatively. "I have, you will recall, the power of life and death in cases of mutinous conduct, and it is also true that marriage on the Adastras is made legal only by executive order bearing my signature."

"I am aware of the fact, sir," said Jack more grimly still.

"Very well," said Alstair deliberately. "For the sake of discipline, I order you to refrain from all association with Miss Bradley. I shall take disobedience of the order as mutiny. I intend to marry her myself. What have you to say to that?"

Jack said as deliberately: "I shall pay no attention to the order, sir, because you aren't fool enough to carry out such a threat! Are you such a fool you don't see we've less than one chance in five hundred of coming out of this? If you want to marry Helen, you'd better put all your mind on giving her a chance to live!"

A savage silence held for a moment. The two men glared furiously at each other, the one near middle age, the other still a young man, indeed. Then Alstair showed his teeth in a smile that had no mirth whatever in it.

"As man to man. I dislike you extremely," he said harshly. "But as commander of the Adastras I wish I had a few more like you. We've had seven years of routine on this damned ship, and every officer in quarters is rattled past all usefulness because an emergency has come at last. They'll obey orders but there's not one fit to give them. The communications officer was killed by one of those devils, wasn't he?"

"Yes, sir."

"Very well. You're brevet communications officer. I hate your guts, Gary, and I do not doubt that you hate mine, but you have brains. Use them now. What have you been doing?"

"Adjusting a dictewriter, sir, to get a vocabulary of one of these Centaurian's speech, and hooking it up as a two-way translator, sir."

Alstair stared in momentary surprise, and then nodded. A dictewriter, of course, simply analyzes a word into its phonetic parts, sets up the analysis, and picks out a card to match its formula. Normally, the card then actuates a printer. However, instead of a type-choosing record, the card can contain a record of an equivalent word in another language, and then operates a speaker.

Such machines have been of only limited use on Earth because of the need for so large a stock of vocabulary words, but have been used to some extent for literal translations both of print and speech. Jack proposed to record a Centaurian's vocabulary with English equivalents, and the dictewriter, hearing the queer hoots the strange creature uttered, would pick out a card which would then cause a speaker to enunciate its English synonym,

The reverse, of course, would also occur. A conversation could be carried on with such a prepared vocabulary without awaiting practice in understanding or imitating the sounds of another language.

"Excellent!" said Alstair curtly. "But put some one else on the job if you can. It should be reasonably simple, once it's started. But I need you for other work. You know what's been found out about these Centaurians, don't you?"

"Yes, sir. Their hand weapon is not unlike our force, guns, but it seems to be considerably more effective. I saw it kill the communications officer."

"But the creatures themselves!"

"I helped tie one of them up."

"What do you make of it? I've a physician's report, but he doesn't believe it himself!"

"I don't blame him, sir," said Jack grimly. "They're not our idea of intelligent beings at all. We haven't any word for what they are. In one sense they're plants, apparently. That is, their bodies seem to be composed of cellulose fibers where ours are made of muscle fibers. But they are intelligent, fiendishly intelligent."

"The nearest we have to them on Earth are certain carnivorous plants, like pitcher plants and the like. But they're as far above a pitcher plant as a man is above a sea anemone, which is just as much an animal as a man is. My guess, sir, would be that they're neither plant nor animal. Their bodies are built up of the same materials as earthly plants, but they move about like, animals do on Earth. They surprise us, but we may surprise them, too. It's quite possible that the typical animal form on their planet is sessile like the typical plant form on ours."

Alstair said bitterly: "And they look on us, animals, as we look on plants!"

Jack said without expression: "Yes, sir. They eat through holes in their arms. The one who killed the communications officer seized his arm. It seemed to exude some fluid that liquefied his flesh instantly. It sucked the liquid back in at once. If I may make a guess, sir--"

"Go ahead," snapped Alstair. "Everybody else is running around in circles, either marveling or sick with terror."

"The leader of the party, sir, had on what looked like an ornament. It was a band of leather around one of its arms."

"Now, what the devil--"

"We had two men killed. One was the communications officer and the other was an orderly. When we finally subdued the Centaurian who'd killed that orderly, it had eaten a small bit of him, but the rest of the orderly's body had undergone some queer sort of drying process, from chemicals the Thing seemed to carry with it."

Alstair's throat worked as if in nausea. "I saw it."

"It's a fanciful idea," said Jack grimly, "but if a man was in the position of that Centaurian, trapped in a space ship belonging to an alien race, with death very probably before him, well, about the only thing a man would strap to his body, as the Centaurian did the dried, preserved body of that orderly--"

"Would be gold," snapped Alstair. "Or platinum, or jewels which he would hope to fight clear with!"

"Just so," said Jack.- "Now, I'm only guessing, but those creatures are not human, nor even animals. Yet they eat animal food. They treasure animal food as a human being would treasure diamonds. An animal's remains--leather--they wear as an ornament. It looks to me as if animal tissue was rather rare on their planet, to be valued so highly. In consequence--"

Alstair stood up, his features working. "Then our bodies would be the same as gold to them! As diamonds! Gary, we haven't the ghost of a chance to make friends with these fiends!"

Jack said dispassionately: "No; I don't think we have. If a race of beings with tissues of metallic gold landed on Earth, I rather think they'd be murdered. But there's another point, too. There's Earth. From our course, these creatures can tell where we came from, and their space ships are rather good. I think I'll put somebody else on the dictawriter job and see if I can flash a message back home. No way to know whether they get it, but they ought

to be watching for one by the time it's there. Maybe they've improved their receptors. They intended to try, anyhow."

"Men could meet these creatures' ships in space," said Alstair harshly, "if they were warned. And guns might answer, but if they didn't handle these devils Caldwell torpedoes would. Or a suicide squad, Using their bodies for bait. We're talking like dead men, Gary."

"I think, sir," said Jack, "we are dead men." Then he added: "I shall put Helen Bradley on the dictawriter, with a guard to handle the Centaurian. He'll be bound tightly."

The statement tacitly assumed that Aistair's order to avoid her was withdrawn. It was even a challenge to him to repeat it. And Alstair's eyes glowed and he controlled-himself with difficulty.

"Damn you, Gary," he said savagely, "get out!"

He turned to the visiplat which showed the enemy ship as Jack left the control room.

The egg-shaped ship was two thousand miles away now, and just decelerating to a stop. In its first flight it had rocketed here and there like a mad thing. It would have been impossible to hit it with any projectile, and difficult in the extreme even to keep radiation on it in anything like a tight beam. Now, stopped stock-still with regard to the Adastra, it hung on, observing, very probably devising some new form of devilment. So Alstair considered, anyhow. He watched it somberly.

The resources of the Adastra, which had seemed so vast when she took off from Earth, were pitifully inadequate to handle the one situation which had greeted her, hostility. She could have poured out the treasures of man's civilization to the race which ruled this solar system. Savages, she could have uplifted. Even to a race superior to men she could have offered man's friendship and eager pupilage. But these creatures that— The space ship stayed motionless. Probably signaling back to its home planet, demanding orders. Reports, came in to the Adastra's main control room and Aistair read them. The Centaurians were unquestionably extracting carbon dioxide from the air. That compound was to their metabolism what oxygen is to men, and in pure air they could not live.

But their metabojic rate was vastly greater than that of any plant on Earth. It compared with the rate of earthly animals. They were not plants by any definition save that of constitution, as a sea anemone is not an animal except by the test of chemical analysis.

The Centaurians had a highly organized nervous system, the equivalent of brains, and both great intelligence and a language. They produced Sounds by a stridulating organ in a special body cavity. And they felt emotion.

A captive creature when presented with various objects showed special interest in machinery, showing an acute realization of the purpose of a small sound recorder and uttering into it an entire and deliberate series of sounds. Human clothing it fingered eagerly. Cloth it discarded, when of cotton or rayon, but it displayed great excitement at the feel of a woolen shirt and even more when a leather belt was given to it. It placed the belt about its middle, fastening the buckle without a fumble after a single glance at its working.

It unraveled a thread from the shirt and consumed it, rocking to and fro as if in ecstasy. When meat was placed before it, it seemed to become almost delirious with excitement. A part of the meat it consumed instantly, to ecstatic swayings. The rest it preserved by a curious chemical process, using substances from a small metal pack it had worn and for which it made gestures.

Its organs of vision were behind two slits in the upper part of its body, and no precise examination of the eyes themselves had been made. But the report before Alstair said specifically that the Centaurian displayed an avid eagerness whenever it caught sight of a human being. And that the eagerness

was not of a sort to be reassuring.

It was the sort of excitement—only much greater—which it had displayed at the sight of wool and leather.

As if by instinct, said the report, the captive Centaurian had several times made a gesture as if turning some weapon upon a human when first it sighted him.

Alstair read this report and others. Helen Bradley reported barely two hours after Sack had assigned her to the work.

"I'm sorry, Helen," said Alstair ungraciously. "You shouldn't have been called on for duty. Gary insisted on it. I'd have left you alone."

"I'm glad he did," said Helen steadily. "Father is dead, to be sure, but he was quite content. And he died before he found out what these Centaurians are like. Working was good for me. I've succeeded much better than I even hoped. The Centaurian I worked with was the leader of the party which invaded this ship, He understood almost at once what the dictawriter was doing, and we've a good vocabulary recorded already. If you want to talk to him, you can."

Alstair glanced at the visiplat. The enemy ship was still motionless. Easily understandable, of course. The Adastra's distance from Proxima Centauri could be measured in hundreds of millions of miles, now, instead of millions of billions, but in another terminology, it was light-hours away still. If the space ship had signaled its home planet for orders, it would still be waiting for a reply.

Alstair went heavily to the biology laboratory, of which Helen was in charge, just as she was in charge of the biological specimens—rabbits, sheep, and a seemingly endless array of small animals—which on the voyage had been bred for a food supply and which it had been planned to release should a planet suitable for colonizing revolve about the ringed star.

The Centaurian was bound firmly to a chair with a myriad of cords. He—she—it, was utterly helpless. Beside the chair the dictawriter and its speaker were coupled together. From the Centaurian came hooted notes which the machine translated with a rustling sound between words.

"You-are-commander-this---ship?" the machine translated without intonation.

"I am," said Alstair, and the machine hooted musically.

"This-woman-man—dead," said the machine tonelessly again, after more sounds from the extraordinary living thing which was not an animal.

Helen interjected swiftly: "I told him my father was dead."

The machine went on: "I-buy-all—dead-man-on-ship-give-metal-gold-you-like-----"

Alstair's teeth clicked together. Helen went white. She tried to speak, and choked upon the words.

"This," said Alstair in mirthless bitterness, "is the beginning of the interstellar friendship we hoped to institute!"

Then the G.C. phone said abruptly:

"Calling Commander Alstair! Radiation from ahead! Several wave lengths, high intensity! Apparently several space ships are sending, though we can take out no signals!"

And then Jack Gary came into the biology laboratory. His face was set in grim lines. It was very white. He saluted with great precision.

"I didn't have to work hard, sir," he said sardonically. "The last communications officer had been taking his office more or less as a sinecure. We'd had no signals for seven years, and he didn't expect any. But they're coming through and have been for months.

"They left Earth three years after we did. A chap named Callaway, it seems, found that a circularly polarized wave makes a tight beam that will hold together forever. They've been sending to us for years past; no doubt,



and we're getting some of the first messages now.

"They've built a second *Adastra*, sir, and it's being manned—hell, no! ,it was manned four years ago! It's on the way out here now! It must be at least three years on the way, and it has no idea of these devils waiting for it. Even if we blow ourselves to bits, sir, there'll be another ship from Earth coming, unarmed as we are, to run into these devils when it's too late to stop—"

The G.C. phone-snapped again: Commander Alstair! Observations reporting! The external hull temperature has gone up five degrees in the past three minutes and is still climbing. Something's pouring heat into us at a terrific rate!"

Alstair turned to Jack. He said with icy politeness: "Gary, after all there's no use in our continuing to hate each other. Here is where we all die together. Why do I still feel inclined to kill you?"

But the question was rhetorical only. The reason was wholly clear. At the triply horrible news, Helen had begun to cry softly. And she had gone blindly into Jack's arms to do it.

#### IV

The situation was, as a matter of fact, rather worse than the first indications showed. The external hull temperature, for instance, was that of the generalizing thermometer, which averaged for all the external thermometers. A glance at the thermometer bank, through a visiphone connection, showed the rearmost side of the *Adastra* at practically normal. It was the forward hemisphere, the side nearest *Proxima Centauri*, which was heating. And that hemisphere was not heating equally. The indicators which flashed red lights were closely grouped.

Alstair regarded them with a stony calm in the visiplat.

"Squarely in the center of our disk, as they see it," he said icily. "It will be that fleet of space ships, of course."

Jack Gary said crisply: "Sir, the ship from which we took prisoners made contact several hours earlier than we expected. It must be that, instead of sending one vessel with a transmitter on board, they sent a fleet, and a scout ship on ahead. That scout ship has reported that we laid a trap for some of her crew, and coilsequently they've opened fire!"

Alstair said sharply into a G.C. transmitter:

"Sector G90 is to be evacuated at once. It is to be sealed off immediately and all occupants will emerge from air locks. Adjoining sectors are to be evacuated except by men on duty, and they will don space suits immediately."

He clicked off the phone and added calmly: "The external temperature over part of G90 is four hundred degrees now. Dull-red heat. In five minutes it should melt. They'll have a hole bored right through us in half an hour."

Jack said urgently: "Sir! I'm pointing out that they've attacked because the scout ship reported we laid, a trap for some of its crew! We have just the ghost of a chance—"

"What?" demanded Alstair bitterly. "We've no weapons!"

"The dictawriter, sir!" snapped Jack. "We can talk to them now!"

Alstair said harshly: "Very well, Gary. I appoint you ambassador. Go ahead!"

He swung on his heel and went swiftly from the control room. A moment later his voice came out of the G.C. phone: "Calling the Rocket Chief! Report immediately on personal visiphone. Emergency!"

His voice cut off, but Jack was not aware of it. He was plugging in to

communications and demanding full power on the transmission beam and a widening of its arcs. He snapped one order after another and explained to Helen in swift asides.

She grasped the idea at once. The Centaurian in the biology laboratory was bound, of course. No flicker of expression could be discovered about the narrow slits which were his vision organs. But Helen—knowing the words of the vocabulary cards—spoke quietly and urgently into the dictawriter microphone. Hootlike noises came out of the speaker in their place, and the Centaurian stirred. Sounds came from him in turn, and the speaker said woodenly:

"I—speak—ship—planet. Yes."

And as the check-up came through from communications control, the eerie, stridulated, unconsontated noises of his language filled the biology laboratory and went out on the widened beam of the main transmitter.

Ten thousand miles away the Centaurian scout snip hovered. The *Adastra* bored on toward the ringed sun which had been the goal of mankind's most daring expedition. From ten thousand miles she would have seemed a mere dot, but the telescopes of the Centaurians would show her every detail. From a thousand miles she would seem a toy, perhaps, intricately—crisscrossed with strengthening members.

From a distance of a few miles only, though, her gigantic size could be realized fully. Five thousand feet in diameter, she dwarfed the hugest of those distant, unseen shapes in emptiness which made up a hostile fleet now pouring deadly beams upon her.

From a distance of a few miles, too, the effect of that radiation could be seen. The *Adastra's* hull was alloy steel; tough and necessarily with a high hysteresis-rate. The alternating currents of electricity induced in that steel by the Centaurian radiation would have warmed even a copper hull. But the alloy steel grew hot. It changed color. It glowed faintly red over an area a hundred feet across.

A rocket tube in that area— abruptly ceased to emit its purple, lambent flame. It had been, cut off. Other rockets increased their power a trifle to make up for it. The dull red glow of the steel increased. It became carmine.

Slowly, inexorably, it heated to a yellowish tinge. It became canary in color. It tended toward blue.

Vapor curled upward from its surface, streaming away from the tortured, melting surface as if drawn by the distant sun. That vapor grew thick; dazzlingly bright; a veritable cloud of metallic steam. And suddenly there was a violent eruption from the center of the *Adastra's* lighted hemisphere. The outer hull was melted through. Air from the interior burst out into the void, flinging masses of molten, vaporizing metal before it. It spread with an incredible rapidity, flaring instantly into the attenuated, faintly glowing mist of a comet's tail.

The visiplat images inside the *Adastra* grew dim. Stars paled ahead. The Earth ship had lost a part of her atmosphere and it fled on before her, writhing. Already it had spread into so vast a space that its density was immeasurable, but it was still so much more dense than the infinite emptiness of space that it filled all the cosmos before the *Adastra* with a thinning nebulosity.

And at the edges of the huge gap in the big ship's hull, the thick metal bubbled and steamed, and the interior partitions began to glow with an unholy light of dull-red heat, which swiftly went up to carmine and began to turn faintly yellow.

In the main control room, Aistair watched bitterly until the visiplates showing the interior of section G90 fused. He spoke very calmly into the microphone before him.

"We've got less time than I thought," he said deliberately. "You'll have to hurry. It won't be sure at best, and you've got to remember that these

devils will undoubtedly puncture us from every direction and make sure there's absolutely nothing living on board. You've got to work something out, and in a hurry, to do what I've outlined!"

A half-hysterical voice came back to him. "But sir, if I cut the sonic vibrations in the rockets we'll go up in a flare! A single instant! The disintegration of our fuel will spread to the tubes and the whole ship will simply explode! It will be quick!"

"You fool!" snarled Alstair. "There's another ship from Earth on the way! Unwarned! And unarmed like we are! And from our course these devils can tell where we came from! We're going to die, yes! We won't die pleasantly! But we're going to make sure these fiends don't start out a space fleet for Earth! There's to be no euthanasia for us! We've got to make our dying do some good! We've got to protect humanity!"

Alstair's face, as he snarled into the visiplat, was not that of a martyr or a person making a noble self sacrifice. It was the face of a man overawing and bullying a subordinate into obedience.

With a beam of radiation playing on his ship which the metal-hull absorbed and transformed into heat, Alstair raged at this department and that. A second bulkhead went, and there was a second eruption of vaporized metal and incandescent gas from the monster vessel. Millions of miles away, a wide-flung ring of egg-shaped space ships lay utterly motionless, giving no sign of life and looking like monsters asleep. But from them the merciless beams of radiation sped out and focused upon one spot upon the Adastra's hull, and it spewed forth frothing metal and writhing gases and now and again some still recognizable object which flared and exploded as it emerged.

And within the innumerable compartments of the mighty ship, human beings reacted to their coming doom in manners as various as the persons themselves. Some screamed. A few of the more sullen members of the crew seemed to go mad, to become homicidal maniacs. Still others broke into the stores and proceeded systematically but in some haste to drink themselves comatose. Some women clutched their children and wept over them. And some of them went mad.

But Alstair's snarling, raging voice maintained a semblance of discipline in a few of the compartments. In a machine shop men worked savagely, cursing, and making mistakes as they worked which made their work useless. The lean air officer strode about his domain, a huge spanner in his hand, and smote with a righteous anger at any sign of panic. The rocket chief, puffing, manifested an unexpected genius for sustained profanity, and the rockets kept their pale purple flames out in space without a sign of flickering.

But in the biology laboratory the scene was one of quiet, intense concentration. Bound to helplessness, the Centaurian, featureless and inscrutable, filled the room with its peculiar form of speech. The dictewriter rustled softly, senselessly analyzing each of the sounds and senselessly questing for vocabulary cards which would translate them into English wordings. Now and again a single card did match up. Then the machine translated a single word of the Centaurian's speech.

".....-ship....." A long series of sounds, varying rapidly in pitch, in intensity, and in emphasis. "- men-" Another long series. "-talk men-"

The Centaurian ceased to make its hootlike noises.

Then, very carefully, it emitted new ones. The speaker translated them all. The Centaurian had carefully selected words recorded with Helen.

"He understands what we're trying to do," said Helen, very pale.

The machine said: "You-talk-machine-talk- ship."

Jack said quietly into the transmitter: "We are friends. We have much you want. We want only friendship. We have killed none of your men except in self defense. We ask peace. If we do not have peace, we will fight. But we

wish peace."

He said under his breath to Helen, as the machine rustled and the speaker hooted: "Bluff, that war talk. I hope it works!"

Silence. Millions of miles away, unseen space ships aimed a deadly radiation in close, tight beams at the middle of the Adastras' disk. Quaintly enough, that radiation would have been utterly harmless to a man's body. It would have passed through, undetected. But the steel of the Earth ship's hull stopped and absorbed it as eddy currents. The eddy currents became heat. And a small volcano vomited out into space the walls, the furnishing, the very atmosphere of the Adastras through the hole that the heat had made.

It was very quiet indeed in the biology laboratory. The receptor was silent. One minute. Two minutes.

Three. The radio waves carrying Jack's voice traveled at the speed of light, but it took no less than ninety seconds for them to reach the source of the beams which were tearing the Adastras to pieces. And there was a time loss there, and ninety seconds more for other waves to hurtle through space at one hundred and eighty-six thousand miles each second with the reply.

The receptor hooted unmusically. The dictawriter rustled softly. Then the speaker said without expression: "We—friends—now—no—fight—ships—come—to—take—you—planet."

And simultaneously the miniature volcano on the Adastras hull lessened the violence of its eruption and slowly its molten, bubbling edges ceased first to steam, and then to bubble, and from the blue-white of vaporizing steel they cooled to yellow, and then to carmine, and more slowly to a dull red, and more slowly still to the glistening, infinitely white metallic surface of steel which cools where there is no oxygen.

Jack said crisply into the control-room microphone: "Sir, I have communicated with the Centaurians and they have ceased fire. They say they are sending a fleet to take us to their planet."

"Very good," said Alstair's voice bitterly, "especially since nobody seems able to make the one contrivance that would do some good after our death. What next?"

"I think it would be a good idea to release the Centaurian here," said Jack. "We can watch him, of course, and paralyze him if he acts up. It would be a diplomatic thing to do, I believe."

"You're ambassador," said Alstair sardonically. "We've got, time to work, now. But you'd better put somebody else on the ambassadorial work and get busy again on the job of sending a message back to Earth, if you think you can adapt a transmitter to the type of wave they'll expect."

His image faded. And Jack turned to Helen. He felt suddenly very tired.

"That is the, devil of it," he said drearily. "They'll expect a wave like they sent us, and with no more power than we have, they'll hardly pick up anything else! But we picked up in the middle of a message and just at the end of their description of the sending outfit they're using on Earth. Undoubtedly they'll describe it again, or rather they did describe it again, four years back, and we'll pick it up if we live long enough. But we can't even guess when that will be. You're going to keep on working with this—creature, building up a vocabulary?"

Helen regarded him anxiously. She put her hand upon his arm. "He's intelligent enough," she said urgently. "I'll explain to him and let somebody else work with him. I'll come with you. After all, we—we may not have long to be together."

"Perhaps ten hours." said Jack tiredly.

He waited, somberly, while she explained in carefully chosen words—which the dictawriter translated—to the Centaurian. She got an assistant and two guards. They released, the headless Thing. It offered no violence. Instead, it manifested impatience to continue the work of building up in the translator

files a vocabulary through which a complete exchange of ideas could take place.

Jack and Helen went together to the communications room. They ran the Earth message, as received so far. It was an extraordinary hodgepodge. Four years back, Earth had been enthusiastic over the thought of sending word to its most daring adventurers. A flash of immaterial energy could travel tirelessly through uncountable millions of billions of miles of space and overtake the explorers who had started three years before. By its text, this message had been sent some time after the first message of all. In the sending, it had been broadcast all over the Earth, and many millions of people undoubtedly had thrilled to the thought that they heard words which would span the space between two suns.

But the words were not helpful to those on the *Adastra*. The message was a "cheer-up" program, which began with lusty singing by a popular quartet, continued with wisecracks by Earth's most highly paid comedian—and his jokes were all very familiar to those on the *Adastra*—and then a congratulatory address by an eminent politician, and other drivel. In short, it was a hodgepodge of trash designed to gain publicity by means of the Earth broadcast for those who took part in it.

It was not helpful to those on the *Adastra*, with the hull of the ship punctured, death before them, and probably destitution for the whole human race to follow as a consequence of their voyage.

Jack and Helen sat quietly and listened. Their hands clasped unconsciously. Rather queerly, the extreme brevity of the time before them made extravagant expressions of affection seem absurd. They listened to the unspeakably vulgar message from Earth without really hearing it. Now and again they looked at each other. In the biology laboratory the building up of a vocabulary went on swiftly. Pictures came into play. A second Centaurian was released, and by his skill in delineation—which proved that the eyes of the plant men functioned almost identically with those of Earth men—added both to the store of definitions and equivalents and to knowledge of the Centaurian civilization.

Piecing the information together, the civilization began to take on a strange resemblance to that of humanity. The Centaurians possessed artificial structures which, were undoubtedly dwelling houses. They had cities, laws, arts—the drawing of the second Centaurian was proof of that—and sciences. The science of biology in particular was far advanced, taking to some extent the place of metallurgy in the civilization of men. Their structures were 'grown', not built. Instead of metals to shape to their own ends, they had forms of protoplasm whose rate and manner of growth they could control.

Houses, bridges, vehicles—even space ships—were formed of living matter which was thrown into a quiescent nonliving state when it had attained the form and size desired. And it could be caused to become active again at will, permitting such extraordinary features as the blisterlike connection that had been made by the space ship with the hull of the *Adastra*.

So far, the Centaurian civilization was strange enough, but still comprehensible. Even men might have progressed in some such fashion had civilization developed on Earth from a different point of departure. It was the economics of the Centaurians which was at once understandable and horrifying to the men who learned of it.

The Centaurian race had developed from carnivorous plants, as men from carnivorous forebears. But at some early date in man's progression, the worship of gold began. No such diversion of interest occurred upon the planets of Proxima Centauri. As men have devastated cities for gold, and have cut down forests and gutted mines and ruthlessly destroyed all things for gold or for other things which could be exchanged for gold, so the Centaurians had quested animals.

As men exterminated the buffalo in America, to trade his hide for gold, so the Centaurians had ruthlessly exterminated the animal life of their planet. But to Centaurians, animal tissue itself was the equivalent of gold. From sheer necessity, ages since, they had learned to tolerate vegetable foodstuffs. But the insensate lust for flesh remained. They had developed methods for preserving animal food for indefinite periods. They had dredged their seas for the last and smallest crustacean. And even space travel became a desirable thing in their eyes, and then a fact, because telescopes showed them vegetation on other planets of their sun, and animal life as a probability.

Three planets of Proxima Centauri were endowed with climates and atmospheres favorable to vegetation and animal life, but only on one planet now, and that the smallest and most distant, did any trace of animal life survive. And even there the Centaurians hunted feverishly for the last and dwindling colonies of tiny quadrupeds which burrowed hundreds of feet below a frozen continent.

It became clear that the *Adastra* was an argosy of such treasure—in the form of human beings—as no Centaurian could ever have imagined to exist. And it became more than ever clear that a voyage to Earth would command all the resources of the race. Billions of human beings! Trillions of lesser animals! Uncountable Creatures in the seas! All the Centaurian race would go mad with eagerness to invade this kingdom of riches and ecstasy, the ecstasy felt by any Centaurian I when consuming the prehistoric foodstuff of his race.

v

Egg-shaped, featureless ships of space closed in from every side at once. The thermometer banks showed a deliberate, painstaking progression of alarm signals. One dial glowed madly red and faded, and then another, and yet another, as the Centaurian ships took up the momentary impact of a radiation beam on the *Adastra's* hull.

Twenty minutes after the last of the beams had proved the *Adastra's* helplessness, an egglike ship approached the Earth vessel and with complete precision made contact with its forward side above an air lock. Its hull bellied out in a great blister which adhered to the steel.

Alstair watched the visiplat which showed it, his face very white and his hands clenched tightly. Jack Gary's voice, strained and hoarse, came from the biology-laboratory communicator.

"Sir, a message from the Centaurians. A ship has landed on our hull and its crew will enter through the air lock. A hostile move on our part, of course, will mean instant destruction."

"There will be no resistance to the Centaurians," said Alstair harshly. "It is my order! It would be suicide!"

"Even so, sir," said Jack's voice savagely, "I still think it would be a good idea!"

"Stick to your duty!" rasped Aistair. "What progress has been made in communication?"

"We have vocabulary cards for nearly five thousand words. We can converse on nearly any subject, and all of them are unpleasant. The cards are going through a duplicator now and will be finished in a few minutes. A second dictawriter with the second file will be sent you as soon as the cards are complete."

In a visiplat, Aistair saw the headless figures of Centaurians emerging from the entrance to an air lock in the *Adastra's* hull.

"Those Centaurians have entered the ship," he snapped as an order to

Jack. "You're communications officer! Go meet them and lead their commanding officer here!"

"Check!" said Jack grimly.

It sounded like a sentence of death, that order. In the laboratory he was very pale indeed. Helen pressed close to him.

The formerly captive Centaurian hooted into the dictawriter, inquiringly. The speaker translated.

"What—command?"

Helen explained. So swiftly does humanity accustom itself to the incredible that it seemed almost natural to address a microphone and hear the hoots and stridulations of a nonhuman voice fill the room with her meaning.

"I—go—also—they—no—kill—yet."

The Centaurian rolled on before. With an extraordinary dexterity, he opened the door. He had merely seen it opened. Jack took the lead. His side-arm force gun remained in its holster beside him, but it was useless. He could probably kill the plant man behind him, but that would do no good.

Dim hootings ahead. The plant man made sounds—loud and piercing sounds. Answers came to him. Jack came in view of the new group of invaders. There were twenty or thirty of them, every one armed with half-cylindrical objects, larger than the first creatures had carried.

At sight of Jack there was excitement. Eager trembling of the armlike tentacles at either side of the headless trunks. There were instinctive, furtive movements in the direction of the weapons. A loud hooting as of command. The Things were still. But Jack's flesh, crawled from the feeling of sheer, carnivorous lust that seemed to emanate from them.

His guide, the former captive, exchanged incomprehensible noises with the newcomers. Again a ripple of excitement in the ranks of the plant men.

"Come," said Jack curtly.

He led the way to the main control room. Once they heard someone screaming monotonously. A woman cracked under the coming of doom. A hooting babble broke the silence among the ungainly Things which followed Jack. Again an authoritative note silenced it.

The control room. Alstair looked like a man of stone, of marble, save that his eyes burned with a fierce and almost maniacal flame. A visiplat beside him showed a steady stream of Centaurians entering through a second air lock. There were hundreds of them, apparently. The dictawriter came in, under Helen's care. She cried out in instinctive horror at the sight of so many of the monstrous creatures at once in the control room.

"Set up the dictawriter," said Alstair in a voice so harsh, so brittle that it seemed pure ice. Trembling, Helen essayed to obey. "I am ready to talk," said Alstair harshly into the dictawriter microphone.

The machine, rustling softly, translated. The leader of the new party hooted in reply. An order for all officers to report here at once, after setting all controls for automatic operation of the ship. There was some difficulty with the translation of the Centaurian equivalent of "automatic." It was not in the vocabulary file. It took time.

Alstair gave the order. Cold sweat stood out upon his face, but his self-control was iron.

A second order, also understood with a certain amount of difficulty. Copies of all technical records, and all—again it took time to understand—all books bearing on the construction of this ship were to be taken to the air lock by which these plant men had entered. Samples of machinery, generators, and weapons to the same destination.

Again Alstair gave the order. His voice was brittle, was even thin, but it did not falter or break.

The Centaurian leader hooted an order over which the dictawriter rustled in vain. His followers swept swiftly to the doors of the control room. They

passed, out, leaving but four of their number behind. And Jack went swiftly to Alstair. His force gun snapped out and pressed deep into the commander's middle. The Centaurians made no movement of protest.

"Damn you!" said Jack, his voice thick with rage. "You've let them take the ship! You plan to bargain for your life! Damn you, I'm going to kill you and fight my way to a rocket tube and send this ship up in a flare of clean flame that'll kill these devils with us!"

But Helen cried swiftly: "Jack! Don't! I know!" Like, an echo her words—because she was near the dictawriter microphone—were repeated in the hooting sounds of the Centaurian language. And Alstair, livid and near to madness, nevertheless said harshly in the lowest of tones: "You fool! These devils can reach Earth, now they know it's worth reaching! So even if they kill every man on the ship but the officers—and they may—we've got to navigate to their planet and land there." His voice dropped to a rasping whisper and he raged almost soundlessly: "And if you think I want to live through what's coming, shoot!"

Jack stood rigid for an instant. Then he stepped back. He saluted with an elaborate, mechanical precision.

"I beg your pardon, sir," he said unsteadily. "You can count on me hereafter."

One of the officers of the *Adastra* stumbled into the control room. Another. Still another. They trickled in. Six officers out of thirty.

A Centaurian entered with the curious rolling gait of his race. He went impatiently to the dictawriter and made noises.

"These—all—officers?" asked the machine tonelessly.

"The air officer shot his family and himself," gasped a subaltern of the air department. "A bunch of Muts charged a rocket tube and the rocket chief fought them off. Then he bled to death from a knife in his throat. The stores officer was—"

"Stop!" said Alstair in a thin, high voice. He tore at his collar. He went to the microphone and said thinly: "These are all the officers still alive. But we can navigate the ship."

The Centaurian—he wore a wide band of leather about each of his arms and another about his middle—waddled to the G.C. phone. The tendrils at the end of one arm manipulated the switch expertly. He emitted strange, formless sounds—and hell broke loose!

The visiplates all over the room emitted high-pitched, squealing sounds. They were horrible. They were ghastly. They were more terrible than the sounds of a wolf pack hard on the heels of a fear-mad deer. They were the sounds Jack had heard when one of the first invaders of the *Adastra* saw a human being and killed him instantly. And other sounds came out of the visiplates, too. There were human screams. There were even one or two explosions.

But then there was silence. The five Centaurians in the control room quivered and trembled. A desperate bloodlust filled them, the unreasoning, blind, instinctive craving which came of evolution from some race of carnivorous plants become capable of movement through the desperate need for food.

The Centaurian with the leather ornaments went to the dictawriter again. He hooted in it:

"Want-two-men-go-from-ship-learn-from-them-now." There was an infinitely tiny sound in the main control room. It was a drop of cold sweat, falling from Alstair's face to the floor. He seemed to have shriveled. His face was an ashy gray. His eyes were closed. But Jack looked steadily from one to the other of the surviving officers.

"That will mean vivisection, I suppose," he said harshly. "It's certain they plan to visit Earth, else-intelligent as they are—they wouldn't have wiped out everybody but us. Even for treasure. They'll want to try out weapons



on a human body, and so on. Communications is about the most useless of all the departments now, sir. I volunteer."

Helen gasped: "No, Jack! No!"

Aistair opened his eyes. "Gary has volunteered. One more man to volunteer for vivisection." He said it in the choked voice of one holding to sanity by the most terrible of efforts. "They'll want to find out how to kill men. Their thirty-centimeter waves didn't work. They know the beams that melted our hull wouldn't kill men. I can't volunteer! I've got to stay with the ship!" There was despair in his voice. "One more man to volunteer for these devils to kill slowly!"

Silence. The happenings of the past little while, and the knowledge of what still went on within the Adastras's innumerable compartments, had literally stunned most of the six. They could not think. They were mentally dazed, emotionally paralyzed by the sheer horrors they had encountered.

Then Helen stumbled into Jack's arms. "I'm going, too!" she gasped. "We're—all going to die! I'm not needed! And I can—die with Jack."

Alstair groaned. "Please!"

"I'm—going!" she panted. "You can't stop me! With Jack! Whither thou goest—"

Then she choked. She pressed close. The Centaurian of the leather belts hooted impatiently into the dictawriter, "These—two—come."

Alstair said in a strange voice: "Wait!" Like an automaton, he moved to his desk. He took up an clectropen. He wrote, his hands shaking. "I am mad," he said thinly. "We are all mad. I think we are dead and in hell. But take this."

Jack tucked the official order slip in his pocket. The Centaurian of the leather bands hooted impatiently. He led them, with his queer, rolling gait, toward the air lock by which the plant men had entered. Three times they were seen by roving Things, which emitted that tnply horrible shrill squeal. And each time the CeDtaurian of the leather bands hooted authoritatively and the plant men withdrew.

Once, too, Jack saw four creatures swaying backward and forward about something on the floor. He reached out his hands and covered Helen's eyes until they were past. They came to the air lock. Their guide pointed

through it. The man and the girl obeyed. Long, rubbery tentacles seized them and Helen gasped and was still. Jack fought fiercely, shouting her name. Then something struck him savagely. He collapsed.

He came back to consciousness with a feeling of tremendous weight upon him. He stirred, and with his movement some of the oppression left him. A light burned, not a light such as men know on Earth, but a writhing flare which beat restlessly at the confines of a transparent globe which contained it. There was a queer smell in the air, too, an animal smell. Jack sat up. Helen lay beside him, unconfined and apparently unhurt. None of the Centaurians seemed to be near.

He chafed her wrists helplessly. He heard a stuttering sound and with each of the throbs of noise felt a momentary acceleration. Rockets, fuel rockets.

"We're on one of their damned ships!" said Jack coldly. He felt for his force gun. It was gone.

Helen opened her eyes. She. stared vaguely about. Her eyes fell upon Jack. She shuddered suddenly and pressed close to him.

"What—what happened?"

"We'll have to find out," replied Jack grimly.

The floor beneath his feet careened suddenly. Instinctively, he glanced at a porthole which until then he had only subconsciously noted. He gazed out into the utterly familiar blackness of space, illuminated by very many tiny points of light which were stars. He saw a ringed sun and points of light

which were planets.

One of those points of light was very near: Its disk was perceptible, and polar snow caps, and the misty alternation of greenish areas which would be continents with the indescribable tint which is ocean bottom when viewed from beyond a planet's atmosphere.

Silence. No hootings of that strange language without vowels or consonants which the Centaurians used. No sound of any kind for a moment.

"We're heading for that planet, I suppose," said Jack quietly. "We'll have to see if we can't manage to get ourselves killed before we land."

Then a murmur in the distance. It was a strange, muted murmur, in nothing resembling the queer notes of the plant men. With Helen clinging to him, Jack explored cautiously, out of the cubby-hole in which they had awakened. Silence save for that distant murmur. No movement anywhere. Another faint stutter of the rockets, with a distinct accelerative movement of the whole ship. The animal smell grew stronger. They passed through a strangely shaped opening and Helen cried out: "The animals!"

Heaped higgledy-piggledy were cages from the Adastras, little-compartments containing specimens of each of the animals which had been bred from for food, and which it had been planned to release if a planet suitable for colonization revolved about Proxima Centauri. Farther on was an indescribable mass of books, machines, cases of all sorts—the materials ordered to be carried to the air lock by the leader of the plant men. Still no sign of any Centaurian.

But the muted murmur, quite incredibly sounding like a human voice, came from still farther ahead. Bewildered, now, Helen followed as Jack went still cautiously toward the source of the sound.

They found it. It came from a bit of mechanism cased in with the same lusterless, dull brown stuff which composed the floor and walls and every part of the ship about them. And it was a human voice. More, it was Alstair's, racked and harsh and half hysterical.

"—you must have recovered consciousness by now, damnit, and these devils want some sign of it! They cut down your acceleration when I told them the rate they were using would keep you unconscious! Gary! Helen! Set off that signal!"

A pause. The voice again: "I'll tell it again. You're in a space ship these fiends I am guiding by a tight beam which handles the controls. You're going to be set down on one of the planets which once contained animal life. It's empty now, unoccupied except by plants. And you and the space ship's cargo of animals and books and so on are the reserved, special property of the high, archfiend of all these devils. He had you sent in an outside-controlled ship because none of his kind could be trusted with such treasure as you and the other animals!

"You're a reserve of knowledge, to translate our books, explain our science, and so on. It's forbidden for any other space ship than his own to land on your planet. Now will you send that signal? It's a knob right above the speaker my voice is coming out of. Pull it three times, and they'll know you're all right and won't send another ship with, preservatives for your flesh lest a priceless treasure go to waste!"

The tinny voice—Centaurian receptors were not designed to reproduce the elaborate phonetics of the human voice—laughed hysterically.

Jack reached up and pulled the knob, three times. Alstair's voice went on: "This ship is hell, now. It isn't a ship any more, but a sort of brimstone pit. There are seven of us alive, and we're instructing Centaurians in the operation of the controls. But we've told them that we can't turn off the rockets to show their inner workings, because to be started they have to have a planet's mass near by, for deformation of space so the reaction can be started. They're keeping us alive until we've shown them that. They've got

some method of writing, too, and they write down everything we say, when it's translated by a dictawriter. Very scientific—"

The voice broke off. "Your signal just came," it said an instant later.

"You'll find food somewhere about. The air ought to last you till you land. You've got four more days of travel. I'll call back later. Don't worry about navigation. It's attended to,"

The voice died again, definitely.

The two of them, man and girl, explored the Centaurian space ship. Compared to the *Adastra*, it was miniature. A hundred feet long, or more, by perhaps sixty feet at its greatest diameter. They found cubbyholes in which there was now nothing at all, but which undoubtedly at times contained the plant men packed tightly.

These rooms could be refrigerated, and it was probable that at a low temperature the Centaurians reacted like vegetation on Earth in winter and passed into a dormant, hibernating state. Such an arrangement would allow of an enormous crew being carried, to be revived for landing or battle.

"If they refitted the *Adastra* for a trip back to Earth on that basis," said Jack grimly, "they'd carry a hundred and fifty thousand Centaurians at least. Probably more."

The thought of an assault upon mankind by these creatures was an obsession. Jack was tormented by it. Womanlike, Helen tried to cheer him by their own present safety.

"We volunteered for vivisection," she told him pitifully, the day after their recovery of consciousness, "and we're safe for a while, anyhow. And—we've got each other—"

"It's time for Alstair to communicate again," said Jack harshly. It was nearly thirty hours after the last signing off. Centaurian routine, like Earth discipline on terrestrial space ships, maintained a period equal to the planet's daily rotation as the unit of time. "We'd better go listen to him."

They did. And Alstair's racked voice came from the queerly shaped speaker. It was more strained, less sane, than the day before. He told them of the progress of the Things in the navigation of the *Adastra*. The six surviving officers already were not needed to keep the ship's apparatus functioning. The air-purifying apparatus in particular was shut off, since in clearing the air of carbon dioxide it tended to make the air unbreathable for the Centaurians.

The six men were now permitted to live that they might satisfy the insatiable desire of the plant men for information. They lived a perpetual third degree, with every resource of their brains demanded for record in the weird notation of their captors. The youngest of the six, a subaltern of the air department, went mad under the strain alike of memory and of anticipation. He screamed senselessly for hours, and was killed and his body promptly mummified by the strange, drying chemicals of the Centaurians. The rest were living shadows, starting at a sound.

"Our acceleration's been changed," said Alstair, his voice brittle. "You'll land just two days before we settle down, on the planet these devils call home. Queer they've no colonizing instinct. Another one of us is about to break, I think. They've taken away our shoes and belts now, by the way. They're leather. We'd take a gold band from about a watermelon, wouldn't we? Consistent, these—"

And he raged once, in sudden hysteria: "I'm a fool! I sent you two off together while I'm living in hell! Gary, I order you to have nothing to do with Helen! I order that the two of you shan't speak to each other! I order that—"

Another day passed. And another. Alstair called twice more. Each time, by his voice, he was more desperate, more nerve-racked, closer to the bounds of madness. The second time he wept, the while he cursed Jack for being where there were none of the plant men.

"We're not interesting to the devils, now, except as animals. Our brains don't count. They're gutting the ship systematically. Yesterday they got the earthworms from the growing area where we grew crops! There's a guard on each of us now. Mine pulled out some of my hair this morning and ate it, rocking back and forth in ecstasy. We've no woolen shirts. They're animal!"

Another day still. Then Aistair was semihysterical. There were only three men left alive on the ship. He had instructions to give Jack in the landing of the egg-shaped vessel on the uninhabited world.

Jack was supposed to help. His destination, was close now. The disk of the planet which was to be his and Helen's prison filled half the heavens. And the other planet toward which the Adastra was bound was a full-sized disk to Alstair.

Beyond the rings of Proxima Centauri there were six planets in all, and the prison planet was next outward from the home of the plant men. It was colder than was congenial to them, though for a thousand years their flesh-hunting expeditions had, searched its surface until not a mammal or a bird, no fish or even a crustacean was left upon it. Beyond it again an ice-covered world lay, and still beyond there were frozen shapes whirling in emptiness.

"You know, now, how to take over when the beam releases the atmospheric controls," said Alstair's voice. It wavered as if he spoke through teeth which chattered from pure nerve strain. "You'll have quiet. Trees and flowers and something like grass, if the pictures they've made mean anything. We're running into the greatest celebration in the history of all hell. Every space ship called home. There won't be a Centaurian on the planet who won't have a tiny shred of some sort of animal matter to consume. Enough to give him that beastly delight they feel when they, get hold of something of animal origin.

"Damn them! Every member of the race! We're the greatest store of treasure ever dreamed of! They make no bones of talking before me, and I'm mad enough to understand a good bit of what they say to each other.

Their most high panjandrum is planning bigger space ships than were ever grown before. He'll start out for Earth with three hundred space ships, and most of the crews asleep or hibernating. There'll be three million devils straight from hell on those ships, and they've those damned beams that will fuse an earthly ship at ten million miles."

Talking helped to keep Aistair sane, apparently. The next day Jack's and Helen's egg-shaped vessel dropped like a plummet from empty space into an atmosphere which screamed wildly past its smooth sides. Then Jack got the ship under control and it descended slowly and ever more slowly and at last came to a cushioned stop in a green glade hard by a forest of strange but wholly reassuring trees. It was close to sunset on this planet, and darkness fell before they could attempt exploration. They did little exploring, however, either the next day or the day after. Alstair talked almost continuously.

"Another ship coming. from Earth," he said, and his voice cracked. "Another ship! She started at least four years ago. She'll get here in four years more. You two may see her, but I'll be dead or mad by tomorrow night! And here's the humorous thing! It seems to me that madness is nearest when I think of you, Helen, letting Jack- kiss you! I loved you, you know, Helen, when I was a man, before I became a corpse watching my ship being piloted into hell. I loved you very much. I was jealous, and when you looked at Gary with shining eyes I hated him. I still, hate him, Helen! All, how I hate him!" But Alstair's voice was the voice of a ghost, now, a ghost in purgatory. "And I've been a fool, giving him that order."

Jack walked about with abstracted, burning eyes. Helen put her hands on his shoulders and he spoke absently to her, his voice thick with hatred. A desperate, passionate lust to kill Centaurians filled him. He began to hunt among the machines. He became absorbed, assembling a ten-kilowatt vortex gun from odd contrivances. He worked at it for many hours. Then he heard Helen at

work, somewhere. She seemed to be struggling. It disturbed him. He went to see.

She had just dragged the last of the cages from the *Adastra* out into the open. She was releasing the little creatures within. Pigeons soared eagerly above her. Rabbits, hardly hopping out of her reach, munched delightedly upon the unfamiliar but satisfactory leafed vegetation underfoot.

She browsed. There were six of them besides a tiny, wobbly-legged lamb. Chickens pecked and scratched. But there were no insects on this world. They would find only seeds and green stuff. Four puppies rolled ecstatically on scratchy green things in the sunlight.

"Anyhow," said Helen defiantly. "They can be happy for a while! They're not like us! We have to worry! And this world could be a paradise for humans!"

Jack looked somberly out across the green and beautiful world. No noxious animals. No harmful insects. There could be no diseases on this planet, unless men introduced them of set purpose. It would be a paradise.

The murmur of a human voice came from within the space ship. He went bitterly to listen. Helen came after him. They stood in the strangely shaped cubby-hole which was the control room. Walls, floors, ceiling, instrument-cases—all were made of the lusterless dark brown stuff which had grown into the shapes, the Centaurians desired. Aistair's voice was strangely more calm, less hysterical, wholly steady.

"I hope you're not off exploring somewhere, Helen and Gary," it said from the speaker. "They've had a celebration here today. The *Adastra's* landed. I landed it. I'm the only man left alive. We came down in the center of a city of these devils, in the middle of buildings fit to form the headquarters of hell. The high panjandrum has a sort of palace right next to the open space where I am now.

"And today they celebrated. It's strange how much animal matter there was on the *Adastra*. They even found horsehair stiffening in the coats of our uniforms. Woolen blankets. Shoes. Even some of the soaps had an animal origin, and they 'refined' it. They can recover any scrap of animal matter as cleverly as our chemists can recover gold and radium. Queer, eh?"

The speaker was silent a moment.

"I'm sane now," the voice said steadily. "I think I was mad for a while. But what I saw today cleared my brain. I saw millions of these devils dipping their arms into great tanks, great troughs, in which solutions of all the animal tissues from the *Adastra* were dissolved. The high panjandrum kept plenty for himself! I saw the things they carried into his palace, through lines of guards. Some of those things had been my friends. I saw a city crazy with beastly joy, the devils swaying back and forth in ecstasy as they absorbed the loot from Earth. I heard the high panjandrum hoot a sort of imperial address from the throne. And I've learned to understand quite a lot of those hootings.

"He was telling them that Earth is packed with animals. Men. Beasts. Birds, Fish in the oceans. And he told them that the greatest space fleet in history will soon be grown, which will use the propulsion methods of men, our rockets, Gary, and the first fleet will carry uncountable swarms of them to occupy Earth. They'll send back treasure, too, so that every one of his subjects will have such ecstasy, frequently, as they had today. And the devils, swaying crazily back and forth, gave out that squealing noise of theirs. Millions of them at once."

Jack groaned softly. Helen covered her eyes as if to shut out the sight her imagination pictured.

"Now, here's the situation from your standpoint," said Alstair steadily, millions of miles away and the only human being upon a planet of blood-lusting plant men. "They're coming here now, their scientists, to have me show them the inside workings of the rockets. Some others will come over to question you

two tomorrow. But I'm going to show these devils our rockets. I'm sure—perfectly sure—that every space ship of the race is back on this planet.

"They came to share the celebration when every, one of them got as a free gift from the grand panjandrum as much animal tissue as he could hope to acquire in a lifetime of toil. Flesh is a good bit more precious than gold, here. It rates, on a comparative scale, somewhere between platinum and radium. So they all came home. Every one of them! And there's a space ship on the way here from Earth. It'll arrive in four years more. Remember that!"

An impatient, distant hooting came from the speaker.

"They're here," said Alstair steadily. "I'm going to show them the rockets. Maybe you'll see the fun. It depends on the time of day where you are. But remember, there's a sister ship to the Adastra on the way! And Gary, that order I gave you last thing was the act of a madman, but I'm glad I did it. Good-by, you two!"

Small hooting sounds, growing fainter, came from the speaker. Far, far away, amid the city of fiends, Alstair was going with the plant men to show them the rockets' inner workings. They wished to understand every aspect of the big ship's propulsion, so that they could build— or grow—ships as large and carry multitudes of their swarming myriads to a solar system where animals were to be found.

"Let's go outside," said Jack harshly. "He said he'd do it, since he couldn't get a bit of a machine made that could be depended on to do it. But I believed he'd go mad. It didn't seem possible to live to their planet. We'll go outside and look at the sky."

Helen stumbled. They stood upon the green grass, looking up at the firmament above them. They waited, staring. And Jack's mind pictured the great rocket chambers of the Adastra. He seemed to see the strange procession enter it; a horde of the ghastly plant men and then Alstair, his face like marble and his hands as steady.

He'd open up the breach of one of the rockets. He'd explain the disintegration field, which collapses the electrons of hydrogen so that it rises in atomic weight to helium, and the helium to lithium, while the oxygen of the water is split literally into neutronium and pure force. Alstair would answer hooted questions. The supersonic generators he would explain as controls of force and direction. He would not speak of the fact that, only the material of the rocket tubes, when filled with exactly the frequency those generators produced, could withstand the effect of the disintegration field.

He would not explain that a tube started without those generators in action would catch from the fuel and disintegrate, and that any other substance save one, under any other condition save that one rate of vibration, would catch also and, that tubes, ship, and planet alike would vanish in a lambent purple flame.

No; Alstair would not explain that. He would show the Centaurians how to start the Caldwell field.

The man and the girl looked at the sky. And suddenly there was a fierce purple light. It dwarfed the reddish tinge of the ringed sun overhead. For one second, for two, for three, the purple light persisted. There was no sound. There was a momentary blast of intolerable heat. Then all was as before.

The ringed sun shone brightly. Clouds like those of Earth floated serenely in a sky but a little less blue than that of home. The small animals from the Adastra munched contentedly at the leafy stuff underfoot. The pigeons soared joyously, exercising their wings in full freedom.

"He did it," said Jack. "And every space ship was home. There aren't any more plant men. There's nothing left of their planet, their civilization, or their plans to harm our Earth."

Even out in space, there was nothing where the planet of the Centaurians had been. Not even steam or cooling gases. It was gone as if it had never

existed. And the man and woman of Earth stood upon a planet which could be a paradise for human beings, and another ship was coming presently, with more of their kin.

"He did it!" repeated Jack quietly. "Rest his soul! And we—we can think of living, now, instead of death."

The grimace of his face relaxed slowly. He looked down at Helen. Gently, he put his arm about her shoulders. She pressed close, gladly, thrusting away all thoughts of what had been. Presently she asked softly: "What, was that last order Alstair gave you?"

"I never looked," said Jack.

He fumbled in his pocket. Pocketworn and frayed, the order slip came out. He read it and showed it to Helen. By statutes passed before the *Adastra* left Earth, laws and law enforcement on the artificial planet were intrusted to the huge ship's commander. It had been specially- provided that a legal marriage on the *Adastra* would be constituted by an official order of marriage signed by the commander. And the slip handed to Jack by Alstair, as Jack went to what he'd thought would be an agonizing death, was such an order. It was, in effect, a marriage certificate.

They smiled at each other, those two.

"It—wouldn't have mattered," said Helen uncertainly. "I love you. But I'm glad!"

One of the freed pigeons found a straw upon the ground. He tugged at it. His mate inspected it solemnly. They made pigeon noises to each other. They flew away with the straw. After due discussion, they had decided that it was an eminently suitable straw with which to begin the building of a nest.