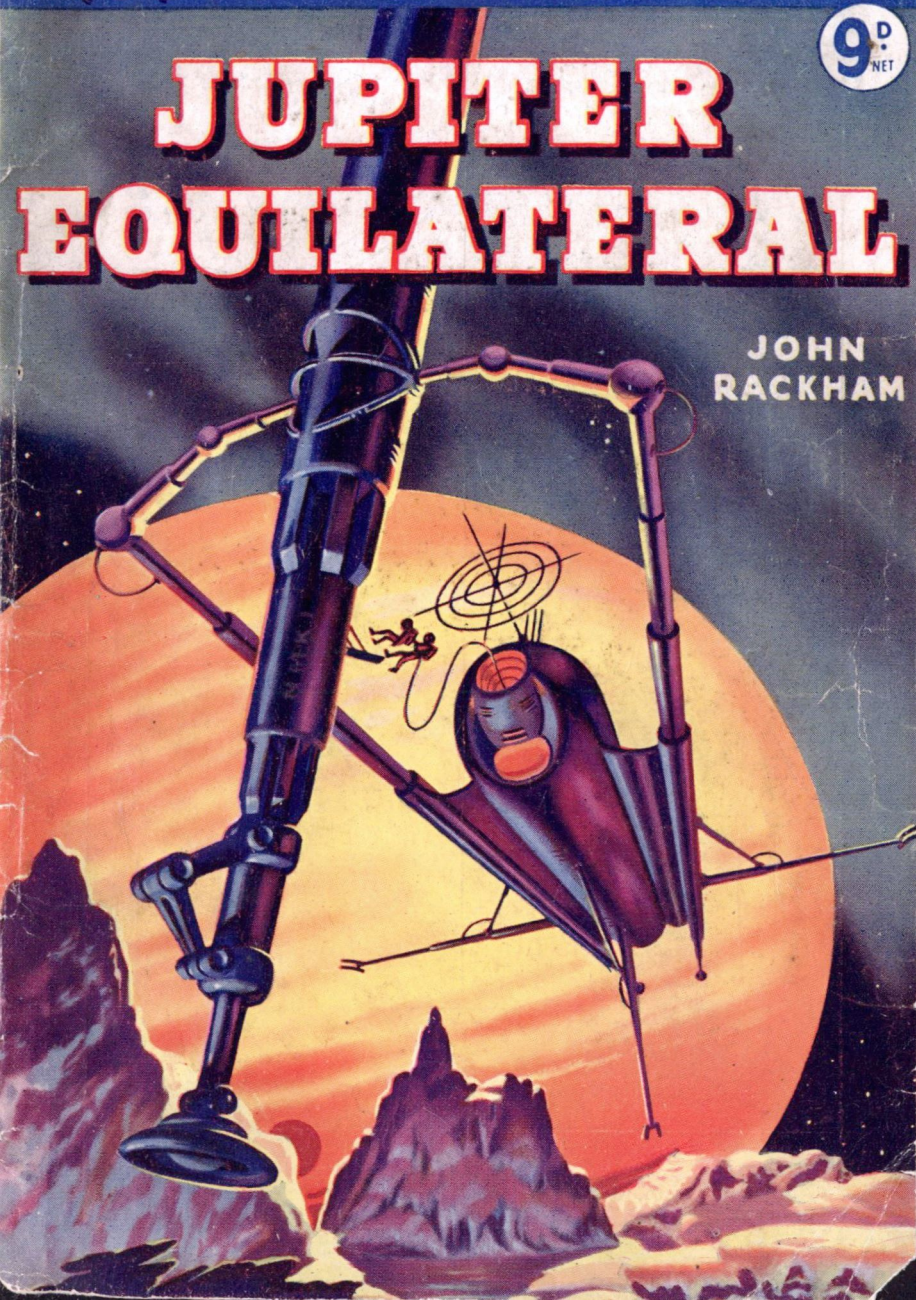


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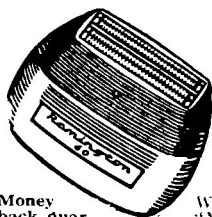
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JUPITER EQUILATERAL

BY

JOHN RACKHAM

Author of

"SPACE PUPPET," "THE MASTER WEED," etc.

CHAPTER ONE.

JOE GANLEY was a miner. He was a small almost frail man, with a thinning crop of bleached yellow hair, a startling tan, and sharp blue eyes, perpetually peering through old-fashioned steel-rimmed glasses. The conventional miner would have looked derisively at his puny build, but would have been as useless at Joe's job as Joe would have been with a pick and shovel, for his mine was the vast, and almost empty spaces which lie beyond the orbit of Mars. Joe was an asteroid miner, a job requiring in high degree the qualities of patience, perseverance and the ability to live alone for long periods, together with a better than average knowledge of metallurgy, mechanics and astrogation. His own chosen area of operations was that group of asteroids which lie in the orbit of Jupiter, but sixty degrees ahead of that planet in its flight round the Sun, known as the Trojans.

He was busy tinkering with an experimental radio-hookup, trusting to his radar-scanner to keep look-out for him, when a slight change in the monotonous *beeping* made him look up and glide over to his control panel. There a slight touch of reactor-jets corrected his course 'till his ungainly 'dredger' was headed directly towards the still distant object. He strapped himself into his seat.

"Just my luck if this is a good one," he complained, aloud, "and me on my way home, too, with a full box. I betcha this is the 'hot' one I got on the screen last week." He thought back to that moment, five days ago, when his gamma-ray detector screen had registered a burst of activity in this direction. He swung it round, now, and noted that it showed faint sparkles.

"Just about died out by this time," he concluded, and his face showed his mystification, "unless it was a ship had an accident, in which case, all I'm going to find is dust. But it can't be that, either," he contradicted himself, "not with that blip on the radar." His curiosity began to mount, and he could hardly wait for the object to come close enough to be visible in his televiewer.

"It's a ship, sure enough!" he marvelled, "don't look damaged, either. Had a bad dose of radiation, though. I'd better get ready to go alongside ; maybe there's someone still alive on her."

He ran off a routine call on the radio, which was effective at this range, but got no reply. This confirmed his decision, and he began to manoeuvre his ungainly craft to come alongside the derelict. Long experience in handling the dredger made this a simple matter of routine and soon he was able to clamp the huge jaws of his grab on to the nearest landing foot and lock them into place. A few minutes later, in his space suit, he left the air-lock of his own craft, and walked carefully along the hull, paying out the safety line, feeling the click of his magnetic soles on the bright metal.

Inside the strange ship all appeared normal until he reached the control-room. There his first glance showed him a prone figure, and the awkwardness of its position told him, at once, that there was no life to be saved there.

"Broken neck," he mused, sending the body floating aside, "been dead some time, too." Then his eye lighted on a space-suit, almost hidden under the pile-control board. He tugged it out, and his motions were suddenly urgent as he found that it was occupied. He had seen enough of foul air toxicity to recognise that the woman in the suit was very nearly too far gone to be saved. Hastily, he roped the suit to his, and made his way back to his own ship, to strip off the suit, and reveal the body of an attractive girl. Her close-fitting coveral of nylon-wool was wet and foul, her face was grey and slack, but, as he watched, she began to inhale, painfully, writhing and coughing as the life-giving oxygen met her tortured tissues.

He studied her, sympathetically a moment.

"I'm sorry, I can't help you, lady," he murmured. "I've had some, and I know just how you're going to suffer, but there isn't any easy way. Just keep on fighting, you'll be O.K." He turned up his atmosphere plant to maximum, and went back to nose around the strange ship, leaving her to get on with the job of bringing herself back to life. When he returned, about half an hour later, he found her conscious, wretched, looking with weak revulsion at the shocking mess she had made in the tiny cabin, but very much alive and taking notice. Before taking off his suit he trapped the scattered globules of vomit with a disposable tissue, put them in the garbage-lock and shot them into space. Then he broke the seal of his helmet and took a cautious sniff. After that had satisfied him it was the work of a moment to shed the suit, stow it away, and get out the emergency rations.

"Hot soup," he said, holding out the self-heating plastibulb, "vitamin capsules, and protein chocolate. No talking, now. Get that lot inside of you first, talk later." She accepted in silence, and he went back to fiddling with his radio while she ate, hungrily. When she had finished he approached her again.

"How d'you feel now, better?"

"Very much," she nodded, gratefully, "but I'd like to get out of this suit, if it's possible. It smells."

"I guess that can be fixed," he grinned, "but I can't offer you anything fancy. Unless you have some duds on your ship?"

"The ship!" her eyes widened in sudden memory. "Yes, there are clothes there."

"Fair enough," he said. "There's a shower-cubicle; here's a spare inner-suit. When you're ready we'll go over and get what you want. That is, if you want to?"

"Marvin!—he's dead, isn't he?"

"If you mean that guy with the broken neck, yeah. He's dead, sure enough. Maybe I'd better go alone, huh? You tell me what you want—"

"No," she announced, determinedly, "I'll come with you. Nothing to be gained in worrying about dead bodies. Give me ten minutes."

Over the radio link he heard her gasp of surprise as they left the air-lock.

"You got the pile working again," she exclaimed. "How

did you do that ? It was dead when I tried it."

"The cat. trigger was racked out," he explained. "Weak locking-spring. Never known it to happen before. I guess I was lucky to think of it, but I've been doing quite a lot of experimenting with Norden pile theory lately. I spotted it right away." He heard the rage and frustration in her voice as she muttered "And I was all that time with a perfectly good ship, if only I had known what to do."

"Rough !" he commented, "but that's the way it is, sometimes."

Once inside the ship, she took off her helmet, disgustedly. He showed her the small lever which advanced the triggering radio-active catalyst, without which the pile was merely a hunk of complex but quite inert machinery.

"It's the last thing anyone would think of," he admitted, "and if it hadn't been for the faulty locking-spring it would never have come out anyway. Must have been a heck of an explosion to shake it loose."

"What do you know about the explosion ?" she demanded, her voice suddenly wary.

"Picked it up on my meter, five days ago. I wouldn't be here, if it hadn't been for that. When you're through here, you'll have to tell me all about it so's I can make my report."

"Report ? Do you have to report this ? And why can't I stay on this ship, now that it's working again ? After all, it is mine !"

"Not any more, it isn't," he told her, calmly. "Leaving aside the question of gratitude for saving your life, which doesn't matter a damn to me, this ship was derelict when I came along. It's mine by right of salvage, and should be worth about a million and a quarter credits. It depends on the insurance, of course, but I'd say at least that much. I don't think I need to explain about the report, do I ?"

"I never thought of it like that," she confessed, her voice subdued, "and you must forgive me for not sounding very grateful. I guess I'm still a bit confused. I'll get my things."

When they were back in the dredger's cabin again, he took the opportunity to study her a bit more closely. She had dressed herself in dark wine-red silk half-bolero and skirt, which matched well with her raven-black hair and vivid beauty. He judged her about twenty, and would have scorned the suggestion that she was nearly three times that much. Joe Ganley was not very experienced with women, and,

despite his air of calm, was somewhat at a loss as to the best way to handle this unusual situation. While he strove to make up his mind, she was racking her wits to devise a story to tell him, realising that he was no fool

"There isn't a lot I can tell you," she began, hesitantly. "I'm a psycho-therapist. Marvin Lacey, he was my mate ; he was a geologist. We were on our way to Nestor, myself to the clinic there, and Marvin to the research laboratories——"

"And the explosion ?" he prompted.

"I don't know anything about that," she admitted. "It just happened, that's all. I was knocked out. When I came round, he was dead, the ship was dead, only the emergency batteries were working, the atmosphere plant was out, so I got into a suit and tried to get things working again, but I couldn't. And then, after a long while, my suit-unit began to run out, too. And that's all I remember."

He considered this in silence, his thin face showing no sign of the doubt he felt. "All right," he said, at last. "That'll do, for now. We're headed for Nestor anyway, so you'll soon be able to substantiate your story. We should be there in about five days. You didn't tell me your name ?"

"I'm Nina Orloff," she said, softly, telling the truth, and vowing to herself that the information was never going to do him any good.

"I'm Joe Ganley," he replied, smiling. "Pleased to meet you." He made some brief notes on his log-sheet, then stuffed it away in a drawer.

"Know anything about radio ?" he asked, hopefully, and sighed as she shook her head.

"Go ahead and talk about it if you want to," she encouraged. "I'm always interested in anyone who talks 'shop,' and, you never know, I might ask the right questions !" He flushed with pleasure, and she saw at once, that any attempt to influence Joe would have to be made via his hobby. She prepared to listen, acutely.

"You know we don't have a really good space-radio yet," he began, "and that it's one thing we badly need. Oh, sure, we can transmit from ground to ship for about five hundred miles, sometimes, and maybe half that distance from ship to ship. There's a whole lot of factors involved ; interference, dispersal, cosmic radiation—but the main bug is power. We can actually broadcast from planet to planet ; say Earth to Mars ; but you should see the size of the installations needed."

"Anyway, there's the problem. To figure out a way of throwing a tight, interference-free beam, over several million miles without having to use a set the size of the ship. I'm convinced it's going to be done in the micro-wave band, if at all, and I spend most of my time on that. A couple of months ago, I got a funny answer." He tailed off into a thoughtful silence, and she had to prompt him to go on.

"I had knocked up a crazy rig, I'll show you." He pulled out a flat, plastic board, bearing an odd arrangement of coils and transistors topped by a large, funnel-shaped valve. "This," he tapped the fragile glass. "I made myself. See the little basket-coil inside? Anyway, what happened, I was tinkering with this, and I pointed it at the transport ship just out of Nestor. I was just one hour out from there myself, in 'free,' and I saw it going by, about a hundred miles away, and going like crazy, heading for Mars. Like I said, I pointed this little jigger at the ship, and the whole thing blew up in my face!"

"The ship?"

"No. My set. Craziest thing I ever saw, just like it had been overloaded, suddenly, and burned out."

"Maybe it was?"

"Couldn't be. It wasn't even hooked up to power!"

Nina furrowed her pretty brow in thought, but gave up the problem. "Doesn't mean a thing to me," she confessed, "What did you do then?"

"This is the real crazy part," he muttered, scratching his head, "I made another rig, just the same, and tried it on another ship. It belonged to Harry McCandless, he's a friend of mine. Leastways, he was. Don't reckon he would be if he knew. Y'see, this time I had her hooked up to low-power before I pointed it—and his pile quit, dead!"

Nina masked the sudden blaze of interest in her eyes under a show of unbelief. "You mean you pointed that little tube at a ship, and it affected the power-pile? That sounds a bit—well, you know!"

"Sure," he admitted, ruefully. "It don't make sense. But I've tried it a couple of other times. It works sure enough, but I don't get just why, or just what happens. Y'see, I couldn't very well go over to those other ships and ask them what the trouble was, not without them getting a hint that I must have done it!"

"And you have no theory?"

"Not a clue," he shook his head. "There ain't a spoonful of power in that rig, not that I can see. If only I could try

it out on a ship, and then get a look at it afterwards. Daren't try it out on my own piles just in case I can't get them going again."

"What about my ship!" she said, suddenly. "But, then, it means a lot of money to you——"

"Money!" he scorned her, "I've got all the credits I'll ever need. You might not think it, but I'm pretty well set, made a big strike couple of years back, got my own asteroid and everything. I'm going to try your ship. Want to help?"

Nina was only too willing, seeing possibilities in this discovery which had never entered the mind of Joe. It was several hours later when they stopped, weary, but jubilant, to itemise their results.

"Well," he sighed, happily, "it works. I know what it does, and that it does it for sure, but why? That's the bit I don't get!"

"What do you intend to do now?" she asked, curiously.

"I guess I'll take this to Space-Base on Earth, and let them get working on it. This could be dangerous in the wrong hands."

Nina nodded, slowly, thoughtfully, then——

"It's about time we had a rest, isn't it, Joe? I suppose you do have a sleep period, in this job?"

"I'm sorry," he said, instantly contrite. "I keep forgetting you have had a pretty rough time. Sure, we'll have some grub, and then you can have a snooze. I've a lot of figuring to do yet."

She made him be still, while she busied herself with the provision store, which had been considerably augmented by supplies from her own ship. He was much too engrossed in his problems to see her quick work with a hypodermic on the plastibulb of coffee which she handed to him.

"Perhaps it will help," she suggested, "if you try to explain it to me in simple terms. That sometimes makes things clearer, I've found. Sort of clears away the wrong assumption."

"All right," he agreed, willingly, squirting the dregs of the hot coffee into his mouth, expertly. "I'll be as simple as I can. First a run-down on the Norden pile. Magnesium slugs are triggered off in a powerful magnetic field by the presence of a small button of radio-active uranium. The fission products are trapped and re-fissioned in the secondary chamber. The end result is pure electron-energy. It's not quite as simple as that, of course, but that's it, basically. The beauty of the whole process is that there are no hard radia-

tions, and that the pile cannot be operated except between rigid limits. It will idle along on pretty low power, just as mine are doing now, but if you try to boost it above max. the magnesium slugs just melt. No," he corrected himself, quickly, "the thermostat cuts out the magnetic field and the pile dies. But——" he scratched his head again, "those slugs *melted*, I had 'em out and checked, and that just shouldn't happen!"

"Suppose," she suggested, "the temperature, or whatever, went up so quick that the thermostat didn't have time to cut out?"

"That could happen," he admitted, "but it would want a heck of a lot of power to do that, and, like I told you, there isn't more than a tickle in this little rig of mine. Besides, who ever heard of broadcast power of that amplitude?" She shrugged, admitting that the problem was over her head, but her dark eyes were watching him, intently. She saw him begin to rub his eyes, under his glasses. Little by little his face went slack, the skin fading to a dull grey under the dark space-tan.

"Joe —— Joe Ganley, listen to me," she said, her voice low, yet strong, seeming to fill the whole cabin with its insistence, "there was a drug in your coffee. I put it there."

"You put a drug in my coffee," he repeated after her, dully, without any sign of emotion. She smiled, gloatingly.

"You don't mind, do you, Joe?"

"I don't mind," he echoed, in that same dull tone.

"That drug was discovered by a colleague of mine, on Mars," she went on quietly, insistently. "It has the effect of cutting off the function of mind known as ideals. All those beliefs and ethics, standards and loyalties which you have acquired during your lifetime, all cut off from your consciousness. You now have a blank spot where they used to be. That blank spot is now mine, Joe. You will live for me, from now on. You will serve me, obey me, help me in every way. My goals will be your goals, my enemies will be your enemies. If necessary you will die for me. Do you understand, Joe?"

His slack face contorted momentarily, as the drugged intelligence made a last, despairing fight against this domination, then went limp again. He nodded, mechanically.

"You will smile, and feel happy about the whole thing," she told him, and he broke into a smile at once. "That's better!" she said, as one addressing a child. "Now, I'll tell you a bit

about the service you may be called upon to perform. First of all, you will be quite normal in all other respects. Second, you will be pleased to know that there are many others who share your service. And, not least, we have enemies !”

He shook his head, muzzily, then began to look eager, interested.

“Tell me more,” he demanded, “tell me how I can help, how I can be of service to you. Who are these enemies ?”

“Relax, Joe,” she soothed, mockingly. “It isn’t as urgent as all that, and, if you never do another thing you’ve shown me a weapon that is going to make all the difference.”

“A weapon ?”

“Of course,” she declared. “Give me a dozen ships, each one with a copy of your set-up here, and we can do what we like against any kind of opposition the Space-Service cares to put up.”

He gazed at her, wide-eyed, then took off his glasses and wiped them unnecessarily.

“Space-Service ?” he queried, weakly, “You going to start a war, or something ?”

“Not start it,” she corrected, grimly, “that’s already been done and I could mention one or two people who might think it’s all over. But they’re wrong. It’s only just beginning.” In brief, yet telling phrases she gave him the history of herself and Marvin Lacey, how that eccentric genius had perfected the gas which had first inspired visions of ruling the Solar System, and how, together with her, and her abilities as a chemist, and later, as a hypno-therapist, they had come within an ace of taking over the Mars colony. “This gas,” she mused, “causes instant unconsciousness, catalepsy, for about twenty minutes. Then it dissociates and passes through any container. Also, used in the right way, it has the effect of stopping age in living tissue. Look at me, Joe ! Tell me, how old do you think I am ?”

“Twenty, maybe twenty-five,” he answered, shakily, his flesh beginning to creep, despite the drugged devotion he felt.

She laughed, softly, and in that instant, despite her glowing eyes, velvety skin, and firm youthful curves, he knew her to be old, and evil.

“I shall be sixty, next birthday,” she told him, and her voice was suddenly bleak as she added, “Marvin was the same age as me. He’ll never be any older, now. We had a base out here, near where you found me, and a whole fleet of ships, which we had stolen by means of the gas. We had a crew of

helpers, just like you, Joe. Then, somehow, Space-Service got wise to us, they located Marvin and me. We were living on Mars as solid, respectable citizens, friends of the Governor. But who should show up but Sven Norden, and Gale, Commodore Gale of Space-Service. Don't forget those names, Joe!"

"That the Norden who invented this pile-drive?"

"The same, damn him! He and Gale and Marvin were all colleagues together when Space-Service was first formed. Marvin and I were supposed to be dead, killed in a crash in space. Soon as ever they spotted us, we knew we'd never fool 'em. They put a great big hunk of handsome flight-lieutenant on to me, fishing for information, so we lit out for base, and let them follow. We managed to alert our boys, but something went wrong, somewhere. They had only one ship, but they got all ours, and blew the base to blazes into the bargain."

"Maybe they've got weapons, too?" Joe suggested, but she shook her head.

"What would Space-Service do with weapons," she scorned. "There hasn't been any armed enemy, or war of any kind in forty years or more. We had radar-guided interceptor jet-torpedoes, with atomic warheads; we made 'em up from old specifications, just in case we did have to stop an opposing ship or two, but something must have gone wrong with them." She fell silent, her dark face moody with thought. "Still, she said, suddenly, "Gale, Norden and the rest will be back on Mars by this time, thinking they have wrapped it all up. They've got a shock coming, there, and it's up to me to provide them with another, from this end. Joe! tell me, how many more asteroid-miners are there, where do they hang-out when they're not out on the job, and how do I contact them?"

"About fifteen in this area," he guessed, "and they base on Nestor, but you can usually find 'em on the Joy Rock, when they're in from space. That's a little asteroid about a thousand miles from Nestor, and a bit closer than that to my place. What d'you want them for?"

"Fifteen men; fifteen ships" she murmured. "That will do very well for a start. Joe, you'd better get busy making some more pile-killers!"

CHAPTER TWO.

THE little, low-lying motor-boat pitched and rolled sluggishly in the oily swell of the Gulf Stream. In the thin,

grey light of dawn Joe peered through his glasses, to make out the ragged shore-line of the little island. He gave the engine a short burst, enough to point the bows in the right direction, then cut it to silence, letting the craft run in slowly to the sand. This side of the island was deserted, and he was able to run the boat well up on the sand, until it was almost hidden in the dense undergrowth which came close to the water. He paused only to squint at a compass, and shift the pistol at his waist to a more comfortable position, then, heavily he set out to find his way across the wilderness to the house which was his objective.

As his slight frame struggled to meet the still unfamiliar gravity-drag of Earth, Joe thought back over the six months that had passed since his meeting with Nina Orloff, how she had taken complete charge of his life, and all the other asteroid miners, one at a time ; how she now had a fleet of clumsy space-dredgers at her command, all armed with a copy of his inexplicable pile-killer.

He recalled her rage and fury, when the news broke on the radio, that an insurrection on Mars had been completely squashed, that all the conspirators were dead—the so-called ‘immortals’—and how his mates had laughed at the term, until they, too, learned that Nina was an ‘immortal,’ and that it was anything but a laughing matter. He saw her rage, and the memory of it shook him, even now.

“Gale and Norden, again, and that damned Fairless,” she had said, and her voice chilled him like a breath of the outer spaces. “This is their last fling, I swear.” And then she had given him his orders. He plodded on, feeling the first rays of the sun warm on his face. At last, a long, high roof came into view, and he began to exercise care. Half an hour later found him crouched in dense bushes, bordering an open space of smooth concrete, beyond which lay a jumble of buildings, dominated by one, huge, barn-like structure. All was silent, and Joe felt he could relax his caution a little. He had passed a few guard devices, but his years of pottering with radio and electronics had made their avoidance a simple matter. He was pretty confident that they, whoever they were, were unaware of his presence. He shifted the pistol again, and prepared to wait.

He woke, suddenly, to the sound of laughter. A glance at his watch, showed him that he had only dozed, and he sat up, cautiously, to study development. What he saw almost made him betray his presence with astonishment. The open space

in front of the barn-like building showed two figures, and, as he stared, rubbed his glasses, and stared again, he saw that they had rigged up a net, and were playing tennis. He spared one keen glance at the girl, accepting and dismissing the attractive picture she made, almost at once. At any other time he might have dwelt with more appreciation on the rich, red-gold hair glowing in the sunlight, on the laughing face, and the perfection of her form, flattered by the white sweater and brief shorts, but at this moment he had eyes only for her partner.

Here was a veritable Hercules of a man, yet swift and supple despite his bulk. The first sight of him, from the coppery red curls, Joe knew him to be Fairless. Nina had described the handsome Lieutenant well, but she had said nothing of supernatural powers. Joe stared again.

"Why would a man play tennis blindfold?" he asked himself, in awe. "And how does he do it, anyway?" Fairless was, indeed, playing with a white cloth tied round his eyes, and playing well, so that his pretty partner was being forced on the defensive again, and again. Joe shook his head, and gave up the problem. He fisted his pistol, examining it with care, took off the safety catch, then paused in indecision.

"Get Norden first, she said," he muttered. "Get *him*! Get the big Lieutenant, and Gale, as well, if you can, but GET NORDEN!" He shook his head again. "Guess I better wait," he decided, "Norden is bound to be around, somewhere." He laid the pistol in his lap, and prepared to wait a little longer. His fingers caressed the long barrel; he recalled the trouble he had had, getting it. 'It has to be dead accurate,' he had insisted, 'and firing an ultra-high-velocity bullet.' In the end he had succeeded in getting a gunsmith to modify a target-pistol for him, to suit his needs. The bullets were something else again. To look at, they were ordinary steel-jackets, but that steel had been poured, molten, into liquid air. 'All the setting stress is retained in the metal' the salesman had assured him, 'like a Rupert's Drop. On impact, the steel will fracture violently into thousands of slivers. Hit a bear with that and you'll just about tear it to pieces. Hardly a sporting bullet, if you'll forgive me saying so.' Joe had forgiven him, without a second thought.

He watched the play, curiously. Apparently the blindfold didn't hinder the man from following the flight of the ball, but he didn't seem to be satisfied, by the way he was shaking his head. At length he held up a hand to stop the girl, and

turned to call up to a window in the side of the big building.

"Hey, Steve, this won't do at all!"

"Why not, seems all right to me?" came a reply from a deep, rich rumbling voice, and Joe saw a white-haired head appear at the window.

"I can't open my eyes properly with the cloth pressing on them," Fairless explained. "It gets in my way. Throw the bag down. Let's try that!"

"O.K. Here it comes," and the white-haired man reappeared at the window, to throw down a black velvet bag. As Fairless ran to catch it, Joe recognised the ruddy face at the window, from descriptions. This was Norden! He estimated the range as a little over thirty-five yards, a long range for a pistol, but it was too good a chance to pass up. He wriggled himself comfortable, and raised the long barrel slowly, steadily. On the concrete below, Fairless had donned the black bag, which came down to his shoulders, and was looking around for the ball. As if to make Joe a better target, Norden propped himself on his elbows in the window, and leaned out a little, the better to see the play. Joe was just squeezing the trigger gently, when a bellow from Fairless made him start.

His stomach tied itself in knots as he saw the big Lieutenant come racing direct towards him, a weird figure in the black hood. In a panic he loosed off a shot at Norden, saw it hit the stonework of the window, tearing an ugly scar in the dull grey brick, then he threw down on Fairless and squeezed the trigger rapidly. At that range he could not miss all the time; he knew some of the deadly bullets must have found a mark, yet that giant figure came on without the slightest hesitation. Joe was suddenly cold, yet one thought filled his mind. Nothing could soak up those bullets and keep moving. He must have missed. The big figure was almost on top of him. With crazy deliberation Joe squeezed the trigger again, and again. He saw the slugs hit, saw the sleek, bronze skin pucker and rip as the steel splinters flew, and then there was a roaring in his ears, and he felt himself fall, down, deep down into the dark pit of unconsciousness.

He came slowly back up the slope to the world of living things, with a sound of voices faint in his ears, growing louder and more distinct.

"Quite a nasty bit of work, that."

"Yeah. Splinter slugs, too. This guy was sure playing for

results, good job you spotted him, Frank. He'd have had me for sure."

Joe smothered a groan, and sat up, cautiously. He was on the floor of a long low room strewn with electrical equipment of all sorts and sizes. Among other things, he recognised the erratic blue flicker of a mercury-arc rectifier, and the familiar, squat shape of a Norden pile-unit. The voices came from two men standing by the sunlit window. Norden, handling the pistol, was facing Joe, saw him sit up. He nudged Fairless, and they came slowly over to the little man on the floor. Joe, studying their faces, was startled out of his depressing sense of failure by the calm impersonal expressions they wore.

"What's it all about, son?" Norden asked gently. "By the look of you, you've come a long way just to try to kill me, or was it Frank you were after?"

"Both of you," Joe admitted, defeatedly, "my orders were to get you, and Fairless, and Gale——"

"And then, what?" Fairless demanded, softly, but urgently.

"What does it matter," Joe shrugged, weakly. "I failed, I guess. How did you know I'd come a long way?"

"No mistaking a space-tan, when you've seen as many as I have," Fairless told him, "and, just to check, we took a blood-count. You're just about at the tolerance limit for radiation-dosage, did you know that?" Joe nodded.

"You fellers certainly work fast," he sighed, "I was warned that it wouldn't be easy. Funny, I could have sworn I hit you, more than once but that can't be, else you wouldn't—" His voice was fading as he spoke, his face dulling and becoming visibly grey under the tan. The big Lieutenant stared, then clutched his companion's arm.

"Keep him talking, Steve. Ask him what he's going to do now. My bet is that he's been ordered to die if he fails. Give me thirty seconds and we'll see if I'm just imagining things." The last words came over his shoulder as he sped over to a control-panel, snatching up a length of heavy cable. "It's a good job we kept the circuit for the shock-treatment built up," he muttered, coming back to the corner with two bared ends of wire in his hands, "Did he say anything?"

"You're right, Frank!" Norden nodded. "He's willing himself to death. What put you on to it?"

"That look on his face. It's unmistakable, once you've seen it. This is going to burn him, I'm afraid. Haven't any plates handy. But it should work. Throw the switch, when I say."

He pressed the two bare ends one to each side of the forehead of the unconscious man. At his nod, the switch closed, there was a thump as a big solenoid shot home, the man on the floor stiffened as forty thousand volts of fractional amperage current surged through his brain. Fairless laid down the wires, and knelt by the unconscious body, holding the thin wrist.

"Well, Steve," he looked up at the burly scientist, "it looks as if it's our cue to say 'Here we go again,' doesn't it?"

"Sure looks that way," Norden agreed, his ice-blue eyes half-shut in deep thought. "Seems we overlooked some-body somewhere. But who, and how? Unless I miss my guess, this guy is from deep space. He's no Lunar or Martian, obviously, and that leaves only the asteroid belt. He could be a ferry-pilot——"

"No, not wearing glasses," Fairless contradicted. "Even the ferry-pilots are inducted through Space-Service, and they wouldn't take a sub-standard physique like this. Man, he only weighs about seven stone! There's only one thing he can be with that tan and radiation exposure. He must be a space-miner. We'll soon know, anyway. He's coming round."

The little figure on the floor stirred, groaned, and sat up. He raised trembling hands to his head and felt for the two tender spots there. Norden stepped to a bench, and returned with a tube of anti-pyretic paste.

"Keep still a minute," he ordered. "This'll kill the pain. We get burns like that all the time. This stuff will fix you up O.K." Joe held quite still till he had finished, his eyes flickering unsteadily, then, quite unaffectedly, and with obvious exhaustion, he lowered his head on his shaking hands, and began to cry. As the two men watched, awkwardly, a faint step apprised them of the arrival of a third party.

"Kate!" Fairless breathed, hurrying over to her. "It's all right. He was drugged, the way you were, remember?" She repressed a shudder, as she recalled her own enslavement by one of the 'immortals.' "I've just given him the shock treatment, but he's just about all-in. Can you whip up something in the way of a stimulant?"

By the time she returned with bottle and glasses, Joe had recovered enough to be able to stand.

"All right, now. Get this inside of you, and we'll go down to my study," Norden ordered, "and you can tell us all about it." He motioned to his niece to lead Joe away, putting out a gentle hand to restrain Fairless. "Not you, Frank," he

murmured. "Not yet!" The big space-man nodded in sudden understanding, and as soon as the room was clear, moved quickly to an open door which led to a tiny room. Once inside he shed his clothes rapidly, and stretched himself out on a low table which took up half the space of the cubicle. Norden retrieved the discarded garments, taking them over to another, darkened corner of the big room. There, in front of a three-dimensional tele-viewer, sat the real Frank Fairless, a copper and plastic skull-cap pressed tight over his curly head, electrodes hugging the back of his neck, a throat-mike clipped under his chin, the wires leading away to the amplifier at his side. Norden leaned over, cut the master-switch, and Fairless stood up, stretching himself hugely.

"Suspicious, Steve, or just being careful?" he queried, shedding his sweater and slacks, and climbing into the clothes the puppet had been wearing.

"Bit of both," Norden rumbled. "I guess our murderer has been tamed sure enough, but all the same, the less people who know about the puppet, the better I like it. Come on, let's go see what devil's brew is cooking, this time." They left the room together, shutting the door on that little cubicle where the zirco-beryl steel and plastic duplicate of a man rested, inert and lifeless.

"Now then, feel like talking?" Norden sat himself comfortably in a worn armchair, pulled out a stubby cigar, and puffed out a cloud of evil smelling smoke, the while studying Joe with open curiosity. The other two were no less curious, but, as he searched their faces, Joe saw there was still that same expression of calm. He found it unnerving, and said so.

"If only you'd cuss me, or get mad, or something, then I wouldn't feel so bad. But you just sit there, like I was a guest or something, and I tried to kill you. I didn't really mean to—at least, I did—but I didn't know what I was doing—"

"You can forget all that, son," Norden said, gently. "We know you were drugged and ordered against your will. Lucky for you, we've seen this thing before, and know how to handle it. Just in case you're at all worried, I can assure you that you're quite cured, now. What we want to know is why? Who sent you?"

"She says her name is Nina Orloff——" Joe began, hesitantly.

"What?!" At last Joe got the reactions he had missed,

and they made him duck back in his seat. The three facing him could not have been more surprised and incredulous if he had thrown a bomb in their faces.

"Nina Orloff!" Fairless breathed, unbelievably, "but that just can't be. It's impossible. What does she look like?"

"Kinda tall, I suppose," Joe faltered. "Pretty—well, I guess you'd say beautiful, but snaky; dark-haired, dark eyes, figure like a statue—I'm not very good on the descriptions—"

"You're doing all right," Norden growled. "How old would you say she was, about?"

"Funny you should ask that. She looks about twenty, or thereabouts, but she told me she was sixty, next birthday; said she was immortal. I didn't believe that, not till I heard all about those others you had the run-in with, on Mars." Fairless let out a long, sighing breath.

"That's the lady, right enough, Steve. But how the devil!"

"How did you come to meet up with her?" Norden asked. "Start at the beginning, and don't miss out anything."

"My name's Joe Ganley. I'm an asteroid miner, working out of Nestor in the Trojans. Maybe you know it?" Joe began, and went on to tell them about the derelict space-ship, and what he had found on it. By the time he had finished, there was a silence in the study, which was almost intense enough to be felt. Norden had forgotten to draw on his cigar, and as he moved to relight it, Fairless got to his feet, too restless to keep still.

"It all fits, Steve," he declared. "When we were having that mad scramble with their fleet, I remember the Commodore saying something of that kind, about there being one ship missing. They must have been making their get-away, leaving their dupes to be blown to pieces."

"It has its good points," Norden mused. "At least we do know that we're only up against one, this time, and she's definitely the last of the brood. You say she has fifteen space-dredgers?"

"That's right," Joe confirmed. "Including me, that is. I believe she has been doing some dirty work on the other group, too, but I can't be sure of that."

"What other group?" Kate wanted to know.

"The other Trojans!" Joe saw that her expression was still a blank. "There are two groups of asteroids," he explained, "in the orbit of Jupiter. One group is sixty degrees ahead of the planet. That's the group which contains Nestor, Achilles, Hector, Agamemnon, Odysseus, Ajax, Diomedes

and the rest. The other group is sixty degrees behind Jupiter. The main asteroids there are Patroclus, Anchises, Troilus, Priamus, Aeneas and a lot more."

"But how can they be in the same orbit as Jupiter?" Kate asked, wonderingly, "or is that a silly question?" Norden chuckled.

"This is no time to start explaining the 'three bodies' problem," he rumbled, "You'll have to look it up some time. The point at issue right now is whether Nina has managed to enslave more drifters from the other group. How likely do you think that is, Joe?"

"Hard to tell," he shrugged, "She'd been away some time, about seven-eight weeks when the news got through to Nestor, on the transport ship, about the big bust-up on Mars. Nestor has a mighty big radio sender, has to have, to keep in touch with the rest of the group. They put out the news from there, and she was back inside four days, just about crazy she was. That's when I got my orders."

"So, she might have been over to the follower group, but it's not very likely," Norden pondered. "Couldn't have achieved much in that time anyway. Where else might she have been, any idea?"

"Yeah," Joe nodded, his thin face screwed up with the effort to recall a vagrant memory. "She did give me an assignment, but all I can recall of it is the memory that it was to be a rendezvous for the whole crowd; a base of some kind." He thought hard, and the rest of them were silent, afraid to distract the process of memory. He shook his head, dismally. "Don't get it. I remember her saying 'You won't remember this till the time comes' but that's all!"

"Till what time comes, Joe?" Kate leaned forward as she asked the question, her voice quiet but firm. "You can remember that?"

"November first," he said, suddenly, and with some surprise, as if to add 'How did that happen?'

"Uncle Steve!" Kate turned to Norden. "I think, if I can have Joe alone for a little while, I might be able to get a little more out of him. It looks to me as if a lot of information has been smothered under hypnotic 'blocks.' You remember, Nina did this to us before, with that Martian nurse, and, considering her technique, I doubt if I'll get much, but I think it's worth trying. That's if Joe is agreeable?"

"I'll do anything I can to help, anything!" Joe declared.

The burly, white-haired scientist stared at the little space-miner, and smiled, without humour.

"You might not feel so keen, if what I'm thinking turns out to be right," he warned, grimly. "But, anyway, you go with Kate, here, and see what you can dig up. On your way out, Kate, have Fallon and Zennar step up here, will you! And, Kate—don't tell Joe anything that he doesn't already know." He smiled that same grim smile at their puzzled looks. "It's not that I don't trust you, son. I have my reasons. I'll tell you all about them, in good time."

"D'you catch my drift, Frank?" he turned, curiously, to the big Lieutenant, "or am I being mysterious?" Fairless shook his head.

"I was with you a long way back," he murmured, "and I think Joe isn't going to like the prospect very much, but I think he'll do it. I hope so, anyway. At this stage, it looks as though he's about our best card, and we haven't many."

"Maybe Thomas can think up another for us," Norden growled, as two men appeared in the doorway of the study. "Come on in, Tom, and you Fallon. We've got a problem, just in your line."

Tom Zennar was a big, awkward man, who would have looked more at home driving a truck, than he did now, settling heavily into a chair which groaned beneath his weight. His companion, slim, precise and, as always, faultlessly groomed, could have passed for a company lawyer by any test of appearance and manner. Yet Fallon, who had no other name that anyone had ever heard, was the wild thinker of the pair. It was to him that Norden looked for the unorthodox, often crazy-sounding approach to problems, and to Tom Zennar for the slow, methodical, analytical break-down into workable science of his companion's schemes.

"Sure glad to see you still in one piece," Fallon said, warmly. "We heard some guy took a shot at you just now."

"He missed," Norden dismissed the incident, "but he's given us a pretty puzzle. He's a radio amateur, and he's discovered, by accident, a method of beaming back the radio power from a pile. His method isn't as efficient as ours, fortunately, but it is good enough to kill a pile dead as a door-nail at long range. One point in our favour is that he's in the dark as to why it works. That's only natural, of course. We're just about the only people who know that a Norden pile broadcasts power all the time it's hot, and we only found that out by accident, and because we were looking for some-

thing of the kind. That's all very fine, but this guy is all tangled up with another of the 'immortals'."

"But, we thought they were all finished, that last time, chief?"

"Yeah, so did we," Norden nodded, "but this one is a bit tougher than we figured, and she's pretty smart, too. She and this guy, Ganley, have managed to grab off a fleet of space-dredgers, and fix 'em up with this patent hook-up of his. We can't find out just what she's planning to do, but it's pretty obvious that she's going to make an all-out stab at controlling space, and, by my figuring, she can do it, too. There's only one way to stop her. We have to have a screen for the pile!"

"But we've tried that, chief." It was Zennar who spoke now, his voice surprisingly mild for one so massive, "and the results were just what we expected. Even if we beam back only a little of the power, the pile overloads so fast that the whole of the mag. slugs fission, and all you have left is a ringing in your ears and a cloud of 'hot' dust. Any sort of screen would bounce back more power than the pile would take."

"Couldn't we just stop it, absorb it, or dissipate it, somehow?"

Zennar didn't even bother to reply to Fallon's suggestions but kept his gaze steady on Norden. Fairless sat back, prepared to be amused by the wrangling, then an idea came to him.

"You know, Steve, we haven't seen Joe's lay-out. He may have some new twist that we haven't thought of."

"Could be," Norden agreed, mildly. "I'll see if I can get a schematic from him, later, when Kate brings him back."

"Why don't we have this guy in on our problem, anyway?" Fallon wanted to know, "sounds like he might be a help."

"I'm sure he would," Norden nodded, "only I had planned to ask him to go back there, and be a spy for us, so we daren't let him know too much, just in case they try to get it out of him. No, boys, that's out, and so are any excuses. I know we've tried to shield the pile, but we haven't tried very hard. There wasn't any great need for it then. Now it's very important. It could mean the difference between peace and war. I'll give you one more point. We've managed to devise a tracker, so that we can pick up and get a line on any active pile within fifty million miles. Out there you have more than a dozen space-miners. Most of them are keen radio dabblers.

Already, one has stumbled on the method of beaming back. How much longer is it going to be before one of them swivels a dead-end hook-up and gets a kick-back? And then, if he's smart, and they are, he will have a tracker, right in his lap, and bang goes any chance we might have of even getting to grips with them."

In the silence which followed, they heard the faint sound of steps and Kate returned to the room.

"Here, Uncle Steve," she announced, holding out a sheet of paper. "This is a drawing of Joe's set. He thought you might be able to use it. I've sent him to bed. He's just about worn out. Reaction from the drug, mostly. I know just how he feels—but, you look kinda worried, is there something wrong?"

"No, not wrong exactly," Norden reached for the diagram she held out. "We're just stuck for the moment with a problem" He laid the sheet out on his table, and the two lab. men joined him in studying it carefully. Zennar, in particular, was very interested.

"This tube, here, is a dilly," he commented. "Never seen anything like it before; musta made it himself. See, chief. Instead of using a 'charged' basket-coil like we did, he's set up a parabolic magnetic field, feeding on the incoming power. Soon as it's strong enough it bends and reflects the wave straight back, but it's cut itself off by that time, so the field collapses, and has to build up again."

"Like an alternating push-pull effect," Norden nodded, "so that it actually fires very short bursts of full power back at the pile, and that's why the slugs don't get hot as fast as they did with our method."

Kate turned to Fairless, with an amused shrug. "I bet you don't know what they're talking about, either." She laughed.

"Not quite," he admitted, "but I do get the main idea. You know that we found out about the Norden pile broadcasting power on a tight wave-band? Well, Joe has stumbled on it, or nearly, by accident, and it's a sheer certainty that Nina won't be slow to see more possibilities in this discovery. I don't see how they can miss. It means that we have to have some way of screening off the power being broadcast from the pile, but, on the face of it, that seems to be impossible!"

"Why?"

"Well, it means shoving the power back into the pile, and every time we've tried that, even in a little way, we get an

explosion. Like those interceptors the Lacey crowd put up against us, remember what we did to them?" Kate nodded, thoughtfully.

"But," she frowned, "I don't see why the power has to go back into the pile. Couldn't it be bent, or curved, or whatever you call it, so that it just swirls round and doesn't go anywhere?"

"Eh!" Fallon interrupted the discussion the three men were having, and turned to Kate, his eyes wide with sudden fervour. "Would you mind repeating that, what you just said?"

"Why, surely!" Kate said, amusedly, "I said 'Why not bend the power waves, so that they go around the pile, then you wouldn't be in trouble with the over-heating effect.' Have I said something clever?"

"I don't know yet," Fallon answered, with a slow grin, "It sounds kinda like one of my own ideas, a bit wild and woolly, but I like it. Tom, what do you think? We could throw a magnetic field round the pile and balance the flux-density so that there would be an infinity-curve effect. Would take a delicate bit of setting, but it sounds O.K. to me. This tube, here, achieves something of the sort. What d'you think?"

"There you go," Zennar grumbled, his mild tones in startling contrast to Fallon's sharp excitement. "Got it all taped in five seconds, and enough problems there to set us back five years, figuring out how to crack 'em. Still, it sounds like it might be a clue, anyway. How much time have we got, chief?"

"According to the date Joe gave us," Norden calculated swiftly, "I'd say about five months. Tom, I'm with Fallon on this. It sounds as if it's just crazy enough to be the answer we need. Anyway, we'll get at it, right away. I'll see you, down in the shop, in a few minutes."

As the two men took their leave, he turned to Kate.

"Did you get anything out of him; more than we already know, I mean? The rendezvous, or anything like that?"

She shook her head. "I'm not in the same class as Nina Orloff, when it comes to hypnotic suggestion," she admitted. "I've tried all I know, and I got a few trimmings, details about the ships and their capabilities; things like that; but the big secret, that's buried deep. She's really worked hard on that poor guy, what with the drug, and her other tricks. He's not quite clear of all of it, even now. I'd like to have him as a patient, for a week or two, to run out the kinks she's

put in his mind. I may, eventually, be able to lift the block she's put on the information about the base, but I can't promise."

"It is a base, then?" Fairless asked.

"Got that much, for sure," she confirmed, "adding it all up, it seems that she has planned to set up a base someplace, and that that bit of the programme is already in progress, but the miners couldn't be set on that angle without either withdrawing them from circulation altogether, which would be suspicious, or letting them roam around knowing the details, which would be dangerous. So, in each one, she has planted the knowledge of the rendezvous, and blocked it so that it will be released, automatically, on the date Joe mentioned. On that day, and not before, they will know just where to go."

"But," Fairless was quick to see a point, "she must have allowed for the time lag, the time it will take them to get to wherever it is?"

"Yeah, how about that?" Norden rumbled. "Did he give you any figures on that line?" Kate furrowed her brow, and leafed through the notes she had made.

"It rings a bell," she muttered. "Yes, here it is. This must be it. Joe kept on referring to twenty-one days, twenty-one days—all the time I was probing about the hidden reference to bases. That must be it."

"Twenty-one days!" Norden growled. "We'll never make it out to the Trojans in the time, even if we're ready by then."

"Too true," Fairless agreed, grimly. "You can bet that Nina will have everything laid on by then. Looks like we're going to be too late, no matter which way we do it."

CHAPTER THREE.

"IF you hurry along, Commodore, you'll be just in time to see the latest attempt." Kate handed a pair of darkened goggles to the little, sharp-featured man in the gorgeous uniform. They were standing in the cool hall-way of the big building. Outside, the blazing sun had reduced everything to hot stillness, and the Commodore felt warm and sticky from his boat trip and the quick walk after leaving the landing stage. For a moment, he considered refusing. Kate saw the look on his face. "Please, do come!" she begged, wheedlingly. "It might work this time, and I do want to see it, if it does. It was my idea, you see!"

"All right," he grumbled. "Lead the way, but, since when

have you added physics to your other accomplishments?"

"I haven't," she laughed, running before him, up a dark flight of stairs. "It was just a crazy suggestion of mine, and Uncle Steve thought it might work, so they're trying it out."

"That sounds like Steve, all right," Gale agreed, acidly. "But he must be slipping, having to get somebody else to think up crazy ideas. Did they get any results, yet?"

"No, not yet," she called back, climbing steadily, "but they keep on trying."

"Just as we keep on climbing," he growled. "Good job my legs are machine-made, else you'd go on alone, young woman. How much farther do we have to go, clear up to the roof?"

She cut off his grumbles by turning into the big equipment room, where Norden was sitting by a board liberally strewn with dials.

"Hiya, Windy," he called. "You're just in time to hear a big bang, maybe. Out the window, there, if you want to look. Only, turn away when you see the flag go down."

"What's the glasses for, then?" Gale demanded.

"They're only sun-glasses, Commodore," Kate explained, soothingly. "This window looks right into the sun. There, look. That's the pile, and, over there, behind the concrete screen, are the pick-ups, relaying back to here. You know what we're trying to do?"

As she asked the question, the red flag over the concrete blockhouse dipped. With the instant reaction of the trained mind, Gale fell back from the window; there was an eye-searing flare, a sudden, breath-taking shock wave, and then a mighty, rumbling roar. When they looked again, there was a smoking hole where the pile-unit had been. Gale spun round on Norden.

"Steve, are you crazy? Blowing up a pile in your own back-yard like that!"

"Quit worrying, Windy," Norden grinned, "I know what I'm doing. That wasn't a regular pile-unit, just a midget model, for trial purposes. Wasn't more than a milligram of Magnesium there to start with, and I didn't blow it till it was nearly all gone."

"What're you trying to do, anyway?"

"Think up a way to shield the pile, naturally."

Gale stared at him, blankly, "But whatinell for? You realize, if you do that, my legs will quit on me?" He glared round as Kate and her uncle laughed. "I'm glad you think

it's funny," he snapped, "maybe if you had been a cripple as long as I have——"

"Windy, quit worrying, willya !" Norden roared, getting up from his chair. "The way things are shaping, we aren't going to get a shield, not in the near future, anyway. That makes the fifteenth experiment we've fluffed in three weeks, and we haven't got a clue as to why, so far."

"All right, but what d'you want to shield the pile for?" Gale demanded, again, "Nobody knows that it broadcasts power, 'cept us. Or do they?"

"That's why we got you over here," Norden switched out his board, and lit up a cigar. "I couldn't tell you much, on the 'phone, but what it amounts to is that someone has found out a way to stop a pile, like we did, the time we chased Lacey and Orloff, remember?"

Gale was suddenly grave. "Can't we buy him off, or keep him quiet in some way, Steve? That sort of knowledge could be dangerous if it got into the wrong hands!"

"You're too late, old man. It did. You'd better prepare yourself for a shock." Norden hitched himself on to edge of a bench. "I'll give it to you a bit more gently than I got it. Listen. The guy that discovered this little trick was on his way to you, at Space Base; at least that was his intention. He's an asteroid miner. He was sweeping round the area where we had that little run-in with the Lacey crowd, and he found that missing ship. Remember, you were counting 'em, and you said there was one missing? Well, he found it, derelict. And who do you think was on it, alive and kicking?"

"Well, go on, out with it!" Gale barked. "This is no time for playing guessing games!"

"Nina Orloff, no less! Yeah, and all loaded with some extracts of that Master Weed that our old friend Rask was so free with."

Gale's sharp features were as grim as granite as the full implications of the news grew big in his mind. Only a few short months before, he and Norden, together with Kate, had been enslaved by a would-be 'Master' on Mars, and the memory of his complete, helpless servitude to a raving maniac, was still fresh in his mind.

"How do you know all this?" he asked, quietly.

"We found out the hard way," Norden rumbled, "three weeks ago. We were trying out a new modification to the puppet. I thought it might be useful if Frank could operate with it in darkness, so we built in a very fancy little radar

scanner, in the head unit, to relay to a special screen. That way, the puppet can see by means of a radio beam, independent of light. Anyway, we were giving it a run through, out there on the courtyard. Kate here, was playing tennis with it, in a blindfold, and doing pretty well, too. Then we were all set to try out a black hood, I'm leaning out of the window, watching, when, suddenly, the puppet gives out a heck of a shout and goes haring off towards the bushes, over on the far side. Next thing you know, I can feel the draught of a bullet passing my ear. Look, I'll show you the hole it made in the brick."

Norden went on to describe how they had caught, and treated Joe.

"He was doped, right enough, just like we were, Windy, but, thank the stars, Frank spotted it."

"Is he here, now?"

"Whether you mean Joe, or Frank, the answer's no. Kate's got to work on his thinking-machine, managed to clear him up a lot. We got quite a bit of information, everything he had, then we sent him, and Frank, to Mars, and this is why. We found out that Nina has managed to get control of all the available space-miners in the leading Trojans; fifteen of 'em all fitted out with this method of stopping a pile." Gale groaned, but Norden went on, "She's also fitting out a base somewhere, we don't know just where. The only clue we have is that the knowledge of the location of this base has been planted in the mind of every one of those miners, but it has been blocked so that it will remain hidden until a certain date. I know, I know; it sounds a bit of a stretch to me, too, but Kate's my authority on that. All we know is that the information will pop up on November first, and that when it does, they have three weeks to get to the rendezvous."

Gale snorted. "Some good that is. Three weeks from where?"

"We don't know, Windy, but we're assuming that she meant in the neighbourhood of the Trojans. Anyway, Joe was sent from there, and his orders were, if he could, to get back there and wait. We figured he might as well do that, anyway!"

"You mean—he agreed to go back!?"

"That's right," Norden smiled, grimly, "He's only a little runt of a guy, Windy, but, believe me, he's got guts."

"You don't have to tell me, Steve," Gale shuddered, "Just the thought that I might have to go through that nightmare

again would give me the screaming meemies. What's the big idea, though ; spying from the inside ?”

“Something like that,” Norden nodded, “We fitted him up with a specially tuned vest-pocket set, and we'll be in touch with him, all the time. Fairless went with him, as far as Mars, and is coming back with that partner of his, Lester. We can certainly do with some help with this screening problem, and, though Lester is no genius, he has a knack of making things work. If ever he wants to resign from Space-Service, I can find room for him, right here——”

“Here, hold on a minute !” Gale protested, bristling, “You're taking a hell of a lot on yourself, aren't you ? I presume you've got me here to make it official. You might just let me in on your private decisions ! Sending my men off to Mars, and the like ! Why wasn't I put in the picture sooner, and what's it all about anyway ?”

“Why, what would you have done, in my place ?” Norden asked.

“How the devil do I know, till I have all the information?”

Norden shrugged, got down from the table. “That's what you're here for,” he pointed out. “We've managed, so far, but, unless we can screen our drive, we don't stand a chance of getting to grips with Nina and her crowd. It's a sure thing that they have figured out a way of adapting their hook-up to detect the presence of approaching ships, and that will just about put us behind the eight ball.”

“So, when you've discovered that you're beat, you send for me !” Gale said, acidly. “What do you expect me to do, pull a miracle out of my hat ? I'm no scientific genius.”

Norden gave a huge chuckle. “We could certainly use one of them, but that's not why you're in, Windy. If we can't figure out a trick or two to give us the edge, then this is going to be a major matter. It's no trick to guess that Nina means to make a large-scale attack on us, in some way. Maybe she'll try to cut off supplies to Mars Colony, who knows ? Whatever she has in mind, it's something that is going to be the concern of Space-Service as a force, and that's your baby. If we can do anything to help, if you think there's anything to be gained by getting your research boys in cahoots with ours, just say. In fact, a conference of war is called for, if you agree that it's necessary. It's for you to say.”

Gale's face was a study. As virtual head of Space-Service, subordinate only to the U.N. Secretary for Space, it would, indeed, be ‘his baby’ if a full-scale inter-space war developed,

and the idea was not a pleasant one. In the thirty odd years since the first artificial satellite had laid the foundation for space travel, there had been peace. For the first time in the long history of the Earth, its many peoples had lived in complete and absolute peace with each other, a peace at first enforced by the ever present, ever watchful eyes in the circling, armed satellite, and then preserved by sheer force of habit, encouraged by the many advantages presented by such a state. In such circumstances, Space-Service was a military body only in theory, and its capacity to take offensive action was as negligible as to be almost non-existent. Space weapons, devastating in theory, had yet to emerge in practice. Doctor Sven Norden, the originator and designer of the magnesium-fission pile which bore his name, had helped to make man's first flight into space an event earlier by at least a decade than anyone had expected. He had also discovered that his pile, in addition to being small, almost fool-proof, and completely without any radio-active end-products, emitted an immense amount of power on one very narrow band in the micro-wave region. With the enthusiastic help of a crew of expert assistants he had exploited this accidental discovery, developed a whole new technique of ultra-short-wave radio, and, incidentally, perfected a method of beaming back some of this power into the pile producing it so violently that, as Gale knew from experience, he could achieve total and instantaneous fission of the magnesium slugs. This technique, in itself the first development which could truthfully be called a 'space-weapon' had been a closely-guarded secret, along with the 'broadcast power' which made it possible. Now, someone else had stumbled on a clue which could put the whole secret in their hands.

All this raced through the little Commodore's mind as he stared at Norden. They were old comrades, these two, and there was no malice in the mocking grin which Norden turned on as he saw defeat and resignation in Gale's face. Despite his acid nature, the space-man was essentially honest, and able to face facts, disagreeable though they might be.

"O.K. Steve," he sighed. "You've got me over the barrel, and you know it. What are we going to do?"

"Don't take it too hard, Windy," Norden groped round for a cigar, "We haven't any slick solution yet, either. As a matter of fact, I just wanted you in on it because I thought you'd want to be, and, of course, we'll need official sanction for a ship. We may have to dig up a completely new design, before

we're finished !”

“Do we have time for that ?”

“Not if we're going to get our knock in first, no. We've got about four months before that date sets off the location data in Joe's noddle, and we want to be raring to go before then. The snag is we're faced with an impossibility. It's only by broadcasting that power that the end-products of magnesium fission stay within limits we can handle. At the moment we get a reaction that stays beautifully within limits. Soon's ever we bounce back even just a fraction of that waste power, she blows her top, either slowly, so that the thermostat cuts out the field, or a bit quicker and the slugs melt, or like you just saw, when the whole thing just blows apart.”

“Just what are you trying to do, anyway ? Miss Kate said something about making it swirl round——”

“Well,” Norden puffed mightily on his cigar, “It's one of those things, easy enough to say, and quite logical in theory. Simply, what we have tried to do is to throw a magnetic field round the pile so that the broadcast waves, instead of radiating straight out, will be bent into a curve, and, we hope, form a sphere of force round the unit. The snag is getting the field just right, and, as soon as we do get the two effects balanced, there is a sort of additive effect, and the waves are bent too far, right back in there where we don't want 'em.”

Gale frowned, mightily, then “Does this Ganley feller know anything about all this ?”

“Not on your life ! We sent him off just as he came, so far as any of our tricks are concerned. He's a good guy, but we made a mistake once before, underestimating Nina. I don't get caught the same way twice.”

“Don't like the idea of him having that vest-pocket radio, Steve. If that falls into the wrong hands, couldn't it give away at lot ?”

“That's all taken care of, Windy, old man.” Norden chuckled. “As soon as Joe gets back among the funny boys, I'll have a man on this end day and night. That set's loaded. It's going to be just too bad for the guy who tries to mess about with it, once it's out of Joe's hands.”

Gale still looked unhappy. “I'm sorry, Steve,” he muttered “I can see your point about a shield for the pile, but I don't like it, all the same. Our two main advantages over any opposition are the Bullet, and the puppet, and, with a shielded pile, they're just so much junk, to say nothing of my legs.” As if to reassure himself, the little Commodore stamped

gently, with one foot. Had it not been for the combined skills of Norden, his biologist, bio-chemist niece, and the research which had gone into the production of that incredibly life-like, radio-powered duplicate of Frank Fairless, he would not have been able to do that very simple action. Legless as the result of a crash in the early, experimental days of space flight, he had been tied to desk-job after desk-job, and only hard driving determination had kept him sane, while other, more fortunate men went out and did the things he could no longer do. Now, with machine-made legs, as efficient as ever his own had been, and many times more powerful, he had regained that which he had lost ; he was a man among men, again, and his whole being fought against any possibility of return to his former, helpless state. If Norden succeeded in shielding the radio-waves which gave his legs their tireless power, it was obvious that, soon, all piles would be shielded. The little man shivered at the thought. Both Norden, and Kate, a silent observer, could read the progress of his thoughts by the gloom on his face.

"I know it sounds grim," Norden rumbled, gently, "but a shield of some kind is our only hope ; besides, if we do succeed in shielding the pile in the ship we're in, there'll still be plenty of power to be got from all the other ship-drives, and the stationery power-units. Why, right now, you're standing on power coming from as far away as White Sands. You've nothing to worry about, not yet awhile, anyway."

"That's true enough," Gale admitted. "You told me that when I first got these legs. I know the effective distance is practically infinite, but, all the same, Steve, I don't like it. You make a shield—soon everyone has a shield. It's got to happen. We didn't tell anyone about the broadcast power, did we ? But, it got out, didn't it ? At least it soon will, by the look of things."

"But there just isn't any other way, old man !"

"Look !" Gale appealed, snatching at straws. "Couldn't you try to throw the shield, or force-field, whatever you call it, well out from the unit, say a couple of thousand feet ? That way the whole ship would be inside, and I would still be able to fly, the puppet would still work. Couldn't you do that ?"

Norden took the stump of cigar from his mouth with great care, put it down as if it were a fragile museum-piece, the while he stared at the sharp features of his friend as though seeing him for the first time. Without a word he moved

slowly to the telephone handset on the wall.

"Get Zennar," he growled into the mouthpiece. "Oh, Tom!? I'm on my way down there, right now. Tom! Why do we have the force-field close in to the pile? Oh yes, there is a reason. Because we're a damned bunch of dumb-heads, that's why. If we throw that magnetic field out to about a thousand feet, d'you see what it's going to do to that build-up instability ratio? You do? Yeah, so do I, now that somebody rubbed my nose in it. Hold everything, I'll be right down." He put back the hand-set, turned to Gale and Kate.

"Our trouble is we're living too close to this thing, can't see the wood for the trees. Windy, maybe I'm speaking a bit previous, but I have the feeling you've just cracked this problem for us. I hope you'll stick around and see if your idea works out." He marched off to the head of the stairs, and they could hear him muttering as he went 'Damn bunch of dumb-heads.'

That evening Gale spoke to Frank Fairless, on the tiny two-way set in Norden's instrument room. Despite the sixty million miles which lay between them, so delicately and precisely were the two sets in tune with each other that they might have been speaking from opposite sides of the same room. But for the time-lag of a little less than eleven minutes between speech and answer, it might have been a telephone call.

"Gale, this end, Lieutenant. Confirm that you are able to receive important and confidential orders in private."

"Yes, Sir. Alone, and listening."

"Good! You are to return to Earth by first available, or fastest ship, whichever will get you here soonest. Orders and authorisation to that effect are being sent to Canal City by radio. Bring Lieutenant Lester with you. Whilst listening to the rest of this, be working out how long the trip will take and estimated time of arrival. Ganley is to be sent on to Nestor immediately; to report, or whatever he is supposed to do, in such a manner that Orloff will believe Norden, myself and you have been successfully dealt with, according to the instructions given to him. He is then to begin co-operating with the gang to the limit, and to undertake no offensive action whatever on his own, merely to take with him the spy-set, so that we can listen-in on developments. As soon as the rendezvous is known he is to leave, as though proceeding to keep it, but will make a get-away and stay clear. Impress upon him that he disobeys these orders at his own risk, and—

bid him God-speed, he'll need it. Orders end. Repeat back. Out."

"If we can catch the luxury-ship S.S.S. Queen of Space, leaving in one hour, will arrive in ten days. Lester and myself will pack and be on our way, anticipating your authorisation. Rest of message, concerning Ganley follows. He is to go to Nestor, immediately——"

Gale listened, smiling grimly, and turned to Norden as the set went silent. "He's quite a problem in himself, that young man," he murmured, "I can't help remembering that I very nearly threw him out of the Service altogether. His trouble is that he thrives on trouble. He's too damned clever to get by on a routine job. Till all this fuss and bother started up he was a liability to me. Now he's almost indispensable."

"That don't sound like a problem, not to my way of thinking?"

"It wouldn't, but you're not in my position. That lad deserves a promotion, if ever anyone did, but I can't give it to him. I can give him a citation, but it's not quite the same thing."

"You're worrying yourself over nothing, Windy." Norden chuckled through a cloud of evil-smelling cigar smoke. "Frank's happy so long as he's doing something difficult. You might think that everything is to be quiet and humdrum, once we get this little war straightened out, but you could be wrong. He and Kate have finally decided to file an official application to mate. I'm tickled to death, but I know Kate, and it's no trick to predict that Frank's life is going to be anything but dull, from this time forward, whether he stays in the Service or not."

Over the whine of jets and the rush of air from the twin blades whirling overhead, the pilot's voice was thin and inaudible, but his down-pointing hand told its own story. Frank Fairless leaned forward.

"Put down on the beach!" he shouted, nodding. "The beach, near the landing-jetty—not by the house—not there!" He indicated the tiny square of concrete gleaming whitely in the sunlight, and the ant-like figures which moved busily about there, shook his head vigorously, and shouted again, "Not there! Beach!"

The pilot nodded and put the jet-copter into a long shallow glide downwards. Fairless leaned back, uneasily.

"Hope that lot's not ready to blow," he roared to his com-

panion. Henry Lester's homely face took on an added gloom as he stared down at the rapidly expanding scene below. Lieutenant Space-Mechanic Lester, known to everyone as Hank, was uncannily expert in anything and everything connected with the internal working and maintenance of spacecraft but the actual flying was outside his province, and it was no novelty to him to feel helpless and completely dependent on someone else's skill. On this occasion, however, his feelings were shared by his Pilot-Lieutenant friend, as Fairless was quite out of his element in atmosphere flight. Together they stared in silent apprehension as their line of descent towards the beach brought them nearer to that concrete square.

The busy figures were all fled now, leaving a tiny, black-and-glitter block of apparatus all alone on the bush-lined edge of the space. Fairless narrowed his keen eyes, trying to resolve detail.

"Looks odd!" he muttered. "Steve must be trying something new." Suddenly, without warning, a shimmering, translucent veil of purple, like a gigantic soap-bubble, winked into being round the little dark blot, and just as suddenly, winked out again. The three men in the jetcopter blinked instinctively, and ducked, then stared. Before any of them had time to comment, their ears were assailed by a rapidly growing scream which burst into crescendo as a glittering, barrel-shaped object shot at and past them, going up. In one flash of observation, Fairless recognised the familiar shape of a pile-unit, plus the unfamiliar addition of two, thin, spindle-like rods, projecting from either end, each rod terminating in a mysterious black box.

Then the storm of turbulent air seized the little craft, tossing it like a leaf in a gale. The two space-men hung on grimly while the pilot fought desperately to regain control of his machine. After age-long minutes the little craft stabilised and resumed its windmill descent. The pilot turned a moist indignant countenance on Fairless, who shrugged helplessly, and shook his head. They all spared a moment to stare upwards, but, so far as the whirling blades would permit, they could see nothing. A few minutes later, as the machine hovered uneasily just clear of the glittering sand, the two passengers threw out their packs, jumped down from the cabin, and saluted their thanks as the craft leaped straight up and away.

"Hello, Steve," Fairless grinned, as the burly scientist met them on the porch, "you trying to do us in?"

"It was you in that copter, then!" Norden roared, "did you get a good look at what went by, up there?"

"Yes, as it happens, I did. Looked like one of those pigmy pile-units, but with some trimmings," he described briefly what he had seen. Norden shook his head in obvious bafflement.

"Craziest thing you ever saw," he muttered. "We had the pile up to 'hot,' with about a minute's fuel left to go. Then, when the field went on—by the way, we've thrown the field out, about a thousand feet, and put in a gain-control circuit, to make it self-balancing; operating by radio-remote;—when the field went on, well, you saw, I expect. I can't tell you what that purple flash was, nor why the whole thing went up like that—going some, too!"

As they turned to go into the house, they were met by big Tom Zennar, a strange, unbelieving look on his face.

"Hey, Chief," he called softly, his mild voice almost shrill with suppressed excitement, "we lost that damn thing altogether, and I do mean altogether. Soon as that flash happened, the radio-control link died, and the tracker, too. Not a trace of emission. We can't get a line on it at all, wherever it is."

"Fine, that's just fine!" Norden growled. "After all this time, we finally got a screen—and it ran away from us—ain't that just dandy!" Zennar laughed, softly.

"I think I know why it did that, too, chief. Hold on to your hat, 'cause I can't prove this, yet, but I think we've just demonstrated that gravity is an electro-magnetic force!" Norden stopped as if he had run smack into a brick wall, thumping one fist into the opposing palm.

"Anti-gravity!—by gracious, Tom! It could be!"

Zennar nodded, his heavy, homely face aglow with pleasure.

"It could be," he whispered. "It could be!"

CHAPTER FOUR.

THE two groups of asteroids known as the Trojans lie in the orbit of Jupiter, and with that massive planet and Sol, form a pair of equilateral triangles. One group is sixty degrees ahead of Jupiter, and is known, variously, as the 'leading' or Nestor group. Not that Nestor is the largest of these minor planets, but merely because it was the first to be settled, and is now the centre for space-traffic between the group and the rest of the Solar System. The major asteroids, those which Joe had named to Kate, are centres for assaying and crude

refining of ores and minerals. In general, the emphasis is on work ; hard, wearying, often dangerous, but with the promise of rich rewards. Against such a bleak setting, the Joy Rock holds an attractive uniqueness.

In the early days, the smaller asteroids were there for seizing by the first to find, the only restriction being on size ; anything over ten miles in diameter had to be leased from the Asteroidal Commissioners ; anything smaller could be seized as personal property. The Joy Rock fell just within the ten-mile limit, and had been seized by three enterprising businessmen, in partnership, who staked their credits on making it a space-man's dream of comfort and luxury. At great expense, they had roofed in a three-mile-wide strip girdling the rock, then, with relays of strategically placed drive-units, they had given the whole planetoid an axial rotation. Now the girdling roof became a floor, where man could walk and play, or sit and drink, under an illusory gravity of about half Earth-Normal. A landing-port at either pole gave access to communicating tunnel-ways leading to the City, for now it had become Girdle City.

Within the toroidal enclosure they had begun in a small way, with walk-ways, bars, and rest-rooms, but, as custom flourished, they spread themselves on refinements and luxuries, park areas, dining rooms, stores and trading centres, theatres, and all the appurtenances of a first-class holiday resort. It was the partners' claim that you could get anything in Girdle City, at a price. Prices were, of course, astronomical, but space-miners are, inevitably, either extremely rich, or very broke.

As Joe Ganley tramped along the tunnel-way to the city, he reflected how Nina Orloff had made the Joy Rock her own, like a queen returning to her rightful throne. The three partners had fallen under her drug-enforced rule within hours of her first landing in the fabulous city, and she was now a queen among her subjects in everything but name. He shivered a little at the prospect of being under her eye again, but, stitched into a pocket in his loose jacket there was a little radio set, which, as it gently nudged his chest, reminded him that he was not without friends. He passed from the tunnel air-lock into the first main highway, glancing up, instinctively, at the grey rock of the asteroid. No matter how often a man might visit Girdle City, nor how familiar he might be with its odd architecture, he could never quite forget that his gravity was upside-down, that the 'solid' floor under his feet was really a roof

over the barren rock which seemed to hang some twenty feet over his head. The bold, glowing arrows were a further reminder, prominently showing the direction or revolution. Coriolis forces could play strange tricks on a man who ignored, or forgot about the arrows.

Despite the grimness of his forthcoming interview, Joe could not resist another repetition of his favourite game, a trick he always felt inclined to play, every time he saw those arrows. He began to walk, more and more quickly, then to run, against the pointing arrow, feeling himself become lighter and lighter, until he managed to launch himself from the floor in a long, shallow glide. Falling neatly on his feet, he had to chuckle at his own foolishness, as he resumed a steady walk, but the good humour died as he thought of the forthcoming interview with Nina. He decided to call in at a bar on his way.

While Joe was fortifying himself, Nina was in close conference with the three partners, and a fourth, a huge ox of a man, dark of eye and hair and swarthy skinned. Rollo Du Quesne was French-Canadian, feared neither man nor machine, and was enough of a rebel against law and order to need no drug to win him to Nina's cause. She had just replaced the handset, having received word from her placed spy that Joe Ganley had left the landing-port. She turned to the three business-men in triumph.

"That's the news we've been waiting for," she told them, gloatingly. "Norden, Gale and Fairless! All disposed of, or Joe wouldn't be here now. That means our only real opposition has been removed. Right! Now, before Joe gets here—you, Rollo, will take the paper Herbert will give you, go to Nestor and wait there, in readiness for a cargo of materials which should be arriving within the next few days. You know what to do after that?"

"Oh sure," he growled, "but these cargo; what kind of material is she, and how is she pack, hey?" At an imperious sign from Nina, the senior partner, Herbert, handed across the paper.

"It's all there," he explained, "there should be five hundred unit-packages, in special crates of dural, reinforced with beryl-steel stays, all linked together, and under tow by space-tug. The pilot and crew have instructions to deliver, all the way, but, as they think they're coming here with it, you might have a bit of trouble—"

"Trouble!" Rollo laughed, making much of his very white

teeth, "She's what I like. You don' worry about that, my frien'. But, all these material, what she is for?"

"That's my business, Rollo," Nina put in, sharply. "All you have to do is get that lot where you have been told, and get it assembled."

"Assembled! Me, I'm a space-man, a pilot, not a builder!"

"You have a crew, do you not? They do as they are told? You will do the same, as my crew. When you reach your destination, you will find a body of skilled men, ready and waiting to assemble the components you bring. You will be in charge of them, in my stead. I shall be joining you in a very short while. Now—get going!"

He rose to his feet, lazily, towering over her, and smiling his toothy smile, as though her imperious manner amused him. His courtly bow to her had that quality of insolence which was typical of his whole bearing. As soon as he had left the office, Herbert said, humbly,

"Oh, Queen, why do you permit this man to take such liberties, why do you take chances with him? Could you not make him loyal and true to you, as we are so happy to be?"

"I could," she murmured, a smile twisting her red mouth, "but it amuses me to play with untamed men, once in a while."

"But we fear for your safety."

"Then don't!" she snapped, ungraciously. "I know what I'm doing with Rollo. He'll do anything I want him to do, because he thinks that in that way he will eventually make me dependent on him, and then he hopes to master me, the fool. In any case, I need someone with all his wits. You, my faithful subjects, are loyal, indeed, thanks to the drug, but, by the same purpose, you are distressingly slow, and stupid, and you cannot think fast enough to meet an emergency. Tell me, now, are you sure there is enough material there to complete a base such as I have described to you?"

"Quite sure, gracious lady," the second partner declared, "we have ordered, altogether, enough materials to extend Girdle City by a third, and that would more than suffice for a base to maintain five hundred men. The radio parts, in particular, are just as you specified."

"Good," she said, shortly, "now—go! I wish to receive Joe all alone."

"But—may we not know where this base is, where you are going, so that we may, at least be with you in sympathy?"

"Certainly not!" she snapped. "You will know when the

time comes and not before. Now—go !”

Joe Ganley let himself into the sumptuously appointed office, to find Nina at elegant ease in a low, padded chair. He had a flash of memory, back to a few weeks ago, when Kate Norden had explained to him just what the ‘immortals’ were. ‘They discovered a way of stopping senility and decay in living cells’ she told him ‘so that they were, for all practical purposes, immune to age. We discovered some of their secrets, and our experiments showed something else ; that they also become sterile, and that the whole character undergoes a terrible change. They become absolutely ruthless in their aims, even when it concerns their own safety. In fact, they are quite dangerously and hopelessly insane !’ Despite the vivid memory of these words, Joe could not repress his admiration for her dark beauty and feline grace, as she rose to greet him.

“Ah ! My Joe—my great little gallant one !” she cried, picking him up from the floor, and hugging him. “You succeeded, of course ?”

“Sure did,” he mumbled, trying hard to sound casual and off-hand, in spite of his undignified position. “Got all three of ‘em ; no trouble at all.” Then he ventured a bold stroke. “Want to hear me tell about it ?”

“Not just now, Joe !” she laughed, exultantly. “This is a time for celebration.” She swung him round, then put him down. “Some other time, you shall tell me all about it. Right now, you have my permission to go and get gloriously drunk. Rest and comfort from now on, Joe !”

“Can’t I just go back to my dredger, and do a bit of mining ?” he asked, hesitantly. “That would suit me a lot better.”

“No !” she commanded, “you must stay in Girdle City. Soon now I shall be leaving, to go to my base, and you, my Joe, shall have the honour of piloting me. That much you have earned.” Joe’s heart sank.

“When will that be, lady ?” he asked, seeing his chances of a get-away dwindling rapidly.

“Soon, very soon,” she murmured. “Just as soon as I hear the news about Norden, Gale and the rest, on the radio. I want to hear just how the Space Service will take it. Then we shall go.” Joe stifled a groan of dismay, hoping desperately that ears were listening to this, and that their owners would get into action quickly. He made one last, desperate stab for information.

“Whereabouts are we going, anyway ?” he demanded.

"You too!" she looked at him, curiously, and he was glad that his glasses afforded some measure of disguise to his emotions. "All right, I'll tell you. We're going to Ganymede!"

"Ganymede! But—there's a base there already! Space Service Research put down a base there about nine months ago!"

"They did," she agreed. "Very kind of them, it was. Needless to say, it doesn't belong to them, anymore. With their stuff as a nucleus and the additional material I'm sending on, we should be well set for a strike when the time comes. Research base! No-one will be expecting any report from them for another twelve months, at least, and they'll be hearing from us, long before then!"

Nina could not know that the three men she believed dead were, at that moment, listening to her words. The atmosphere of the instrument-room was tense as they heard the collapse of their plan to rescue Joe, and the revelation of the base.

"Ganymede," Gale snapped. "The crafty she-devil. You know why she chose that one, out of all Jupiter's moons? Our preliminary survey has shown that the surface is a mass of huge caves and sub-surface hollows. You could hide a whole blasted town there. But if she's taken over the research base, then we can locate her exactly. I wonder what's happened to the poor devils who——?"

"Excuse me, Sir," Fairless moved to the little Commodore's side. "I think the most pressing matter is that radio announcement she's waiting for. If she doesn't get it, it's going to be very unpleasant for our friend."

"You're right, Lieutenant," Gale muttered. "That must be first thing. Where's the 'phone? I'll get on to Base, right away."

As he hurried off to the instrument which was in Norden's study, the stocky scientist signed to the operator to keep listening on the two-way radio, while he joined Fairless.

"Windy had better fix us a ship, too," he rumbled, lugging out the inevitable cigar. "If this screen-effect is what I think it is, we're going to have to do some considerable modifications. You might have to learn flying, all over again, Frank."

"It won't be as bad as that, surely?" Fairless looked at him in surprise. "I know anti-gravity is quite new, and that a lot of theories are going to be scrapped, when the news

gets out. Anti-gravity, if I'm remembering my smattering of Einstein properly, it's impossible. But you have it. So—there must be something wrong, somewhere, but I don't see anything so revolutionary in it!"

"There's nothing wrong, Frank, except what you just said, and what I thought, at first, that is."

"Eh! Something wrong?" Gale came hurrying back in time to catch an odd word. "What's wrong now?"

"Only my original statement, Windy, about anti-gravity."

"You mean it wasn't anti-gravity, after all?"

"Well—!" Norden puffed out a cloud of smoke, and studied it, critically. "You tell me what gravity is, and maybe I'll be able to answer your question."

"If you want a quick run-down of the General Field Theory, that's where I get off and walk," Gale retorted. "I'm a space-man, not a physicist. Now you, you're the genius around here. I've never been able to understand more than the title of that. Suppose you explain it to me in nice simple terms?"

"That's where I get off and walk," Norden rumbled, jovially. "It just can't be done, old man. We've come a long way with the theory since Einstein first put it out, but we haven't made it any easier to get. That isn't surprising when you recall that it took the 'old man' himself a matter of ten years to progress from the special theory to the general theory, and it wasn't any easier when he'd done with it in 1915. How are you on Tensor Analysis?"

"I can spell it," Gale snorted, "but that's about all!"

"You're a great help," Norden chuckled. "But, maybe I can simplify it a bit. For a start, you do know that gravity and inertia are similar, that any change of motion, or direction of motion, produces all the symptoms of gravity. Then it's not going to be too much effort to realize that gravity and inertia are the same thing, or, I should say, variations of the same phenomenon."

"All right, Steve, that's simple enough. Even I can get that. What are you trying to prove?"

"Not yet," Norden cautioned. "First let me drag in relativity, just quickly. All motion has to be related to something else, otherwise how can there be motion? In other words, a particle doesn't have any motion except in relation to some other particle. Now, I think this force-field we have made cuts off the relationship between whatever is inside the field, and the rest of the universe." Gale groaned.

"What does all that mean in simple English?"

"I believe I see what you are getting at, Steve," Fairless said, slowly, "it is anti-gravity, but that means anti-inertia, too. No resistance to thrust——"

"You got it, Frank ! Null-inertia !"

"But what put you on to that ?"

"Well, let's say we had cut off the Earth's gravity-pull on that pile-unit, what would have happened ?"

"Just what did happen !" Gale snapped. "I don't see what you're making all the mystery about ? At this point, the Earth's surface has a radial velocity of about a thousand miles an hour. That means that a freed object would shoot off at about that speed. What more do you want ?"

"What direction would it go ?" Norden asked softly. Gale thought a moment, frowning, seeking a catch in the question.

"At a tangent, actually, but it would look like straight up, to us, with a very slight tendency to the East."

"Good for you, you're quite right, only—that's not what did actually happen. We got a fair check on the speed, but the figure is of no significance, as there is air-resistance to be allowed for, and if the area inside the screen is inertialess, that's going to take some figuring. It's the direction that was wrong. Frank, you remember where the sun was as you saw the thing go by ? According to Windy's theory, how do you make it ?" Fairless thought a moment.

"It came towards and past us," he recalled, "and the sun was in our faces, so, if anything, it was Westering. I'm sorry, Steve, but I don't see how that can be ?"

"No inertia ? No momentum ? What happens when you cut off the motive force ? It will stop dead, won't it ?"

"Eh ?" Two voices spoke as one.

"Don't forget the Earth's velocity," Norden warned them. "It stopped dead. We went away from it, that's all !"

When the two space-men had digested this, with much head-scratching, he threw them another bomb-shell. "D'you realise what this could do to space-flight ? If we can wrap up a ship in that force-field, it will have no inertia, no momentum-potential ! ? That means no resistance to thrust at all, so that if we can eject something, anything, out of the area, it will move in the opposite direction at an equivalent speed, regardless of the mass of the ejection. In fact, if we can pass a beam of light out of the screen in some way, the ship will move, at once, in the opposite direction, at light-speed !" Fairless stood quite still as the terrific implications of this

swept over him, but the Commodore clutched his head in frank resignation.

"This is too much for me to take in at one bite," he groaned. "Give me something practical to do, something I can get on with, so that I can have time to let this sink in slowly."

"You get on the 'phone," Norden advised, "and get some strings pulled. We want a ship, preferably one that's due to be stripped down for refit. You do that, right away, and, first thing in the morning, you hop back to Space-Base and pile on the pressure to see that they get on with it, too. We've got some fancy figuring to do, but, just as soon as ever we can, we'll be over, with plans, diagrams and whatever. We're going to make a ship that'll move, Windy. And I do mean *move*. Don't give another thought to Ganymede. Unless I miss my guess, we'll be able to make that little trip in a little over half-an-hour!"

"Hey, chief! That field can't be completely action-proof—remember, we could *see* through it, and so could those guys in the jet-copter. That means it's not a screen against light!"

"Right, Tom—but what's the answer to that?"

"Well, look. Maybe it cuts off all wave-lengths below a certain frequency, say anything below the frequency of the pile output?"

"Won't work, Tom. Don't forget, it does screen inertia, and that can't be in the low-frequency range, else we'd have found it long ago, when this kind of effect first started up."

"But we don't know for sure that gravity-inertia is tied up with electro-magnetic waves anyway. Hold on, though. Maybe the effect is on all wave-lengths at once?"

"It could be, but, in that case, we would get only a partial anti-inertia effect, wouldn't we?"

"That's what I mean, chief. There must have been some inertia-value left in that run-away unit, else it wouldn't have been able to push its way against air-resistance the way it did!"

"Damn it, Tom, you're right there! Now, why didn't I think of that for myself?"

"Chief, I think we've got something here that will work. We should be able to modulate our radio-wave so that it will go through the screen without any distortion——"

"Smart work, Tom—but, look, why don't you just call it

the 'Z' wave, same as everyone else does ? After all, you did discover it !"

"Gosh, chief, I guess I never gave it a thought !"

"Well, you'd better do, 'cause we're going to call the screen the Norden-Zennar field effect, whether you like it or not."

"Oh, Fallon ! How are those designs coming along ?"

"Pretty good, chief—we've figured on a modified tear-drop shape, inverted—the outside of the field will have to take up quite a lot of resistance in air, or in space, for that matter, at the speeds we're figuring on. The spherical shape of the field will become tear-drop shape, and that will make it fit pretty closely round the ship."

"Show me !—yeah, that looks fine. Pretty near complete, too. How long before we can get this into the hands of the construction men ?"

"Oh, inside a week, easily."

"Hello there, Frank. Seen the ship ? We'll be ready for a test-run soon. How d'you feel about it ?"

"Not too worried, Steve. I've gone over the layout fairly thoroughly, and I can't see any reason why we shouldn't make it a real run, first time. After all, if your figures are correct, we hope to get from zero to a hundred thousand miles an hour in the first second. That's not the kind of thing you can try. You either do, or you don't !"

"You got something there, son, but——you look a bit worried."

"There are one or two points I don't quite understand. For example, why do we have to have such a big ion-tube ? As I understood you, the reaction *mass* isn't important, only its velocity ; and why only a hundred thousand miles per hour, why not the whole lot ?"

"Same answer to both questions, Frank. The screen-effect is not one hundred percent effective. The latest test figures show that there is a residual momentum, about one tenth of one percent. So, we do have some resistance to overcome. Not much, mind, but that's why we had to have a big tube, and why we won't get the full speed right away."

"But—what about the passengers, won't they feel it ?"

"Sure they will, but nothing to worry about. The total effect, we figure, will be about equivalent to twice normal G, and that's from zero, so we should be quite comfortable."

"I suppose you're right, Steve, and I don't want to sound

disappointed about it. After all, that's still quite a speed. It's a pity, in a way, though, as it puts a top limit on our speed——"

"Not a bit of it, Frank. Look, suppose we had completely null-inertia, what would happen? We'd have no momentum, so, we'd get the full speed of the reactant for as long as we were blasting, but no more than that. You can't have a faster speed than your exhaust without stored-up potential, can you? And as soon as you cut your reaction? Dead stop!"

"Yes, I see what you mean. But, with a residual inertia, we can increase our speed by increments, the longer we keep blasting! Steve, that means we can get faster-than-light speed!"

"Sure—why not? When we get this little jaunt over, Frank, we're bound for the stars!"

And so it was that in the afternoon sun of late October, a crowd of curious, and somewhat sceptical spectators stood round, at a respectful distance, and watched a small party make their way to the odd ship which stood all alone on the broad concrete expanse of Space-Base landing-field. Fairless, last of all, felt a twinge of doubt as he stood at the foot of the huge, hollow pylon which formed one of the three landing-feet. The rest of the party, Gale, Norden and the crew of mechanics, in the charge of Hank, had gone on, up the inside ladder to the ship. He gave one last look round, then stepped inside, slamming the heavy hatch shut behind him.

The watchers waited, studying the huge, top-heavy ship. As one said to his friend. 'It looks like a ball that's melted and run a little.' Then they heard the loud-speaker from the control-tower crackle, and the unmistakably English accent of Frank Fairless.

"Ship to control, Star-Jumper to control,—waiting your clearance, ready to lift——"

"Control to Star-Jumper—go ahead, when you like, and good luck to you. Out!"

Then the assembled crowd saw a lambent purple glow flash out and wrap round the ship, a dazzling flare from the blunt-pointed stern—and it was gone! For a breath, they stood in stricken amaze, then the tornado of displaced air beat about them, and they were stunned by the crashing roar of a mighty thunderclap.

CHAPTER FIVE.

IN choosing Ganymede, Nina had done well, and in her choice of aid she had done ever better, Rollo Du Quesne was never happier than when mastering hostilities and obstacles, whether they were made by man or nature. It had been no exaggeration on his part to declare that he enjoyed trouble, and he found plenty of it when taking over the base, and putting Nina's orders into effect. With her characteristic craft, she hadn't drugged all of the personnel, realizing that she might have need of a reserve of technical wits. She had contented herself with enslaving only the expedition chief, Dr. Rankin, whose geology and chemistry she could afford to lose, and the four space-men, two pilots and two mechanics, without whom the expedition was powerless to escape. This accomplished, she felt that they were sufficiently helpless to be handled.

Thus, when Du Quesne arrived, with his crew and cargo, he found himself in charge of a very uneasy group, and he proceeded, in his own, forth-right fashion, to simplify matters by segregating those he could trust from those he could not. In the small cave which served as Headquarters, he held two audiences. The first, a gathering of loyal ones, was headed by Dr. Rankin, accompanied by the four space-men. With them came a dozen others, foremen of the construction-crew Nina had recruited from Girdle City. They stood humbly, respectfully, while the new boss made himself known to them.

"I am Rollo," he declared, flatly. "I am chosen by Nina Orloff to be in charge here. You will do what I say, all the time. Soon, she will be coming, but—till she's come, I am master here. It is understood, yes?"

His swarthy face spread in a gleaming, mocking smile as he heard them chorus, as one.

"We understand, Master, and will obey."

"Good, ver' good!" he growled, rising to tower over the desk, a veritable giant of a man., "Now go—and get busy with these cargo I have bring for you—go!" As he watched their humble retreat, he had occasion to mutter to himself, "Is too easy, these one. But maybe the other bunch, they make trouble, I hope."

The second audience was a very different affair. Of the original research team, there remained five, two physicists, two electronics-engineers, and an astronomer. With them,

were another five, the designers and structural engineers from Girdle City, free of drug but captured none the less effectively by Nina's glib tongue; ten men, sullen, hostile, and smarting under humiliation and restraint. Du Quesne stared them down by sheer force of personality.

"I am Rollo," he told them, loudly. "I have send for you to tell you just one thing. Then maybe we argue about him, hey? I tell you these. I am boss here. I say it, you do it! Somebody don't like these, I hope, yes? Now is time to speak up!" He swaggered from behind the desk, and fronted them, but there was no response. "Pity!" he snarled. "No matter. Now, I tell you something else. All these others—they are drugged—they do as I say because they cannot help, but you—I have need of you and your skill, so you are not drugged, but, still, you will do what I tell you—because I am Rollo—is understood, yes?"

There were bitter feelings among the ten men as they trudged back to the larger cave which served them as a common-room. By unspoken agreement they gathered in a corner, as far from the others as possible.

"We've got to do something," growled the senior electronics man, Grant. "I've been hearing rumours. That damn female is due here, soon, and she has the drug. If we aren't careful, we'll all go under." Merrick, his second, nodded agreement.

"But what can we do?" he wanted to know. Unwin, the astronomer, summed it up, briefly.

"Only thing we can do is to get away from here, and warn Base that there's trouble——"

"Trouble!" Grant snarled. "That's not the half of it. This little lot is building up for nothing less than a war, against Earth! I mean that!—ask Merrick, if you like. We've been looking over the plans for that beacon thing they're building, topside. They reckon it's a gadget that'll stop a Norden pile-unit cold, and draw a line on an active one at something like a million miles. So the tale goes, one of the asteroid miners hit on it, by accident——"

"All the more reason why we should get away from here——"

"Yeah, but how?" Merrick persisted. "All the flying men are under the influence of that damned drug——" The senior physicist, a little, balding man, injected a quieter, more practical note.

"Look here," he suggested. "We have to work out a plan

of action of some kind, but right now our best bet is to co-operate, all the way. That will lull some of the suspicion, and take off the tension, give us a chance to get organised."

"Sounds like sense, to me," Unwin looked round at the others, saw general agreement. "You're elected as chief plotter, Banner. What do you suggest we do?" The little physicist thought a moment.

"The only thing we have to fight with is knowledge," he said, slowly, "so we must use what we have, as best we can. You men, you're the constructional experts, right? Then here's your problem. You have to make a show of full co-operation, directing the expansion and building so that, to the uninformed eye, all will look perfect, but using the skills that you, and you only, have, in such a way that the whole structure will fail and collapse, if and when you choose—get me?" He watched their faces, closely, seeing grimness give way to interest and animation. "I see you do," he grinned.

"Now, the rest of us, what can we do?" Grant had already caught the spirit of his suggestion.

"Me'n Merrick, we could 'help' with their gadget," he chuckled, "and if we don't find some way of fouling it up—then—we deserve to be blown up with the rest, when the time comes." Banner's smile was grim. "We may be all blown up, yet," he warned, "but even that would be better than letting this scum get away with it." His junior, a tall, raw-boned, taciturn man, spoke up for the first time.

"There's a job we can get on with, too, chief. I had a wee crack with Dr. Norden, just afore we left, concerning that drug yon big fellow was blethering about. I was wondering, like the rest of ye, just what had come over Rankin. Now I know. More than that, Norden told me of the way they managed to counteract it. I think we might be able to do that, wi' Mr. Grant's help."

"Sure thing, Mac," Grant offered, swiftly, "but where do I come in on a drug session?"

"Weel—"McCrea said, carefully. "I'm no' sure about the way of the drug, but I remember that they cured the victims with a high-voltage shock to the brain. Metal plates on either side of the head, d'ye follow me?" "High-voltage shock, eh, —how high?" "Forty thousand volts, at less than one milliamp. Does that mean anything?" Grant bit his lip, thoughtfully. "Can do," he decided, at last, "but it'll take some working out, and somebody will have to figure a way of getting the bodies down here, it won't be the kind of thing

you can carry about——”

“Leave that part of it to us,” Banner said, confidently. “Nice work, McCrea. If we can get Dr. Rankin and the four space-men back on our side, it will make our prospects so much brighter.” The faces were a lot happier, now, as each man began to dwell on his own specific task. Unwin, the astronomer, was the only one without a problem to solve, and he proceeded at once to devise one for himself.

“I’ll get busy on a time-table, and a code of signs. Our best, in fact our only chance, will be to grab a ship as it lands—and, at that, we’ll have to move fast, before they shift it out of the landing-cave. I’m look-out man, anyway——”

“The men on the tracer will spot a ship long before you do,” Grant objected, swiftly.

“Sure they will, they always do.” Unwin agreed, “and then they send for me, or give me its direction, so that I can identify it with my big refractor. I tell you, I’m the obvious choice for giving the signal for the mad dash—and when I do, everything must go like clockwork, so I’d better get planning.”

“And we’d better get moving,” Banner warned, “here comes Rollo.”

The appearance of the big French-Canadian caused a sudden stir of activity. The groups broke up, hurriedly, and, in a matter of moments the big cavern was empty. Rollo stared after them with a disappointed sneer. ‘Bah! these is too easy’ he growled, to himself, ‘No fun at all.’

In the weeks that followed all too quickly, everything continued to be ‘no fun’ for Rollo, but, with the little band of rebels there were exciting moments. Constructional work went on at a pace possible only in such a small gravitational field, and with such favourable ready-made conditions. The underground caverns began to take on the semblance of a small city, though very little of it showed on the surface. There, mid the dark red and purple of jagged, barren pumice, lit during its eighty-seven-hour day by the chill glow of the sun, nearly five hundred million miles away, nothing was to be seen but the slim rotating structure of the reflector-tracer, and, beside it, one small, glasstex dome, housing the big refractor.

Here, Unwin spent many long hours, observing and timing the arrival and departure of the two clumsy space-dredgers which kept the base supplied with necessities and news, and

in touch with Nina's orders. On Banner's advice, the little group waited for the right time and the right kind of ship. As he said "We wouldn't get a hundred miles in one of those dredgers. We need something pretty fast, and manoeuvrable if we are to dodge that reflector." Grant and Merrick had discovered much about this apparatus, much more than its users knew.

"Damn it !" Grant had announced, explosively, one rest period, "These piles are broadcasting power, lashings of it. We haven't got anything big enough to measure it. All their precious gadget does it to put some of the power back into the reactor, and the slugs overheat and melt. We tried it out this morning, and there would have been hell to pay if we hadn't had spares to slip in."

"All right, but where does it get us ?" Banner demanded.

"Not sure, yet—I'm no fission expert, but we have doped out a little idea, between us. You tell 'em, Merrick."

"Yes, I think maybe we can have a little game with them," his partner grinned, "the gadget employs a pulsing magnetic field to refract and return a fraction of the power-wave. If we can dope out a way of throwing a similar field all round the piles in the power section, we can cut off their power, completely. Grant's the magnetic-field expert, and he reckons it shouldn't be too difficult."

"That's something," Banner nodded, "but it's not going to hit them hard enough. Can't we expand that, somehow ?"

"Of course we can," Grant exclaimed, in sudden excitement. "If we throw a big enough field, big enough to affect the whole base—don't you see it ? No ship will be able to take off, once it's up."

"Won't the field collapse as soon as the piles quit ?"

"Sure it will, *after* they quit, and who cares, then ? Anyway, if they do have enough savvy to get a unit going, the field will build up again, right away—"

"But—how about us ? Won't our ship be stopped, too ?"

"Not if I fit in a delay-switch, to give us time to get off."

They enthused awhile, guardedly, then McCrea, practical as always, changed the subject.

"How's the shock treatment coming ?"

"Ready when you are," Merrick assured him, "it's up to you men, now, to get Rankin and the four space-men down here. Let me know in good time, say half-an-hour at least, beforehand, and it's power-room four. Don't forget to let me know, when you're ready."

To say that it took Commodore Gale and Lieutenant Fairless seventy-two hours to get the feel of the Star-Jumper, is to say a lot in a small space, for those hours were crammed with hard, single-minded concentration and work, with complete, maximum efficiency of co-operation between all members of the crew. However, when the tired, but jubilant men were finished, they were able to say, with complete honesty, that they could handle her, and that she handled well. Gale was honest enough to add.

"I'd hate to try and cut a dash with her at full emission, Lieutenant, she's too fast for me, but she's a beauty on low power."

"She certainly is!" Fairless agreed. "I'm looking forward to the time when we can let her really go for an hour or so, instead of these split-second intervals, just to see if we can beat light-speed. How do you feel about that, now, Steve?" Norden looked up from his test-readings, and grinned.

"Don't see why not, Frank. According to my figures, we've been pretty near to it a few times, and we've had plenty in hand."

The little Commodore sat quite still, relaxed, for a moment, then, slapping both hands on the hard, black plastic of his control-panel, he squared his shoulders.

"All right, men," he rapped. "It's about time we quit playing, and got down to serious business. In case you've lost track, today is the First of November, and we all know the significance of that date. We've fifteen drugged space-miners to locate and deal with. They're all equipped with a pile-killing apparatus, and they're all on their way towards Ganymede, from anywhere in the Nestor group, as of now. Therefore, our plan will be to hop direct to within about ten thousand miles of Ganymede, and work back from there. I think we all know what to do from then on. Lieutenant, you'd better get ready."

"Yes, Sir," Fairless glided over to a sub-control panel, with it three-dimensional tele-viewer, from which he could control the metal and plastic puppet duplicate of himself. With Hank standing by the amplifier, he strapped himself into the padded chair, adjusted the delicate, wire-mesh head-set, and neck contacts, clipping the throat mike into position. He relaxed himself, completely, and Hank switched on the power which would pick-up, amplify and transmit to the puppet, every nerve-impulse from the brain of its controller. Through the medium of the now-glowing screen he could see, via loud-

speaker relay he could hear, and from the millions of hair-like wires built into the synthetic, indestructible skin of the puppet, reporting the messages, he could feel, as far, below, the still, inert figure came quietly and smoothly alive, moved to the cockpit of a little ship built specially to suit its peculiar abilities, the Bullet.

The name was very apt, for the pencil-slim craft was solid metal, incredibly tough zirco-beryl steel, throughout, save for the drive-unit, tubes, and the tiny cock-pit.

At the main controls, Gale set the cut-out timer according to his course figures, fed co-ordinates into the flight-computer, then hit the firing-button. The view in the screen warped, crazily ; distant pin-points of star-light became slivers, nearer stars twisted into crescents of purple, slipping from the screen. To this crew, accustomed to the heavy acceleration drag of orthodox jet-flight, the 2G pull was almost negligible, and, as there was nothing, apart from this to indicate their great speed, the trip had a dream-like quality. Gale watched the sweep-hand of the chronometer reach the set, red line, felt the relief from acceleration, and shook his head in quiet amazement, still finding some difficulty in appreciating that they had covered some six million miles in forty seconds, dead. On the screen was the huge disc of Jupiter, and, nearer, off in one corner, the small crescent of Ganymède, to help to convince him.

"Cut the screen," he barked. "Steve, get busy with your tracker—Bullet, stand by—get the bay-door open !" Norden began rotating his delicate apparatus, and, within seconds, the tiny helix had lined-up with the high-frequency emission from an active pile. He checked his meters, carefully.

"Got one, Windy !" he announced, "about fifty eight thousand miles give or take a thousand." He read off the co-ordinates, Gale fed them into the computer, and, seconds later, they had located the dredger in the forward viewer.

"You can bet he's seen us, too," the Commodore snapped, "so we'll have to be fast with the screen. I'll give you a count—screen down on two, Bullet away on three, screen up on four—ready ? From now—one—two—three—four !" The little Bullet shot away from its parent ship spouting a trail of flame as Fairless drove it, in a wildly eccentric course, towards the dredger. With its solid body, its drive-unit big enough to lift a luxury space-liner, and its super-fast, super-human pilot, the little ship presented an impossible, weaving, zig-zagging target to the bewildered man in the dredger. He had

not a chance to line-up his set on such an attacker. Fairless manoeuvred his craft according to a prearranged plan, so that he came up from behind the clumsy craft, by the stern tubes and huge grab, so that its pilot dared not aim his pile-killer for fear of stopping his own drive.

It was the work of a moment to clamp the little craft securely to one of the grab-jaws, and for the puppet to climb out and make its way, quickly, along the hull to the outer air lock. Had the man inside been on the alert, he could have neutralised the outer controls, but the element of surprise was against him, and, almost before he knew it, he was facing the incredible figure of a bare-headed man, climbing in from airless space. It was small wonder that he was no match for the swift and thorough attack which the puppet launched against him. In a moment he was held securely by a strong grip, and a voice murmured, "Steady now—this will only take a moment." In a flash, two metal wrist-bands were pressed, one either side, to his forehead, and the voice said, sharply, this time "Right !"

In the Star-Jumper, Hank, watching the screen, reversed the switch again, saw the now unconscious man set free, heard his friend's voice, in the speaker.

"That's the first one. If all the rest are as easy, it shouldn't take long." The puppet paused only long enough to leave, tucked in the man's shirt, a prepared note of explanation and advice, then made its way back to its ship. The whole operation had taken less than a minute. Back on the Star-Jumper, while the Bullet was racing clear, and back to its base, Gale had dropped the screen, and Norden was busy seeking out the next victim. With the well-oiled precision of a trained team they went through the drill again, and again, until their count showed all fifteen taken, without trouble. All this time, an operator had been sitting by the tiny two-way set which was relaying from the unfortunate Joe Ganley, and the jubilant crew had scarcely had time to congratulate each other, when the operator called to the little Commodore, urgently.

"He's sighted Ganymede, Sir. This is the first time he's been able to find an excuse for talking clues back to us. I just heard him read out his co-ordinate figures, good and loud." The crew-man indicated the figures he had scribbled on a pad. Gale took them, grimly, and checked with the course-computer.

"They're about seven-eight thousand miles out from Ganymede," he muttered, biting his lip. "So far, we've had it all

our own way, but this is where it could get tough."

"Can't we pick him up, the same way we did the others?" Fairless queried, free of his puppet-control gear, then suddenly slapped his head in confusion. "What am I saying? He's not doped——"

"You're dead right, he isn't, Lieutenant," Gale smiled, thinly, "and, what's more, he's got Nina with him. I'm not saying we couldn't pick him up, but what good would that do? We can't bring him back here. The Bullet isn't exactly a ferry-boat. Besides which, we don't want to give the alarm yet; there are men on that base we want to pick up, if it is at all possible. I told you, this is going to be tough. We're going over there, at any rate, but what we shall do is anybody's guess, so we'd better stand by for anything. Up screen!"

He fed the co-ordinate figures into the computer, set the time-switch, and hit the firing-button, his lean face grim.

"Ship coming, mister." The duty-tracker's voice came harshly over the intercom.

"You're slow!" Unwin called back, acidly. "I've had it for about three minute's now. What's your figures?" Mechanically, he copied down the readings on a scratch-pad, compared them with his own, then, eyes wide, he stared, opened his mouth to protest, then shut it again. Turning to his telescope, he swung it to the readings he had been given.

"Another!" he breathed, "Two ships! One they spotted, and one they didn't. Either they're getting careless, which isn't likely, or that ship is faked up in some way so that they can't detect it." He swung his instrument again, stared at the mystery-ship curiously.

"Never seen one like that before," he muttered, "and I don't know how it's managing to escape the tracker. but, however it's doing it, it means that it doesn't want to be seen, and that means that it's on our side. I think this is where I keep my trap shut, and find the gang." He readjusted the instrument, hurriedly, then called, on the intercom.

"All set, come and look at it. I think it's your Queen at last. I'm off to spread the good word!"

He hurried away, down through the galleries, making surreptitious signals from time to time. One by one, the members of the little group, now augmented by Rankin, and the four space-men, made excuses and moved away, converging on power-room four.

"What's it all about, Unwin," Dr. Rankin demanded, as

soon as the group was complete, "is there a ship here?"

"There's a ship, right enough, and it's shielded. No, I haven't gone crazy! I tell you, there are two ships out there. One's a pretty fast job. That'll be their blasted Nina, arriving at last. The other one is about fifty thousand miles out, a great blob of a thing, and they've missed it. You, Grant, you know how damned thorough they are? So, it's shielded in some way. That means it's on our side, don't you see?"

"Maybe it uses some other kind of drive," Grant mused. "Though it's hardly likely. I think you've got something. Question is, what do we do?"

The group as a whole turned to Dr. Rankin, but he shook his head.

"I think Banner has proved himself the strategist, I vote he keeps that position. Ask him. I'm agreeable to anything he decides."

"Well," Banner chewed his lip. "I suggest we hang on a bit. If the stranger is here to aid us, and I hope that's so, we can't do anything to help 'till we get some idea of what they're going to do. What we can do is to carry out our original plan, and try to snatch this new ship. If it is a fast job, as Unwin says, then we stand a chance of making a run for it in her. We'll have to be on our toes, and grab her pilot as soon as he leaves the ship. The rest is up to fate."

CHAPTER SIX.

IN the Star-Jumper, keen eyes scanned the jagged terrain, and the tiny dot of silver that was the ship bearing Nina Orloff and Joe Ganley.

"One thing's a cinch, Windy," Norden growled. "We can't use the Bullet here. Get a load of the paraboloid on that pylon, there,—got too big a spread to dodge. If we're going to do anything at all, we'll just have to watch where he goes, and follow."

"This is one time when I agree with you, Steve," Gale nodded, and turned to Fairless. "Here's where you take over, Lieutenant. My reflexes aren't fast enough for this close-up work." He slid from the seat before the control-panel, and Fairless took his place, keeping an attentive eye on the screen in front of him.

"There he goes," Gale snapped, over his shoulder, as the little glittering dot grew a sudden tail of fire, then disappeared entirely.

"Jumping Jets ! did you see that ?" Fairless breathed. "He went down that damned great hole, there. That's going to take some hitting." His fingers moved over the controls, cutting ion-emission to the very minimum. "Shall I try it, Sir ?" Gale was about to nod a desperate order to go ahead, when there was a call from the radio-operator.

"Ganley's starting to talk back, Sir, he's alone."

"Hold everything, Lieutenant," he rapped, and dived across to the little set. As Norden joined him, Joe's voice could be heard, faint but clear in the now silent cabin.

"Is anybody listening ?——for God's sake speak up——"

"All right, Joe !" Norden answered, at Gale's signal. "We're with you, son ; right behind you, in fact."

"That's good hearing, Doc. I was just about to pull out. I'm all alone in the ship, but I've only got a moment. They'll be wondering why I'm holding up the tube, if I wait much longer. This is the only chance I'm likely to get——"

"How about that, Windy ?"

"Ganley, this is Commodore Gale speaking,—what sort of a place are you in ? We may have to land, and we need all the information we can get. How big is it ?"

"Like the bottom end of a funnel, heck of a size down at this level but the top, the opening, is something under a quarter of a mile across, and the whole thing is about half a mile deep. But—you can't land here. Didn't you see that pylon up there ?"

"That won't worry us. We're shielded against your patent gadget. There are some of our men down there, and we're going to try and get them out. Look, Ganley ! I know it's a hell of a thing to ask, but can you hang on a while ? You're in no immediate danger, and you're a link between us and that base. Can you hang on, and pretend to co-operate, just until we can get some idea of the layout, then we'll be down there and pull you out of it. Can you ?" There was a pregnant silence, then Joe's voice came back, faint but steady.

"O.K. Commodore—I'll stick."

"Good man ! Now, just act normal, and keep your eyes and ears open, and, believe me, we'll get you out, somehow." Gale glided back to Fairless, at the controls.

"We'll go down, Lieutenant, to about a hundred miles. They won't be looking for us. They'll be too busy adoring their dear Nina."

Sensitive fingers danced on the studs, and the disk of Ganymede grew suddenly, to fill the tele-viewer screen. There

was a breathless silence in the cabin, as they listened to the noises being relayed from the tiny, concealed set below. Voices came and went, tantalizingly. They heard a sneering, accented voice greet Nina with deference so exaggerated as to be a mocking insult, and her rich, deep contralto answering sharply. Then they heard that strong, domineering voice send Joe about his business, with scant ceremony.

"You, little man, will find the rest of the rabble over that way. Get along now; we have the big business to discuss."

Joe moved off slowly towards the indicated gallery, glancing back to see that Rollo and Nina had moved off in the opposite direction. The air-lock door of the pressurised connecting-tube to the ship was now quite deserted. He hesitated, tempted to dash back and make a run for it, but fought down the feeling, and went on, nervously, to the dark entrance of the gallery. He was taken completely by surprise, as rough hands reached from the dark and seized him.

"You the pilot of that ship?" a harsh voice demanded.

"Yeah," he stuttered. "Who—who the hell are you?"

"We're getting out of here," another voice cut in, "You coming with us, or are you another of the loyal ones?" The menace of the tone of those last words made Joe gasp.

"Not me!" he muttered. "Nina doesn't mean a thing to me."

"Good for you! Come on!"

"Here, hold on a minute," Joe objected. "Not so fast. I think you must be the guys a certain party by the name of Commodore Gale is looking for!"

"Commodore Gale?" came a new voice, and in the gloom, Joe could now begin to distinguish figures. This voice belonged to a tall, white-haired man, who pushed his way through the crowd to be near the little miner. "What do you know of Commodore Gale?"

"Hang on a minute and you can speak to him, if you like," Joe said excitedly. "I've got him here, right in my pocket." In his haste, he tore away the secret pocket which held the radio, and offered it to Rankin. "He's in a ship, out there, listening to us, now."

"The mystery ship!" Rankin gasped, clutching the little set, "Gale! are you there, can you hear me?"

"Loud and clear" came the unmistakable, clipped tones. "That you, Rankin? Glad to know you're safe, and sane."

"Thanks. Look, Commodore, there are fifteen of us here, all sane and ready to make a get-away; sixteen, counting

this pilot. We had planned to grab his ship and blow, while the rest of them are busy with this damned female. What's your plan?"

"Hold everything. You'll never make it in that scout-ship; won't hold all of you, and it wouldn't have a chance of beating this damned gadget of theirs. Where are you with reference to the landing-area?"

"We're within sight of the end of the pressure-tube."

"Right. Stay there. We'll be down right away." Faintly, they heard him snap an order. Grant stepped out from the group.

"It'll take them some time to get here," he figured. "I'm going back to my field set, to set-off the field effect——"

"Don't be a damn fool!" Banner snapped. "We haven't time for that now," but Grant had gone, snatching the tiny set as he went.

"It won't take more than five minutes," he called, over his shoulder, "It's all set for fifteen minutes' delay, and I can keep in touch, with this." The last they saw of him he was waving the tiny set.

The solitary guard on the reflector-tracker didn't see the descending ship until it halted, momentarily, before dipping into the cave-mouth. To him, it seemed to materialise out of nowhere, and was gone before he had done rubbing his eyes. He grabbed frantically for the phone, but there was no-one at the other end to hear his babbled warning. All the base personnel had gone to greet their Queen.

In the ship itself, there was growing excitement, as Fairless fairly caressed the control-studs, setting the huge ship down with barely a glow from her ion-tubes. As she settled, he cut the screen, and they saw the snake-like connecting-tube whip away from Joe's ship, and trundle over to their own, guided by the glowing indicator-light over the hatch. The clack of magnets echoed faintly up the ladder-space. A crew-man dropped hastily down the rungs, to guide the refugees. Fifteen astonished, but jubilant men tumbled through and climbed hastily up. In the control-cabin, all ears were anxiously turned to the little set, whence came the clattering sound of Grant's hurrying feet. There was a silence, then—

"Done it!" they heard his jubilant cry, and his jerky, but gay muttering as he began to run back. "Fifteen minutes to go, my beauties, just fifteen minutes, and then you can stay here till you rot. No power, no heat, light, air, and no get-

away." Norden, frowning mightily, turned to the first of the refugees to reach the cabin.

"What's that fool done?" he roared, and his ruddy face paled as Merrick told him, briefly. As he turned back to the set, the audience stiffened as they heard Grant gasp.

"Oh, my God, Rollo!" and faintly, the heavy, bull-like laugh. In a flash, Fairless was over to the set.

"Grant!" he called, sharply, "dodge him, make your way back to the landing-area. I'm coming to meet you!" He paused only to shaft a querying look at Gale, who nodded, grimly.

"Make it quick, lad," he growled. The big Lieutenant was off down the ladder, and along the tube to the air-lock at the far end. He passed through the double-door, which stood open, and halted, listening. After a moment or two, he could hear the tramp of urgent feet, and then saw a running, panting man appear from a dark, overhanging gallery-mouth.

"Grant?" he queried, "keep going, straight through, shut the door at the far end, once you're inside, and wait for me. Go on! I'll handle this."

His red hair bristled as he caught sight of the giant figure who thundered after Grant, but it was nothing to the reaction Rollo showed at the sight of the space-man who stood waiting for him.

"Ah!" he growled, like the throaty rumble of a great cat, and his movements, too, became cat-like, panther-like, as he drew near, studying warily this man who was more like his own size. "These is something like—now we have good fun, I think—how you like that!?" and he kicked out, viciously, with a heavy, steel-shod boot. Fairless writhed out of its way with deceptive ease, seized and jerked the ankle in one, swift, flowing movement, then smashed the other fist full in Rollo's face. Big as he was, the French-Canadian went down, but was up again, eagerly, and Fairless realised that the low gravity was going to negate any knock-down blows. Rollo charged forward, bull-like, to run right into another round-house right, which slammed him up against the rock-face. The big space-man stepped in, lightly, picking off his opponent with a long left.

"Any other time—my friend—he gritted. "I'd enjoy this—as much as you say—but, right now—I'm in a hurry." He measured up his man for another cracking right, as Rollo staggered away from the wall, but Rollo had learned in a

hard school. The stagger suddenly became a lightening lunge, and then Fairless was caught in a mighty bear-hug. The battered and bloody face, pushed close to his, split in a fearsome grin.

"No hurry, these time, my frien'—you going to wait—a long, long time—and when Rollo is finish—you not going any place—not ever, not any more—" and the huge arms began to squeeze. Fairless felt his ribs ache under the terrific pressure. Stifling a groan he fought back, desperately. For long moments, they stood immobile, locked in a crushing embrace. Rollo's eyes glittered in the dim light, the veins on his head and neck standing out like cords with the tremendous effort. Fairless, resisting with all his strength, had but one thought in his mind, one phrase which ran over and over, like a death-dirge 'Fifteen minutes. Fifteen minutes.'

Suddenly, he slumped, completely, then, like striking snakes, his arms were out of that broken grip and clamped on Rollo's neck and chin. Putting forth all he had in one desperate effort, he wrenched at that grinning, staring face, there was a harsh cry, ending sharply in a dull, grinding crack. He let the huge body fall, and sagged against the wall, gasping with relief, then, staggering a little, he made off at a jog-trot along the tube. Grant, watching through the view-plate, spun the door open in time to catch him as he fell through.

"Shut the door, quick," he gasped, "and give them the go-ahead, we haven't much time." Grant slammed the door, but waited to help the tired space-man to get going up the ladder. Hank, waiting anxiously at the top, leaned over and helped his last steps. Gale, tense at the controls, set the emission for maximum, the time-switch for half a second.

"Flat on the floor, everybody !" he snapped. "We're going up !"

For half a second they endured the crush of 2G acceleration then all was weightless again. Captain Daniels, the senior of the two rescued pilots, lifted his head, cautiously, from the deck.

"What happened, Sir ? She blow a tube, or something ?"

"Not at all !" Gale chuckled. "You can relax, everybody, we're in the clear, now." The little crowd of refugees got to their feet somewhat dubiously, and looked at each other. The two pilots glided over to the control-panel, wide-eyed.

"What the—— ? Where's Ganymede, and what sort of a ship is this, anyway ?" Daniels marvelled. "Did I pass out, or what ?"

"There's the thing you're looking for, right there, Captain," Gale indicated the tiny disc on the screen, "and," he switched to stern-view "there's Jupiter!" The two men gasped as the huge mottled, striped disc filled the screen.

"What—what speed were we doing, to get this far so quick?"

"Round about a hundred thousand miles a second," Gale murmured, as if it didn't matter very much. "Never mind that now. Where's Grant? Ah, so you're Grant, are you? Have you any check on the time of your fancy gadget, down there?" Grant pulled himself out of his daze, glanced at his wrist-chronometer.

"About three minutes to go," he muttered.

"What d'you think will happen, Steve?"

"Don't ask me, Windy. Heaven only knows what a pulsing-screen would do. All we can do is wait and see. How many units do you have, down there, anyway?" Grant began to look alarmed, realising that something was not quite right.

"Thirty-six," he said, slowly. "Four groups of triple-triads."

"And what sort of area would you expect your screen to cover?"

"Well, we couldn't experiment very much," the worried engineer admitted, "so we made it good and big. Enough to take in the landing-area as well, so as to ground any of their ships." Norden whistled.

"Boy!" he breathed. "I don't know what's going to happen, but it sure is going to be something big, believe me!"

They stared at the screen again. Grant raised his eyes from his wrist, his face white.

"Any second, now," he whispered, and as he spoke, there grew a shimmering purple veil over the visible surface below, a glowing flame that died, and sprang up again, winkingly, like a huge eye blinking. As they cringed, instinctively, they heard Norden muttering to himself.

"It may stabilize itself, but there's a hell of a lot of power there—the feed-back might just manage it——"

The flare grew in intensity and spread until the whole surface of the satellite was wrapped in that flickering purple glow. Then, suddenly, it flowed smooth and unbroken, for one long moment, a huge, soap-bubble sphere of force. Then——it was gone! The fascinated audience gasped, as the disc of Ganymede began to shrink, visibly, in the screen.

"What the blazes ! ?" Gale slewed round to Norden. "It's running away from us, Steve !"

"Wrong again, Windy," the burley scientist roared, excitedly. "The whole satellite is screen, inertialess—it's us, moving away from it, along with the rest of the Solar System." Gale bent a sharp eye to his panel instruments.

"By the stars, you're right, too, Steve. With our screen down, we are moving along with Jupiter." He rechecked and reset, hurriedly, cut in the screen, and the ship leaped to a position such that its apparent motion was parallel with that of the runaway satellite. The view became stable, in the screen. He turned, once more, to his physicist friend.

"What happens now, Steve?" Norden felt for his slide-rule and scratch-pad, looking round at the silent group of refugees.

"One of you guys wouldn't be an astronomer, by any chance?" he asked, hopefully. Unwin moved forward. "That's a relief. I'd like you to check my guesses. Here's the problem. That object, there, and us, too, for that matter, are completely at rest, with reference to the rest of the universe. Don't ask me to explain why, just now. Believe me, it's as I say. What we have to do is plot our apparent motion, with reference to our immediate environment, follow?" Unwin nodded, hesitantly.

"With reference to the Sun," he said, slowly, "we would be, in this area, leaving Jupiter behind at about eight miles a second."

"Yeah, I got that—"

"—and we mustn't forget that the whole Solar System has a proper motion in the direction of Hercules," he added, reaching for the Star-maps, "Let's see—Solar Apex—Right Ascension 271° , Declination plus 31° approximately, speed—20 Kilometers per second—" Norden grunted, scribbling vigorously, and the two men checked over each other's figures, carefully, their faces growing grim.

"You don't have to tell me !" Gale stabbed an explanatory finger in the direction of the tele-viewer, "Get a load of this." On the screen they could see the ragged, flame-toothed limb of Sol creeping into sight, as yet still distant and small, but growing visibly.

"Dead right, Windy," Norden confirmed, quietly. "We're moving in a great curve, or the Sun is, whichever you like, and we're due to meet up in about six thousand hours, two

hundred and fifty days." After the split-second urgency of the past few moments, this had the effect of an anti-climax. There was a concerted sigh of relief as the shaken men saw prospects of time to devise some way out of the incredible situation.

"Is there anything we can do for those unfortunate people?" the little Commodore asked. "Lord knows, we have no reason to feel sorry for them, but we can't just stand by and do nothing. Any chance, Steve?"

"Nothing that I can see, Windy," the scientist growled, frowning. "We can't swing a mass of that size, even if it is practically inertialess. That satellite is over three thousand miles in diameter, and, even at a tenth of a percent, that runs into thousands of tons. So far as I can see, we're helpless." Fairless, by the panel, was taking sights on the distant object, more to occupy himself than for any practical reason. After the dozenth attempt, he turned to Norden, frowning.

"Steve! there's something wrong here. Every sight I take shows that the satellite is getting further and further away from us!"

"Eh!? It shouldn't do that. Let me check—" Norden lined up the viewer, carefully, checked the focus, then he, too, looked puzzled.

"That's funny. It is gaining on us—by the stars! Of course it is. Frank, we forgot something!"

"I don't think so," Unwin put in, defensively, "My figures check with yours—"

"Nothing you would know about, son," Norden rumbled, "My fault for giving you the wrong data. We were figuring on a body absolutely at rest. I forgot to allow for that tenth of a percent residual mass. That's giving it an acceleration, towards the sun!" He bent over his pad, scribbling vigorously. The rescued space-man, Captain Daniels, moved in close to the Commodore, discreetly.

"Begging your pardon, Commodore," he murmured, with careful tact, "but hadn't we better start pulling out. After all, we are heading for the Sun, at a heck of a speed, too!"

"That's all right, Captain," Gale replied, with casual assurance, "With this screen we can pull out any time we want. There's no great hurry. What do you make it, this time, Steve?"

"No great hurry, be damned!" Norden snapped. "That acceleration makes all the difference. My math. may not be all it should be, but it cuts the time down to hours instead of

days. And don't rely too much on the screen, as we get nearer to the Sun. I don't know just what the effect will be, of all that electro-magnetic radiation, but you can bet it won't do a lot of good. My guess is that it will break down when it gets too close. We'd better be prepared to keep a respectful distance."

With that announcement, tension began to mount once more, in the little cabin. Unwin and Norden wrestled with figures, while the rest kept a fascinated gaze on the screen. Automatic polaroid dimmers spun softly, as the flaring disc of the Sun grew, slowly but steadily, and the now dark mass of the runaway Ganymede, grew smaller and smaller. Instead of pulling out, Gale found it necessary to jump the ship ahead a little, from time to time, in order to keep the dark spot in view-range of the screen. They were almost within the orbit of Mercury before they saw the break-down which Norden had prophesied.

By now, the satellite was merely a dark pin-point against the red glare of the sun's huge disc. Despite the dimmers, their eyes ached with the effort of staring into that flaring mass.

"There it goes!" Norden grunted, unnecessarily, as a sudden, even brighter glare spread suddenly out from the dark spot, and was instantly swallowed up in the leaping writhing corona of the Sun.

Gale pushed back from the control-panel, wearily. With a touch of mordant humour, he turned to Dr. Rankin, smiling thinly.

"Well, Rankin!" he muttered. "It looks as though you're all done with research on Ganymede. You'll have to find yourself another project."

"That won't be difficult," Rankin came back, shaken and white-faced, but undaunted. "It's going to take us a few years, at least, to plot the new orbits of the remaining satellites of Jupiter. Heaven only knows how they will react to this!" As he got a grip on himself, his face began to brighten still more. "As a matter of fact, Gale, this is going to help us enormously in solving some of the outstanding problems of celestial mechanics." Gale stared at him in astonishment, then transferred his gaze to Unwin. He, too, was beaming.

"I can't wait to see what this will do the sun-spot frequency," he enthused. "It should set off quite a reaction!"

The weary little Commodore shrugged, resignedly. "Pre-

serve me from the scientific mind," he groaned. "Am I the only one around here who has any feelings at all? Lieutenant, take over, will you? I've had a good run, and I'm just about ready to call it a day. Sun-spots!"

"Right, Sir!" Fairless slid into the seat. "Where to?"

"Where to? Don't tell me you're crazy, too, Lieutenant. Where to, he says! Home, damn it! Home, and as quick as you like!"

"Home," Fairless thought, as he set up course-co-ordinates, "Yes, we are going home, this time—but, next time, we'll be headed for the stars!" He laid a thumb on the firing-button. "The stars!" He sat up suddenly, purposefully.

"Places everybody!" he ordered, "Up screen—stand by!" and hit the firing-button.

THE END.

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