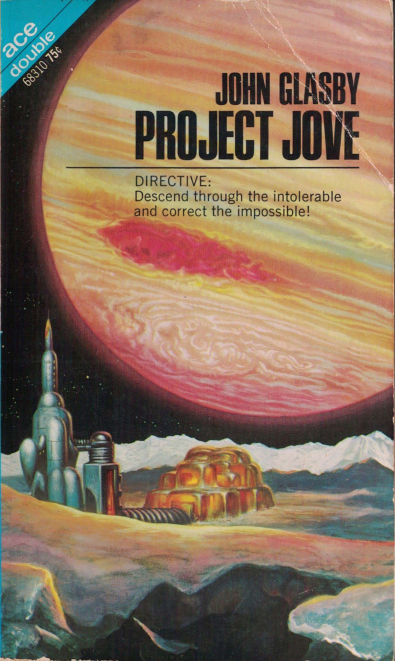


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JOHN GLASBY PROJECT JOVE

DIRECTIVE:

Descend through the intolerable
and correct the impossible!

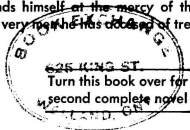


Norbert Donner and Project Director Stanton have worked on Project Jove for six years, observing the work in the Jupiter surface lab by means of the Fly, a remote-controlled exploratory ship.

But their peaceful studies are suddenly disturbed by Senator Clinton Durant, a somewhat paranoid politician from Earth, who is convinced that Stanton is hiding something on Jupiter's methane and ammonia clouded surface. Durant decides to ride a Fly down to the surface laboratory, a place in which no human has set foot for ten years.

No one, least of all Donner and Stanton, can convince Durant of the danger he and his two assistants will face, as the South Tropical Disturbance is moving toward an intersection with the Great Red Spot, bringing with it storms devastating even by Jupiter's standards. Into this chaos Durant must plunge, intent on questioning the surface lab robots, whom he suspects of anti-human tendencies.

But Jupiter has other plans for Durant, and he soon finds himself at the mercy of the giant planet and the very men he has accused of treachery.





JOHN GLASBY PROJECT JOVE

ACE BOOKS

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THE HUNTERS OF JUNDAGAI

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I

NORBERT DONNER had never felt the same since the word had come through that the *Terra Nova* had left Mars and was on its way out through the Belt, headed for Io. At first, he had resisted a growing sense of uneasiness by stubbornly concentrating on his work. Routine—that had been the watchword.

Everything at the base must appear normal and completely aboveboard. Clinton Durant and those other politicians from London and Washington must never suspect the truth about the experiments being carried out in the laboratory on the Jovian surface. Deliberately, he steered his mind away from such thoughts, telling himself that a sense of guilt was not permissible for a scientist. Such thoughts could eventually lead to betrayal and that could bring unfortunate consequences. The top brass on Earth were always pretty touchy where these outworld research programs were concerned.

The call from Mars had come in two weeks before, without details, deliberately kept as brief as possible because of the tremendous radio blast from nearby Jupiter, two hundred and sixty-two thousand miles away, utterly swamping the whole of the radio spectrum and making it virtually impossible to pick up any incoming signals without gross distortion and interruption. There would undoubtedly be the usual questions to answer and these men would want to see everything that went on at the Io Base, but this, in itself, presented a few problems. The difficulty would arise if they brought along any of their scientific advisers; then things might prove more troublesome. After all, the project had already swallowed up the best part of five billion dollars of the taxpayers' money and they felt they had a right to know just what was being accomplished and what benefits might be derived from the project.

With a sigh, he forced away the growing sense that com-

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plete disaster was about to break over the entire project and felt vaguely pleased when the shrilling of the door alarm brought him back to full awareness of his surroundings. Grunting involuntarily, he punched the blue button in front of him and leaned back in his foam chair as the door slid obediently open.

Hebster came in, paused for a moment, then took off his helmet carefully and walked forward on shaky legs. The fact that the outside gravity was somewhat less than on the Moon while inside the dome it was Earth standard, made the abrupt transition a little difficult for the big man. Slipping off his suit, Hebster went across to the wide, curved porthole in the wall and looked out speculatively into the deep blackness of the endless, empty night.

Just like some hungry monster pressing hard against the tough armorglass, waiting to pounce the moment they let down their guard.

Turning, the other said harshly: "You seem more jumpy than usual, Norb. Something on your mind?"

Donner gave an awkward, unconvincing shrug. "This entire affair kind of worries me a little, I guess. I can't help thinking about that party of senators due here in five days. If only we knew why they're coming and what it is they really want."

"Isn't it obvious? There's more than four billion dollars invested down there on the surface of Jupiter at the bottom of all that stinking ammonia and methane and they want to be quite certain that not a single lousy cent is being wasted. I guess if I were responsible for all that dough I'd want to feel there'd be some tangible return from it. I wouldn't be content just to sit behind a desk somewhere on Earth and accept at face value the few reports that manage to filter back via the Belt and Mars, most of them probably distorted out of all recognition on the way. I'd want to come out here once in a while and take a look for myself."

"Just so long as they're content to go no further than Jupiter Five. They can see all they want to on the video-scanners." He tried to keep his tone steady. The chair creaked a little on hidden springs as he shifted his weight on it.

Hebster frowned. "You don't suppose they'll want to go all the way down, do you? See things in the laboratory at first hand?"

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It wasn't really much of a question. Only a very unusual visitor or an exceptionally inquisitive one, would ever want to risk the journey down to the laboratory.

"Who knows what they may decide? I reckon that's really what has been bugging me ever since the news came through." Donner sighed, pushed his long legs straight out in front of him. "I know that since the lab was built only a handful of men have actually gone down to it. But if Durant is with them and he's determined to be as awkward and bloody minded as usual, we'll have no choice but to give in."

"Have you taken this up with Stanton?"

Stanton was head of Project Jove. A short, balding man who watched over the thirty-five technicians and fourteen scientists of the Unit like a combination of God and an earthly father.

Donner shook his head slightly. "I've been meaning to for some time but so much has come up in the past couple of weeks that I never got around to it."

"I would. If it would put your mind at rest it might be best to discuss it with him. If such an idea is in any of their minds, he's the only man to put a stop to it."

"And if he decides to let them go?"

Hebster grinned faintly. "Then it won't be on your conscience, will it? Have a talk with him anyway when you go off duty."

Donner nodded somberly. Through the circular port he could just make out the rising, jagged shelf of white rock which speared up close to the horizon. Here, on Io, it was sometimes difficult to realize, even after a stay of six years, the horizon was so close that those mountain peaks were not much more than thirty miles away. There was always that strange sense of toppling perspective when one looked at them, seeing them almost as if they were poised on the very edge of the world, pointed away from him by the sharp curvature of the satellite. The main base of the Unit was located in a wide, shallow basin with the needlelike escarpments catching the hard, brilliant glare of Jupiter just out of sight of where he sat, reflecting the light back into the dome so that at times there seemed little need of the fluorescent tubes set close to the curved ceiling, the power supplied by the nuclear generator situated deep in the solid rock and ice

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far below the main complex. The sun itself was a small, bright disc with the long streamers of the corona clearly visible against the stars, which showed as a powdering of clear, needle points, sharp and incredibly brilliant. The winged disc of Ancient Egypt shining in glory against the constellations.

The political decision to erect a base on Io, the innermost of the four largest satellites of Jupiter, had been taken a long time before anyone had dreamed of Project Jove. Even now, ten years later, it did not seem credible that there could be a fully equipped laboratory down there on the solid, but endlessly shifting surface of the giant planet, nearly six thousand miles below that seething, turbulent, stormy atmosphere of poison gases. Stanton was the only man on the base who had been with the project from the very beginning and he seldom talked about those early years, almost as if he preferred to forget the many initial failures, not only the superficial ones, but the inevitable lives which had been lost.

Hebster picked up his helmet, gave Donner a friendly clap on the shoulder, then walked unsteadily toward the door leading into the center of the base. Not only the outside locks, but each door in the complex was an individual airlock. Past experience on the Moon and Mars had taught them the hard way that danger, especially on airless worlds where meteoric bombardment formed a prime source of trouble, could come abruptly and without warning of any kind, and it was absolutely essential that should one section be hit, every other would be adequately sealed. Hebster stepped between the double doors of the lock, raised a hand in farewell; then his bulky figure vanished as the door slid shut.

Donner smoothed the palm of his hand over his forehead, felt the beads of perspiration which had gathered there, automatically put up the flow of cool air into the dome. His notes were spread out on the desk but he ignored them for the moment, still preoccupied with the thought of what could conceivably happen once that rocket load of senators and scientists arrived on Io.

He was oblivious to the rest of the dome around him. It was one of more than forty similar erections all linked together into one vast network of curved buildings which sprouted like metal-and-plastic mushrooms in the center of the shallow crater between the ring wall of tall peaks—well lit, comfortable, almost luxurious compared with that which

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had been his lot on Mars six years earlier. It had been designed with one aim in mind, apart from the scientific reasons, that of making a man as contented as possible during his isolated tour of duty.

Turning back to the board, he punched a couple of buttons, tuning onto the Jovian atmosphere, waiting impatiently for the picture to clear. Lines and streaks darted over the smooth surface of the video-screen, then the image steadied.

Sitting there, Donner tried to ignore the little lizard that started walking up and down his spine on ice-cold feet. Always, whenever he found himself looking out onto that raw, undiluted hell of the Jovian atmosphere, he experienced the same primitive fear which gnawed and tugged at his mind, threatening to tear his sanity to shreds.

The viewer had picked out only one particular spot in the seething turbulence; the remote-controlled Fly—a complex mechanism of high pressure ice and silicon electronics—a quarter of a million miles away, settling deeper into the writhing clouds of frozen methane and ammonia crystals. Most of the time it was impossible, or almost impossible, to make out anything definite through the sweeping clouds and ragged shards of low temperature gases that roared across his vision, driven on by a tornado of unbelievable violence. In that darkness, in the middle of that terrible storm, even the ultrawave vision of the Fly was of little help. Occasionally, there was the boiling, erupting violence of a hydrogen explosion far below, the great sheeting layer of light dimly visible, a long stretch of spuming orange fire which came roaring and rushing upward out of those fearsome, Stygian depths.

Not even a Dante could have conceived a hell such as that which existed down there!

Donner had the feeling that no matter how often he looked at that raging hellfire, he would never be able to get used to it. This was something not meant for human eyes and he experienced a momentary wave of thankfulness that the viewer was silent. Sound accompanying that terrible sight would have been intolerable.

Yet, in the beginning, men had ventured down into that savage, sweeping, storm-laden atmosphere, down into a temperature of -100° centigrade, down into a crushing pressure

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of almost a thousand atmospheres, down to the surface six thousand miles below; and there they had discovered the solid surface of the planet—an unstable, drifting mass of ice which had the consistency of the hardest steel. There, they had erected the dome of ice and built one of the strangest laboratories in the entire solar system. Even now, there were few people apart from Stanton and himself who knew why that laboratory was there and what was going on in secret under the Jovian atmosphere with the work carried out entirely by robots activated by remote control from Io.

Several scientists knew that the laboratory had been put up at such a tremendous cost in money and lives simply because it was only there, beneath that massively thick cloud belt and crushing pressure, that experiments with these fantastically high pressures could be carried out. There was, of course, a further, deeper reason behind it all, and possibly some of the men coming in on the *Terra Nova* had guessed this. But until these delicate experiments proved to be a success, he sincerely hoped they would discover little of this.

The Fly was dropping deeper into the atmosphere now. The vast glowing fireballs of flaming hydrogen gas were more numerous, more violent in their pent-up fury. Volcanic activity on an incredible scale, a fusillade of hydrogen explosions which utterly dwarfed that of a nuclear bomb. There were horizons down there in those murky depths which no human eye would ever see, he reflected as he turned the dial gently, guiding the Fly as adeptly as if he were down there himself in the midst of all that screaming fury.

It was instantly obvious that something really wild was happening on the surface. The detonations were more frequent, more terrible than any he had known before. Probably something to do with the Great Red Spot. He checked mentally, nodded slightly to himself as he sat hunched forward in his chair. If his memory was correct and his calculations were right, the South Tropical Disturbance was due to overtake the Spot sometime during the next four weeks. Whenever that happened, things went really berserk and, now that he thought about it, there had been occasions in the past when it had been utterly impossible to keep contact with the laboratory and for several days there had been no record at all of what went on there. It was this problem

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they were striving to overcome at the moment, because at times such as this, when the atmospheric disturbances were at their maximum, they could obtain some of the most valuable data.

There was a long, exceptionally heavy, explosion. The picture on the screen danced for several seconds before steadying, and he knew it would make no difference how much he adjusted the knobs and dials in an attempt to control it—the Fly had been caught by the surging whiplash of that tremendous concussion. The scanner itself, enclosed in its thick, cold, ice shield—for even the toughest steel would become a friable, puttylike material under the conditions which prevailed down there—had been caught in the spreading shock wave, bucking savagely and temporarily out of control. Then the servo-mechanisms took over again and it righted itself almost miraculously. The picture regained its earlier clarity and he let his breath go in little pinches through his mouth, scarcely aware that he had been holding it bottled up inside his lungs for so long.

The tremendous streamer of flame which seared across the entire breadth of the plate looked hot and frightening, but common sense told him that it was, in reality, far colder than the temperature inside the room in which he sat, more likely to freeze a man to death than incinerate him.

Mile after countless mile, the Fly sank into the whirling, writhing turbulence. The ultrawaves picked up details in the dense murk, sent the impulses winging back through all that pressure and cold, back across the eternal, empty blackness of space for a quarter of a million miles, feeding them into the receiver in front of him. Incredibly swift, traveling at the velocity of light, those impulses took less than three seconds to reach him from the scanner so that what he was seeing at that moment was, to all intents and purposes, actually happening then.

The image on the screen suddenly became very steady and he knew that the Fly had locked itself automatically onto the probing beam sent out from the laboratory, that he need no longer guide it manually. He relaxed a little, sat back in his chair, breathing easily and normally now, watching the picture which appeared before him: the fireballs which spewed across the whole area of sight, the surging upheaval down below as the Fly tilted slightly, giving him the

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strange sense of standing poised on the very brink of a vast and bottomless abyss which suddenly yawned in front of him. For a moment, in spite of the tight grip he had on his emotions, his hands snapped out, fingers tightening convulsively around the sides of his chair. His mind told him that he was falling forward, irretrievably lost, dropping into that endless gulf which led down to the invisible surface still more than a thousand miles below the scanner; while his bodily sensations told him, equally insistently, that he was still seated in the chair inside the dome, safe and secure. Somewhere between these two conflicting emotions lay the truth. He knew instantly what had happened. The Fly had tilted about its horizontal axis so that it now pointed almost directly downward. It was beginning to accelerate now that the beam from the laboratory held it fast.

This abrupt acceleration was due partly to the tremendous pull of the giant planet at that depth in the atmosphere and also to the fact that being under such tight and automatic control, there was no longer any real need to place such a constraining force upon it as before to hold it steady and prevent it plummeting out of control into those Stygian depths.

He let the air sigh gently from his lungs as, fifteen minutes later, the curved bulk of the laboratory appeared in the exact center of the screen. It would have been completely invisible against the black background had it not been for the savage splashing of orange fire in the near distance; a flare which highlighted the great domed structure, showing it up clearly, dark and oddly forbidding. It was something that seemed so utterly out of place down there, especially after that semi-visual journey through the atmosphere, that the mind refused to take it in properly for several seconds. Before it could, the scene altered abruptly. No longer was the Fly outside, but in the laboratory itself.

He blinked his eyes instinctively at the rapid change of focus. The sharp transition from the insane fury of that writhing, insensate storm to the calm, leisurely picture of the interior of the laboratory, was always a distinct mental and physical shock to him. He had never been able to anticipate it, to prepare himself for it and, oddly, it seemed to be getting worse all the time.

The clicking of the relays as he cut in the secondary con-

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trols indicated that the data, which had been stored in the computers since the last contact had been established, was coming through without interruption. He rose to his feet now, relaxing completely. Everything was taken out of his hands by the automatics and there was nothing for him to do but stand and watch if he cared to, or take a walk around the dome. Indeed, there would be no more for him to do until the broadcast stopped, at which time he would flip all of the switches to "OFF" and then go off duty. Five hours on watch and twenty hours off; that was the way in which they worked their twenty-five hour day on Io. Not a grueling system, perhaps, compared with Earth standards, but there was nothing even remotely resembling Earth here and it was difficult to get away from the ever-increasing strain of the endless monotony. That alien landscape which lay just outside the domes, the looming mass of Jupiter filling the heavens, dominating their waking lives and thoughts. All of that added up to a strain which would have been utterly inconceivable to anyone back on Earth.

He walked over to the big porthole and stared out, hands clasped at his back. Behind him on the raised platform, the clicking went on and on, varying oddly in pitch and regularity, never remaining the same for more than a few seconds at any one time.

The monotonous, airless stretch of Io's surface curved away in front of his vision, out of the equally curved horizons, toward those upthrusting peaks with their tips emblazoned in sunlight, their bases in deep midnight shadow. He could just make out the shining domes which made up the great complex of the base, all linked by tunnel-like corridors, totally enclosed; for a man died instantly if he stepped out into that monochrome airlessness without a special suit.

A man died within a few seconds out there on the tumbled dissymmetry of the rocks if he had no protection against the vacuum. There was no vacuum down there on Jupiter, but a man died just the same. It was strange, though, how the first thought scarcely touched him whenever he considered it, whereas the latter filled him with such an unreasoning and primitive terror.

Lifting his head, he looked deliberately sunward for a moment, narrowing his eyes down against the glare of that fiery disc. Scarcely visible, unless one knew exactly where to look,

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lay a bright double star, now close to the sun. Earth and Moon! He allowed the thought to trickle slowly through his mind, felt the sharp pang of nostalgia. Out there, on that tiny speck of light, life had begun and evolved over countless millennia, had built itself up from a tiny piece of protoplasmic jelly in a truly complex manner, deep in some warm and primal ocean, evolving and changing with its environment, never static, always a dynamic thing, altering and yet, curiously, always the same in its fundamentals. There were many organisms which had appeared on Earth during the past few hundred million years. At times one had gained on another and the delicate balance had been upset. A whole species had died out simply because it had been unable to adapt fast enough in the overall scheme of things.

Man had been just one of these organisms, but somehow he had succeeded in fighting to a highly favorable place in this particular corner of the universe. He'd fought grimly and doggedly in the struggle for supremacy; and with Man, there had been one basic advantage which the other life forms had not possessed. Certain individuals had fallen by the wayside in the long and bitter fight for survival but those who remained had learned from past mistakes and had pushed on, still evolving, still learning.

Now Man had left the home planet behind, had moved out to the other worlds of his solar system, leaving his mark on the iron red deserts of Mars, the oil swamps and fever-infested deserts of Venus, the asteroids and the barren moons of Jupiter and Saturn. Maybe by now, in the years he had been isolated here on Io out of touch with such events, they had gone even further afield, were on the satellites of Uranus and Neptune, perhaps even Pluto—

He let his imagination run its gamut. For all he knew, for all the others in the Unit knew, they were reaching out for the stars, straining across that awful gulf of space which divided Pluto from Alpha Centauri, the nearest star system.

He shifted his glance abruptly back to the control board. The clicking of the relays had stopped. There was a deep and ringing silence inside the dome. Slowly, almost reluctantly, he moved away from the port, crossed the room and drew the palm of his hand over the outjutting switches, knocking

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them all into the "OFF" position. The flat screen went dead with one final, brief flash of light.

Reaching for a cigarette from the automatic dispenser, he shook it alight, placed it with an almost exaggerated care between his lips and drew deeply on it, pulling the smoke down into his lungs. Cigarettes were one of the major luxuries they were permitted here on Io. No tobacco, nor anything remotely resembling it, could be grown in the utter airlessness of the satellite and the hydroponics were too occupied with the production of food for anything not absolutely essential to be grown. For everything else they were forced to rely on the monthly flight out from Mars.

He had half smoked the cigarette when the internal viewer buzzed. There was an oddly peremptory note to that buzz as if it had transmitted something of the character of the man at the other end. Donner could guess who was calling before he snapped down the switch which completed the electronic hookup and the man's image brightened on the plate.

"Everything finished now, Norbert?" asked Stanton in his precise, clipped tone.

Donner nodded. He threw the half-finished cigarette into the disposal chute, rubbed the faint smear of gray ash from his fingertips. "Just finished, chief," he acknowledged. "No trouble, though I must admit I'd been expecting some this time."

"The S.T.D?" It was more of a statement than a question on the other's part, although the thick, tufted brows were raised a little.

"That's right. It's going to make more and more trouble for us as the days go on."

"I don't doubt it." A quick nod. "You know about that ship heading this way?"

"I heard about the message. Ought to be here in a few days."

A pause, then: "I'd like to have a talk with you about these visitors, Norbert. In the next half hour if you can manage it."

"Sure. I'll be along in ten minutes after I close down." He felt the muscles under his ribs tighten a little as he tried to guess what was in the other's mind. He had intended to call up Stanton and ask to see him on this very subject whenever

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it was convenient. Now it was the other who had called him and as urgently as this. Could Stanton be worried too about the real reasons behind this unscheduled visit from the big brass?

There was nothing on the other's face to indicate the nature of his thoughts and Donner gave up trying to read the veiled expression in Stanton's level gaze.

"I'll be expecting you here in ten minutes then," Stanton was saying. "This is important. I'd like you to keep it strictly to yourself, at least for the time being."

"Of course. I understand." Reaching forward, Donner broke the connection as the image on the screen faded.

"Sit down, Norbert. Smoke if you wish." Stanton indicated the chair in front of his desk with an expansive wave of his right hand. He settled back in his own chair; a short man, going to fat, his skin forming into rolls and bulges on his face. On Earth, he might have found such excess weight uncomfortable if not dangerously burdensome, but here, in this lower gravity, it made no difference to him, was virtually unnoticeable.

Donner lit a second cigarette, sat back and hoped he would be able to enjoy this one to the full. Through narrowed eyes, he regarded the other carefully, taking care not to let Stanton become aware of the strict scrutiny. If only half of the stories told about this remarkable man were true he was certainly a very exceptional person. He had been down onto the Jovian surface at least three, possibly four, times in his life and was still alive to tell the tale. He had even spent a whole week inside the laboratory on that shifting, unstable surface, under that tremendous layer of poison gas.

Placing the tips of his fingers together, Stanton stared over the fleshy pyramid they formed. He said quietly: "You probably know that Senator Durant is heading this mission from Earth, a fact-finding mission they call it. Knowing him, he'll want to see and learn everything we do here."

"You think that he'll understand anything we can tell him?"

"Probably not. But he's got Sam Bush with him, and Bush will."

Looking hard at the other, Donner bit his lower lip. "That

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means he suspects something. He'd never drag Bush all the way out here unless he's got it into his head that we're engaged in something more than just studying the effects of high pressures and low temperatures on metals."

"Exactly. So far, only you and I know the real nature of the experiments going on down there on Jupiter. At the moment, we can't afford any leakage of information, even to him. Whatever happens, they mustn't guess what we're doing. You understand that, of course."

"Naturally." Donner frowned. "But I don't see how we can prevent it. If only they didn't have Bush with them we might have a chance of blinding them with science." He hesitated. "Of course, unless they were to go down to the laboratory there is no way they can find out anything important."

Stanton's eyes gleamed behind the spectacles. "The trouble with Durant is that he'll insist on going down."

"Even if we warn him about the effect of the South Tropical Disturbance?"

"Well . . . that might be enough to put him off. With a bit of luck the associated storms should retain their intensity for some weeks once things really get bad. As I say, I don't quite know what he's after, but I don't like the smell of it. I've got the feeling that he doesn't trust me completely. Not without reason, I suppose. That's why I need your help. You did a lot of good work on Mars according to your record. He's no reason to believe you'll pull the wool over his eyes. I want you to insure that he discovers only what we want him to know—nothing more."

"And the other technicians on the Unit?"

"They know nothing of our real experiments. They can't let slip anything of importance."

"There may be a chance then."

"Not much of one with Bush snooping around. Still, it's the only one we've got. Heaven knows, I don't like playing God in this way, but when we're so close—"

"I know. Sometimes it even frightens me to think of what we've got down there."

"It only means hanging on until we're absolutely sure," said Stanton smoothly, his face betraying no emotion whatever. "Now when they dock here, I want you to take over. I'll be relieving you of all duty until they leave. Any trans-

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lating of the incoming data will be done by me, personally."

"I understand." Donner sat quite still for a long moment, thinking about that experiment. In those seconds he realized that, in spite of being the only other person to know anything about it, his own knowledge was pitifully meager compared with that inside Stanton's brain. And if anything went wrong down there on the Jovian surface . . .

He screwed up his eyes tight as if, deep within his mind, he could already see the utter devastation it would bring about, then opened them slowly and got to his feet.

As he left the office and made his way along the hollow-echoing corridor which rang metallically with his footsteps, he told himself fiercely that nothing would go wrong. Nothing at all. Everything, as he knew, was going forward on schedule except during those intermittent periods when the South Tropical Disturbance overtook the Great Red Spot and there was a blind spot in their data. But surely there was no reason to fear that? Surely nothing could happen down there while they were unable to watch and collect the vital information. He straightened up deliberately. It was just nerves before the battle he knew to be looming up on the horizon, and even Stanton, for all his knowledge, suffered from that.

Once the door had closed behind Donner, Stanton thrust himself out of his chair, crossed the room and opened the door into the honeycomb of small rooms at the rear. Here lay the brain center of the entire complex. Mechanically, he inserted the end of the electronic tape into the quietly humming machine, clipped the spool into place and thumbed down a couple of switches. For a moment, standing there, he had the oddest sensation of utter bewilderment. He was the supreme master of all this, and yet he somehow felt as if he could do nothing with it.

Lowering himself into the padded chair behind the small desk, he got himself a drink, gulped it down and then poured out a second, swilling the amber liquid around in the glass. His sense of depression was getting worse, amplified by its utter lack of true reason. There was, he tried to tell himself, no need to feel this way simply because of this delegation coming out from Earth. The trouble, of course, was that more and more science was becoming the pawn of the

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politicians. They provided the funds and thought it only natural that they should be the ones to pull the strings to make him jump the way they wanted. Always, he had fought against the things in which he did not believe, found a way of doing what he believed to be right. Now he would be forced to cringe and crawl, to lie, and keep a close watch on his tongue because he dared not let any of these men find out what was really going on down there in the laboratory.

He stared about him, momentarily panicking in his utter helplessness, then tossed down the glass of whiskey. Among the long banks of instruments, muttered voices whispered in the room. Stanton forced himself to ignore them. Almost without concentrating, he could recognize the orderly progress toward the translation of the data which Donner had brought in.

The whiskey had brought a warm, enveloping glow to his stomach but he fought down the temptation to take another. He was not used to drinking and knew he needed all of his wits about him at the present time. Like Donner, he was more than a little worried about those blind periods when they were unable to monitor the work going on down in the laboratory. Unlike Donner, he knew a little more about the makeup of the robots who worked down there. The latest models, they were capable of the nearest thing to rational thinking, and he had always entertained the nagging suspicion that maybe, sooner or later, they might begin to reason things out for themselves.

If that should ever happen, they would really be in trouble.

II

SENATOR CLINTON DURANT had seen the vast, looming bulk of Jupiter, as visible from Io, only on the tri-dimen screens back on Earth. He had also read all of the available information on the Io Complex during the long, tiresome shuttle across the Belt from Mars—but to be standing there, on that barren, rocky surface with a sky as black as ink curving away to the ramparts of infinity and the sun shrunken to a small disc . . . he had never dreamed that this would occur.

Smoothly contoured domes stood out like warts over the whole area of the wide depression, and there was an odd toppling sensation which he was unable to shake off. For a brief moment, he wished that he had never come to this god-forsaken world. Mars had been bad enough for a man who had previously never ventured further from Earth than the Lunar Base, but this was infinitely worse. Tersely, he shook himself, mentally and physically, turned abruptly as the man beside him took his arm and led him toward the airlock less than twenty yards away. He felt clumsy and awkward inside the heavy suit and the visor kept steaming up so that the image of the towering escarpments on the skyline blurred and faded at irregular intervals.

He bent his head instinctively as he passed through the narrow opening. Already, Io was beginning to weigh on him. There was a sense of something disastrous about this place. Even though he suspected that it was simply his own difficulty in acclimatizing himself to his surroundings, he could not shake it off. The other members of his party moved up behind him. They were stopped by a smooth steel wall and waited. A pause, then the wall slid to one side and they entered the Unit.

"You may remove your suits now," said their guide. "The air pressure and gravity in here are both Earth normal."

Durant stiffened a little. He thought he detected a faint note of derision in the other's tone, had come across this

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attitude before whenever he came into contact with the scientists. *They resent us*, he thought sharply, *simply because we are the government-appointed watchdogs over their funds and activities.*

Fumbling a little, he hauled off the cumbersome suit, handed it to one of the waiting technicians. Turning, he threw a quick, meaningful glance at Bush. The other gave a faint nod, returning his stare. Durant's lips curled a little. At least he had come fully prepared on this particular mission. There had been too many occasions in the past when these scientists had tried to tie him up with their jargon. He was determined that this time it would not happen. Bush was, almost certainly, the best man he could have got to accompany him to Io. If there was anything in this hunch of his that something was going on here about which Earth Government knew little, or nothing, then Sam Bush would dig it out.

"If you'll follow me, ladies and gentlemen, I'll take you along to Doctor Stanton's office. He is expecting you."

They marched off in a straggling group along the wide corridor of gleaming metal into the office at the far end, passing a maze of secondary passages on the way; long, sterile tunnels which led off in all directions, providing them with their first impression of the hugeness and complexity of the place.

Durant cast a quick look about him as the door closed behind them, then focused his attention on the man behind the desk. The other's past record and reputation were well known to him, but this was the first time they had met in the flesh. Stanton gave them an expansive, genial smile as he waited for them to be seated, but his air of frankness was completely lost on the politician, merely adding fuel to his suspicion that the man had something to hide.

"It's good to have you here, senator," Stanton said. "I hope the journey wasn't too bad, but I guess you all knew what you were letting yourselves in for coming out all this way. At present, this is something of a backwater as far as interplanetary flight is concerned."

"We don't want to take up any more of your time than is absolutely necessary, Doctor Stanton," Durant said coldly. "I want it to be clearly understood that once I've satisfied myself that everything is going forward on schedule and

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seen for myself the work you're carrying out, I'll be only too glad to get back to Earth and make my report to the government."

"I would have thought that all the information you'd need was given in the reports we send back regularly to Mars, senator."

Durant turned his head sharply to glance at the speaker, standing near the wall behind Stanton. He had noticed the other the moment he entered the office but had not given him a second glance. Now he concentrated on him, taking an instant dislike to what he saw. The man was a lithe, six-footer with crinkly blond hair indicative of Nordic ancestry. He suppressed a sneer.

Stanton coughed, said abruptly by way of introduction, "This is Doctor Norbert Donner, my assistant. He's been closely associated with Project Jove for more than six years. I asked him to be present since he will be showing you the setup we have here."

Durant did not appear to have heard, for he said, thinly: "The reports you mention contain several—shall we say, disturbing, elements, something I intend to make it my duty to examine during my stay here. I won't go so far, at the moment, as to say they have been deliberately misleading, or designed to mislead us, but—"

"You realize, of course, senator, that it is extremely difficult to send any messages through to Earth from here," put in Stanton smoothly, placatingly. "Not only is there the tremendous static blast from Jupiter itself, but the distance and—"

"I'm well aware of all these difficulties, Stanton," cut in Durant crisply. "But even when we make due allowance for them, there still remain many points which must be cleared up to my satisfaction before I can deliver my own report. I would suggest that we get to work immediately. You may rest assured that I and my companions will interfere in the normal running of the Unit as little as possible during our inquiries, but in return I expect every part of the complex to be open to us. Every person in the party has been duly cleared by Earth Control."

"I think it ought to be mentioned here," put in Bush, "that this entire project could be put under the complete control of the military unless we can assure the government that

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results will be forthcoming before the time you put in for the next appropriation. It will be a simple thing for the Treasury to cut back on your funds. Even if they don't, Congress may vote for it."

"I think that is understood." Stanton gave a brief nod of acquiescence. He sat forward in his chair, trying to rid his mind of the feeling of impending disaster. He had a sudden, icy vision of these men probing and prying into the inner control room, searching those electronic tapes on which much of that vital data had been stored. Just so long as Bush didn't begin digging too deeply . . .

"I've had quarters made ready for you." He got to his feet. "I expect you're all tired after the long journey and—"

"I'd prefer to begin work right away if you've no objections."

Stanton shrugged. "Very well. Donner will hold himself in readiness to help you all the time you're here."

"Good." Durant scraped back his chair. "To begin with, I'd like to check through the information you've already gathered from that laboratory on the surface. Professor Bush will accompany me. The others merely wish to look around the Unit. Dr. Packard is our robotics expert. I've no doubt she will want to ask questions on those robots you have working for you."

Donner pushed himself easily from the wall, flicked a glance toward the girl who had just risen to her feet. He guessed her age at somewhere in the late twenties. Not the sort of girl one expected in a party such as this. For a second, her glance locked with his, and he felt a faint flush as he realized that some of his frank curiosity about her must have shown through on his face.

"Everyone is free to go wherever he wishes," Stanton was saying. He nodded to Donner. "See that the senator has access to the files and the program data gathered so far, Norbert."

"Just what is it that Stanton is afraid of, Doctor Donner?"

Norbert looked up swiftly at the senator. They were in the large dome on the very edge of the crater, with the flat, blank screen of the video-viewer staring across at them like a single blind eye.

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"He's not scared, sir. I think it's just that when you've been out here as long as he has, nursing this project along like a baby from its very beginnings, you sometimes get doubts about how much longer you can go on without it all blowing up in your face."

Durant pursed his lips. "Is there any reason for believing it will do that?"

"Reason enough, I suppose, when you consider that down there on the Jovian surface we're working all the time with completely unknown parameters. At the moment, there's nothing else in the entire solar system to compare with what we've got there. The engineering problems alone would be enough to try the sanity of any man. Even though they've now been overcome to a large extent, there's still the overriding problem of keeping everything going smoothly in that hell down there."

Durant sniffed, but whether it was in derision or acceptance of the statement was impossible to tell. The senator turned to the tall, thin-faced man beside him. "This is more in your department than mine, Bush," he remarked. "All of this just represents several billion dollars to me."

Bush turned toward the control board which took up the full length of one wall. "I presume it's from here that you maintain contact with the laboratory?"

"That's right. At the moment we have seven semi-automatic scanners—Flies, we call them—inside the Jovian atmosphere. Any of them can be directed by remote control down to the laboratory."

"And the laboratory itself—how is that manned?"

"Entirely by preprogrammed robots."

"No men down there at all!" There was a faint note of incredulous surprise in the other's tone.

"None. Apart from the obvious danger associated with getting men down there and back, there's no necessity for it. The robots can do everything a man can and without any of the emotional difficulties which would almost certainly arise among men living for any length of time under such restrictive and alien conditions."

"So that, apart from the relatively short periods during which you keep the interior of the laboratory under surveillance, you have no real information on what does go on down there?" put in Durant. He was standing with his back

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to them, hands clasped behind him, staring out of the wide port.

"I'm afraid I don't follow your line of reasoning," Donner said.

"I'm merely putting the point that for more than ninety percent of the time anything could happen down there and you would know absolutely nothing about it." The senator spun to face him.

"Absolute nonsense!"

Durant's expression did not change. "Can you be sure of that?"

"Of course. If anything were to go wrong it would show up immediately in the next transmission."

"I'm afraid I don't share your confidence, Doctor Donner. All my life I've encountered men who were so sure that such and such a thing is absolutely correct, only to discover later that there is some very simple factor which they had overlooked completely, utterly negating their results and conclusions."

"That isn't likely to happen here."

"So you say."

"The project has been in being for almost ten years and, apart from the initial erection of the laboratory, everything has functioned perfectly without the slightest hitch. If anything was to go wrong, I'm sure it would have shown itself in some way before now."

"Unless it's being deliberately hidden," said Durant.

Donner's eyes narrowed, his face hardening. A little finger of ice traced a wavering line up his back. *Just what was the senator getting at?*

"By whom?" he asked tautly.

"Stanton, possibly." The senator rubbed his stubbled chin as a fresh thought struck him. "Or perhaps by the robots themselves."

Donner stared at him. "Are you mad? How on earth can the robots . . . ?"

"What the senator means, Donner," said Bush suavely, "is that we have been studying the complete specifications of the robots you use down there and it seems to me—to us—that certain subtle alterations to the positronic circuits have been made; alterations which, as far as we are aware, have not been authorized by anyone inside government circles. At

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present, we have no way of telling just what effect these changes in their structure may have, but it might be sufficient to push them over the borderline between being merely programmed to carry out certain functions and actually reasoning things out for themselves."

"That's utterly preposterous and you know it. We've worked everything out to the last detail. I calculate that—"

"I don't care what you've calculated, Donner," snapped Durant. "My job here is to overlook nothing, not even the remotest possibility."

Donner eyed Durant steadily for a long moment. Deep inside, he had the feeling that these two men were deliberately trying to needle him, almost certainly with the intention of making him say something rash. He forced evenness into his tone as he replied, "Is there anything else I can show you here?"

Bush looked momentarily disappointed. "When do you intend to make contact with the laboratory?"

"Three days from now. There'll be difficulties, of course. Things are pretty bad down there on the Jovian surface with the Great Red Spot acting up."

"I've heard all about that from the astronomers." There was a pause, then the senator shook his head. "I doubt if we'll learn anything more here until then. Maybe not *even* then. Just one further question. How often does anyone go down there?"

"No one has been down there as long as I've been here. There's been no need for anyone to go."

"That's what I suspected." There was a sudden grimness to the other's tone, equally noticeable in the set of his jaw. Donner knew what was coming next even before Durant spoke.

Glancing at Bush, the senator said firmly, "I think our only course now is to go down there and see things at first hand for ourselves."

"Do you know what you're saying?" Donner felt a slight tremor go through him.

"When it can be arranged," went on the other as though he hadn't heard.

"I think it's my duty to warn you that the dangers associated with such a course are inconceivable. Only a handful of men have ever been down there and come back alive,

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and they all went when conditions on the surface were far better than they are now."

"Your warning has been duly noted, Doctor. Nevertheless, my decision still stands. I'll leave you to arrange the details with Doctor Stanton."

Donner wondered briefly if he dared press the matter further, then decided against it. He felt like the lamb on the sacrificial altar. One look at Durant's determined features dissuaded him from saying any more. The other was going down to the surface and nothing this side of hell itself was going to stand in his way.

Clinton Durant felt as though he had been clinging to the edge of an invisible cliff for a hundred years. A tremendous weight was lying on his chest, forcing him down against springs which yielded to every contour of his body. He was not aware of duration, nor of the hammering pulse that beat within him, acting as his own chronometer. In a strange state bordering on hypnosis, he experienced only a sense of being close to some huge body that was threatening to drag him down to an orange and crimson death.

He shook his head numbly, then came to his senses as the frightful pressure eased abruptly. With a sudden flash of mental clarity, he knew what had happened. For the past hour they had been drawing closer to the looming bulk of Jupiter. Now, as they swung into a stable orbit around the giant planet, it filled the entire range of sight, blotting out everything else in the black heavens. A single bead of sweat ran down the side of his jaw and his hands were clenched fists at his sides.

Beside him, Bush gave a violent shiver then sat sharply forward in his seat. "We're in orbit." For a moment, his voice rattled in his dry throat.

Durant's tension evaporated suddenly. Behind him, in the rear seat, Jill Packard drew in a sharp hiss of air through her parted lips. Lifting a hand, she absently pushed a strand of the long, yellow hair from her eyes. Her face was completely devoid of makeup, but for once she had given up the tight combing of her rich hair into a precise bun at the nape of her neck, a habit she had deliberately cultivated as more suited to her official position as robotics expert in the party. Now it lay in curling waves on her shoulders.

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She leaned sideways in her seat, peering through the transparent blister on the main hull of the rocket which had ferried them out from the Io Base. Her first impression was one of hugeness, of mingled yellow and orange and great, spiraling vortices on the curved ball of the nearby planet. The vast oval of the Red Spot was clearly visible off to one side, while above it the black circular shadow of one of the satellites, possibly Io itself, showed against the general turbulence of the atmosphere.

Durant swiveled in his seat, turning his head to glance at her. "You feeling all right, my dear?"

"Perfectly well, senator. Now that the acceleration has stopped."

"We should be linking up with the other vessel in a little while. Then we can go down into the atmosphere."

"Why can't we go all the way down to the surface in this ship?"

"They tell me it's something to do with the effect of cold and pressure on metals. The hull of this ship would be unable to withstand the conditions down there for more than an hour at the most."

As he hesitated momentarily, Bush said quietly, "The ship we'll use to go down to the surface will be a very special kind. I've talked to Donner about it. Apparently the outer hull is made of ice at a fantastically low temperature. Oddly enough, this is one of the few substances capable of withstanding the temperatures and pressures down there." His thin lips twitched into a lopsided grin. "Curiously, I'm rather looking forward to this little trip."

"Just so long as nothing goes wrong," Jill said faintly.

"That is something we must put out of our minds completely." Durant's tone was harsher than he had intended. "Nothing will go wrong." He tried not to think of the men who had died during the early days of Project Jove. Impulsively, he reached out his hand and grasped the back of the empty seat in front of him, knuckles whitening under the flesh. There was a tiny muscle twitching uncontrollably high in his cheek and he kept his face averted from the others so that they could not see it. There was a faint flash of white off in the distance, and, instinctively, he gave it the whole of his attention to take his mind off the other thoughts running through his brain.

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It drifted closer across the void, steadied as velocities matched, and he saw that it was the other rocket. Even from that distance it looked unfamiliar in outline. Almost a perfect sphere, it shone brilliantly where the sunlight caught its smooth surface and the gleam was not that of brightly reflecting metal but highly polished ice. Slowly, the intervening distance lessened, until it floated less than a quarter of a mile away, seeming to hang motionless against the giant disc of the planet.

The faint hiss of the interconnecting door a few yards away brought his head around sharply. A uniformed man came into the cabin. Durant recognized him as a man named Frost.

"We'll be ready to shuttle you across to the other rocket in ten minutes, senator," Frost said quietly. "After that, you're on your own until you get down to the laboratory."

"Who'll be piloting that ship out there—one of the men from the Unit?"

The other shook his head. "We don't have any men on board the atmosphere ships. They're all controlled by robots."

"Robots!" Durant's voice croaked like a frog's. "But I thought that—"

"Oh, you'll be quite safe, sir," went on the other unperturbedly. "Even safer than if a man were at the controls. All of these robots have been fully programmed. Besides, they have no emotional weaknesses. In that atmosphere, with those storms going on down there, a man would be liable to crack completely under the strain. Such a thing is quite impossible where a robot is concerned."

Durant wanted to say something more, but the other had already turned on his heel and gone back into the small control cabin, and now there was nothing for them to do but wait as the other ship moved closer until it hung alongside the rocket like a brilliant white fly stuck up against fly-paper.

The transfer took less time than any of them had anticipated. Almost before they were aware of the transition, they had crossed into the waiting vessel, along a narrow corridor with the airlock hissing shut behind them and through into a small compartment far more crowded than the one they had just left. There was no sign of any of the robot crew and

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as he seated himself Durant experienced a sudden, sharp gust of irritation, but it passed quickly as the drive came on and the abrupt acceleration thrust him back against the yielding springs which absorbed the tremendous pressure.

"We're picking up speed," Jill said tautly. "We must be heading down toward Jupiter."

"I wonder how long before we get to the laboratory," murmured Bush. His tone sounded more than a little strained.

"Bound to be some time." The senator forced himself upright in his seat. His body was now compensating for the sweep of the vessel as it turned into a spiral orbit. Somewhere inside the ship, the shrill whine of the refrigerating unit rose to a pitch where it hurt their ears and then passed into the realm where it could no longer be heard.

It was hard to tell when they first entered the tremendously thick atmosphere of the giant planet. The first, faint scream of gas around the hull was completely drowned by the noise of the internal mechanism in the ship, but after a while, the muted murmur intruded upon their brains.

There was a curious sense of swiftness about their motion now, as if some external force had got a hold of the vessel and was dragging it remorselessly downward. Durant felt his stomach heave and there was a beading of sweat on his forehead. He would have liked to wipe it away, but that would have shown the others just how scared he was at that moment, afraid of what lay outside, of what they were heading into—and above all, afraid that, in spite of the reassurances he had received from the men back at the base, something might go wrong.

Somewhere in the distance, there was the sound of relays clicking into place. For a moment, Durant wondered about the crew of this ship and once more that nagging little suspicion began to tick at the back of his mind. Had he been right about these robots? Were they something more than mere metal and ultrarefined positronic circuits? He had sensed a certain reticence in the way his questions on this point had been answered, particularly by Donner. The thought worried him more than he cared to admit. The idea that one, or more than one, of these creatures might be able to reason on the same lines as a human being sent the blood racing along his veins. With an effort, he settled himself a little more comfortably in the seat. If only they could see

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what was going on outside. His hands were tightly clenched fists on the narrow rail in front of him.

Beside him, he felt the girl give a violent shiver. The next moment the vessel bucked savagely as if caught in some mighty fist and hurled sideways. There came a terrible grinding and a falling sensation as though the bottom had suddenly dropped out of the universe, and they were plunging headlong into infinity.

Jill uttered a thin shriek that was lost in the upsurging din of the engines as they fought to hold them steady. Behind them, Bush had pitched half out of his seat in spite of the restraining straps. His face was ashen, eyes starting from his head. The next second, a thunderous roar that echoed from all about them, reverberated within the cabin, shaking the walls as if they were paper. Durant lay slumped back, sickened by that awful sound. The din went on and on, rising and falling. Desperately, they clutched at the metal rails with all of their strength as the motion threatened to hurl them against the hard, unyielding metal sides of the internal structure. Outside, the titanic winds, stirred up by the methane and ammonia clouds, swirled about the tiny ship, driven on by the insensate fury of the engulfing storm.

Snapping down the control switches, Donner watched the green cathode-ray tubes, three on either side of the central viewer, the traces, twitching and dizzying, in apparently senseless patterns. The monitoring dials beneath each tube flicked crazily in tune to the sinusoidal waves on the tubes. The door behind him clicked open but he did not turn as someone came into the dome from the central complex. Even when Stanton's voice said crisply: "Are you still in contact with that ship, Norbert?" he did not take his eyes off the controls.

"We're still locked onto them."

Stanton placed a heavy hand on his shoulder. "I've just been checking with Connor. What he tells me isn't reassuring."

Connor was the astronomer on duty, a sour-tempered individual but one of the best men in his profession.

"The South Tropical Disturbance?"

"Exactly. There's been an unexpected acceleration in its movements over the past fifteen hours."

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"Damn! You think it will meet the Spot before they get down to the safety of the laboratory?"

"Yes. There's every possibility now."

"The bloody, stupid fools!" There was a trace of bitterness in Donner's tone which he could not hide.

"My sentiments exactly. But it's too late to do anything about it now. All we can do is let things take their course and keep a close watch on them until they get down. Is the scanner on them right now?"

"I've got one of the Flies tailing them in. It'll be a few minutes before we get anything on the viewer. Even then, I doubt if we'll see much. There must be all hell letting loose down there at the moment."

"Whatever happens, we've got to keep them in sight if it's humanly possible. If anything should go wrong . . ." He deliberately left the remainder of the sentence unsaid.

Donner shrugged. He, too, felt ill at ease. Fingering the circular controls of the viewer, he turned them deftly, waiting impatiently for the hiss and crackle to die down. He tried to swallow in a dry throat as the picture came across. There was a long moment during which vivid sparks and flashes coruscated over the flat surface of the screen; an indication, if one were needed, of just how bad the conditions were at that moment within the Jovian atmosphere.

Sucking in a deep breath, he leaned back in the chair.

"Well?" said Stanton hoarsely.

"It's still very bad. Too much atmospheric interference."

The image faded, warped into a series of ragged lines, then began to steady as he applied more power to the tubes. The positioning of the distant scanner was not quite right. He prepared to swing the chair across the face of the console to make the necessary adjustments but Stanton had also seen the trouble, moved quickly to his right, spun the dials with a quick, sure motion.

"Hold it there," Donner muttered hoarsely.

The other came back, peering intently over his shoulder. On the video-viewer the vessel was just visible at intermittent intervals, a faint shape, ghostlike and insubstantial, against the dense murk of flying crystals. Donner's initial anxiety faded a little as the picture remained steady. He felt a return of the old sureness with the often repeated sensation that he was actually down there, inside that swirling, turbulent

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mass of ammonia and methane with those gigantic hydrogen flares all about him. It was almost as if that mass of raging turmoil was his own natural habitat.

"I think we can keep it in view all the way down now," he said softly.

"Let's hope so." Stanton scarcely breathed the words. Only the faint lift in the pitch of his voice betrayed some of his tension.

On the curved wall of the dome, the red circular hand of the clock continued its endless sweep, but neither man noticed it as the seconds lengthened into minutes.

A vicious eruption lit the screen for several moments. Outlined against it, they saw the ship jerk and shudder as the titanic force of the detonation wave slammed against it. For a moment, it seemed to slide away, out of control, dipping toward the lower left-hand corner of the viewer. Donner caught his breath, held it until it hurt in his chest. Already, Stanton's hand had gone out, altering the controls slightly, bringing the image back into the center. The vessel had now righted itself, was continuing on course, deeper into that seething maelstrom.

Stanton sucked in a deep breath. "One of these days we won't have to do it this way. We'll be able to control the ships themselves from here."

Donner permitted himself an understanding nod. Even with highly programmed robots in control, he doubted if the vessel was under as tight a command as the tiny scanner. Not until the ship had been caught by the beam from the laboratory would he feel easy in his mind. Until then, anything could happen.

A flurry of sparks raged across the screen, temporarily cutting off their view. *God! But the radio emission from those colossal storms down there must be tremendous now, inconceivable beyond all imagining,* Donner thought. He wondered just how they would affect the functioning of the instruments on board that ship. This was something of which they had, as yet, only meager knowledge. Never before had such a vessel, or a scanner either, made the descent under such conditions. There were a million and one things which could go wrong and it needed only one to malfunction for complete disaster to strike. The refrigerating units which maintained that essential, protective coating of ice around

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the entire hull; the automatic electronics which recycled the air, the extremely delicate gyro-mechanisms of the stabilizers, even the robots themselves, all depended upon the successful functioning of a host of tiny parts.

Gently, he increased the magnification. The effect was dramatic. Now, it was as if the Fly were poised less than twenty feet from the black ovoid as it raced down through the atmosphere. In reality, of course, it was more than half a mile away, feeding the pictures back by means of infrared converters.

"How far to go now?" Stanton asked tightly.

Donner glanced up at the banks of instruments. "They're about four thousand miles down. Another fifteen minutes and they should be within range of the beam."

"Let's hope they make it. If anything happens now, there'll be hell to pay once news gets back to Earth."

Donner pursed his lips. "There was nothing you could do. We both warned them of the danger. It isn't as if they went into this with their eyes shut."

"Will the government see it that way?" muttered the other unhappily. "I can just imagine what some of them will say. That we deliberately let them go down there, hoping to get rid of them before they discovered anything about our work in the laboratory."

"You think anyone would be so damned stupid?"

"I'm sure of it. You don't know the way these politicians think. I've seen how their minds work. As far as they're concerned, all of science is working against them. They're suspicious of us, believe that all the time we're hiding something from them, something really important."

He fastened his gaze on the dark, barely visible shape in the center of the viewer. The ship was now dropping at an almost alarming rate. The needle on the large dial adjacent to the screen indicated both the height above the surface and the rate of descent of the scanner, both figures being virtually identical with that of the vessel being followed.

More bursting clouds of flame leaped up from the fantastic depths, swelling into vast, glowing bubbles of red and crimson. Donner shivered at the sight of all that whirling chaos. He felt that he lived now only through his eyes glued to the viewer and his hands on the banks of controls. The dome was suddenly silent apart from the quiet hum of the

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generators and the faint hiss of recording tape through the spools.

Stanton took a deep, trembling breath. Another seven minutes and the beam, probing out from the surface laboratory, would lock onto that ship and draw it down in spite of the storms which raged in the vicinity. Instinctively, he glanced up at the clock on the wall, then swung his head back at a sharp exclamation from Donner. The entire screen was afire with the utter savagery of a tremendous volcanic burst which gushed from the black depths close to the planetary surface, sweeping irresistibly upward, enveloping everything in its path. A corner of the raging turmoil caught at the descending vessel. Donner had a brief glimpse of the fury before the boiling wavefront caught at the Fly. Desperately, he tried to hold it steady, fingers twisting the knurled knobs as the screen went dark.

"Damn! We've lost them!"

"Keep trying!" Stanton was shouting, fingers on Donner's shoulder tightening with a steel-like strength, biting into the flesh through the cloth of the tunic.

Donner reduced the magnification, backing off and widening the field. Slowly, the picture returned, remaining unsteady and partly blurred. The volcanic activity continued, unabated. There was no sign of the vessel, although he thought he caught a fragmentary glimpse of something dark sliding swiftly off the edge of the plate. When he tried to follow it, however, it failed to reappear, and he could not be absolutely sure that he hadn't been mistaken.

Two minutes later, they were forced to accept that something had happened to the ship. Whether it had been destroyed, totally obliterated by that upsurge of gas from those nether regions, or had been crippled and thrown off course, hundreds of miles from the probing beam, it was impossible, at the moment, to tell.

For weeks, the swirling atmospheric maelstrom which was the South Tropical Disturbance, had been edging its way through the dense murk which blanketed the Jovian surface. For untold centuries it had been in existence, enigmatic, stupendous—a vast whirlpool of forces almost be-

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yond human comprehension. Always, there were the great electrical and hydrogen storms associated with it, but it was at those periods when its path intersected that of the Great Red Spot that these increased in magnitude until they surpassed anything known in the entire solar system, apart from the fantastic energy of the sun itself.

Even under these highly abnormal conditions, however, the vessel carrying Durant and his two companions would have been able to withstand the fury of the storm front. What happened on this particular occasion was something which could not have been foreseen even by the intricate computers back on the Io Base. One chance in so many millions that the mind refused to take it in.

The semisolid core of Jupiter, compressed under millions of atmospheres and at an incredibly low temperature, was normally comparatively stable on the large scale. Volcanic activity was usually local in scope, even when compared with terrestrial outbursts. In addition, high atomic weight elements were present in only small quantities, thinly distributed throughout the core. As a result, radioactive heating, although present, was on a very limited scale. But now and again, at relatively short intervals on the cosmic scale of time, something occurred to upset the delicate equilibrium. Once every million years or so, but it did happen.

It had happened now, although as yet, no one either in the ship or up on Io Base, was aware of its real nature. The stream of molten magma which had begun as several isolated trickles close to the central core of the planet had been working its way out toward the surface. A slow process, only a few miles every century but all the while these streams had been gathering together, forcing their way along faults in the ice and rock, being squeezed inexorably through layer after layer, absorbing the heavier elements on the way—the radioactive elements. Unstable atoms decayed with half-lives ranging from microseconds to millions of years, raising the temperature slowly but steadily as the semiliquid magma worked its way up to the surface.

That it should break through the surface just as the South Tropical Disturbance overtook the Great Red Spot, adding its own tumultuous force to an atmosphere gone insane, was something which had happened only once or twice

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during the entire existence of the planet; that it should happen just at the moment the vessel carrying Durant and his companions reached that particular spot was little short of catastrophic.

III

THERE WAS A memory in Durant of something which had swept up unnoticed of them out of a vastness that was totally invisible, of a hammer blow which had sent him shooting from his seat, the straps holding him down bursting as though they had been pieces of rotten string. Some force had struck at him then, a crushing blow which had swiftly brought blackness with it.

He came up from the bottomless well of unconsciousness with pain throbbing through him, touched the surface of awareness and then felt himself sinking once more. Desperately he fought his way back, opened his eyes, trying to find some comfort in the realization that he must be safe otherwise he wouldn't be like this, still in one piece. For a while, he lay quite still, teeth clenched as waves of weakness and pain seared through his limbs. There was a bright light glaring into his eyes but for a long while he could make out no details, aware only that he lay on something hard and uncomfortable, a sloping surface which seemed curiously unfamiliar.

From nearby, a man's voice said: "Better not move for a little while, senator."

Durant turned his head with an agonizing wrench of neck muscles, slitted his eyes against the strong, pitiless glare. Someone was bending over him; a face loomed up against the background, one he thought he recognized. Then fresh fragments of memory came back. The ship going down into the Jovian atmosphere. The volcanic storm which must have struck them unawares; so quickly, it seemed, that even the robot pilot had been unable to do anything about it.

"What happened?"

"We must have crashed. I came to about five minutes ago. I tried to get into the control cabin, but the connecting door is either locked or jammed."

"We're down on the surface then?"

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"I think so. But whether we're anywhere near the laboratory, it's impossible to tell."

With an effort, Durant struggled into a sitting position. His head throbbed and there was an intolerable ache just behind the temples as if a constricting steel band were being tightened about his forehead. Bush put out an arm and helped him to his feet, steadying him as he staggered.

"How do you feel?"

"I feel as though I've dropped fifty thousand miles. What's happened to Jill?"

"She's still out cold. I thought it best to leave her and try to bring you around. We've got to figure a way out of this damnable mess, if there is one."

Durant was no fool. Even in his present state, he could guess what was in the other's mind. Their position was more than just precarious. The chances of them ever being found were so remote that they did not even bear thinking about. Far better to leave the girl as she was. She would learn the awful truth soon enough.

He pushed himself away from the wall, noticing as he did so that it was canted at an angle now. There was a smell of hydrocarbons in the air about them and a faint stench of burning insulation. Sweat was on him, running down his neck and shoulders, trickling into his eyes, half blinding him. The desperate desire to live, to get out of this vessel, was overwhelmingly dominant in his mind. Clawing his way forward, he stumbled toward the interconnecting door, caught at the handle, tugged with all of his strength, ignoring the pain which jarred through his skull and along the muscles of his arms.

Bush was suddenly beside him, adding his own weight. The door refused to budge a single inch. Donner had been right all along, thought Durant fiercely. This had been a fool's errand. How many men had died trying to get to the surface?

Ten?

Twenty?

The coward's streak came uppermost. Teeth bared, the jaw muscles standing out beneath the flabby flesh, he struggled futilely for several moments before giving up the attempt. Implicit in his own body he could feel the enormous weights and pressures of the planet beneath them, even

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though the anti-gravity units still appeared to be functioning.

"It's hopeless," grunted Bush hoarsely.

"Then what the hell is the crew doing about it?" Durant realized that he was yelling the words at the top of his voice. Savagely, he spun on the other, grasping at him, fingers digging into the scientist's arms.

Bush saw the look of growing hysteria on the politician's sweating face, in the too bright, staring eyes. Almost without thinking, he drew back his arm, jerking it from the other's frantic grip, struck the shaking man sharply across the face with the flat of his hand. Durant fell back against the unyielding door, a red weal on his cheek. He coughed, spluttered for a moment.

"Calm down, senator. We'll get nowhere with hysterics. There must be a way of opening the door from this side. Now keep your head and we'll go about this logically."

Durant grunted deep in his throat. Then he gave a weak nod. Some of the madness faded from his eyes. Straightening up, he began fingering the smooth steel along either side of the door. A few feet away, Bush did likewise. Now the smell of burning was stronger than before, adding urgency to their movements.

It was Bush who located the two tiny studlike projections, pressed them home. There was a sharp click, a whirring of hidden machinery and the door slid smoothly aside on grooved runners. In the faint light which came from directly ahead, they made out the short corridor which led toward the control room. Smoke was curling along it, forming a dark haze close to the ceiling.

"We've got to locate that fire and put it out!" Bush yelled. "Otherwise we're finished."

He ran forward, boots clattering hollowly on smooth metal. Durant crowded behind him as they burst into the tiny cabin. The scene piled confusion into Durant's head. There were two metal-sided seats facing the long instrument panel which curved around the smooth interior of the cabin. For a moment he thought they were empty, that all they had been told of a robot crew had been false. Then, as he took a hesitant step forward, he noticed the two occupants. Slender things of gleaming metal, they lay slumped sideways in peculiar, twisted attitudes. Bush moved across, bent and ex-

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amined them for a brief moment, then straightened up, his face pulled into a frown.

"Both totally wrecked by the impact," he said tonelessly. "Reckon we'll get no help from them."

Without giving the robots a second glance, he prowled around the cabin, eyes roving over the intricate maze of instruments. There was no difficulty in locating the source of the smoke. It came pouring from the back of a large subsidiary panel on the right of the main board. Durant coughed uncontrollably as the acrid fumes seared the back of his throat. Bush was already standing on tiptoe, examining the back of the instruments. Reaching down, he caught hold of the long cable which snaked along the wall, pulled with a sudden jerk. There was a brief, soundless flash of blue light, then he dropped back, hurling the smoldering cable from him. It fell onto the floor in front of Durant.

Gradually, the smoke and fumes thinned as the automatic air filters sucked it away, replacing it with clean, pure air. Bush let his breath sigh from between his lips, rubbed the back of his hand across his shining forehead.

"Now that we're here we may as well see if any of these instruments are still functioning properly."

"You think there may still be a chance we'll get out of this alive?" Durant tried to sound more hopeful than he felt, seeking some kind of reassurance from Bush.

"Taking everything into consideration, I doubt it. If Donner or one of the other technicians at the base have been tracking us, they should know by now that something has happened, though the chances of them locating us down here are so remote as to be impossible."

There came an almost inaudible gasp from the doorway behind them. Durant whirled swiftly. Jill stood there, her face ghastly. A tiny trickle of blood showed on her cheek and her eyes stared at them, only half comprehending.

In a couple of strides Bush was beside her, one arm thrown protectively around her slim shoulders. She was shaking uncontrollably.

"Do you really think we'll never get out of here alive?" Her voice was little more than a dry whisper, scarcely heard above the animal roar of the storm outside.

"That was just something which came out on the spur of the moment," he answered huskily. "I'm positive that by

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now those men back on Io will be putting a rescue operation in hand."

"But they'll not be able to find us."

"They'll do it if it's humanly possible."

"Oh God, I'm frightened," she said, pressing herself hard against him. "I'm so scared."

"We all are, but if we give way to it, then we will be lost." He still held her close, turning his head to glance around the small cabin. "There must be some device here for an emergency such as this. I can't believe that whoever designed this ship didn't make an allowance for such an accident."

"What sort of device?" Durant struggled to force evenness into his tone. Somehow, the presence of the girl there had steadied his nerves a little.

"Some transmitter that will send out a distress signal. If we can only find it and get it working, it will at least give them something to home onto."

The senator nodded quickly. "You're right. After all, there must be other ships like this capable of coming down into the atmosphere. Once they have some sort of signal to lock onto, it should only take a matter of hours for them to reach us." He glanced up at Bush. "How much oxygen do you estimate we have left?"

"No need to worry on that score. There seems to be an automatic recycling system in the ship. The air is the least of our worries. Once we find that transmitter and set it going, I suggest that we examine the ship, discover how badly it's been damaged and just what stores there are on board. Water is going to be our main problem if we're down here for any length of time."

He released his hold on the girl, motioned her forward. What he had just said was only partly true. The rest he meant to keep to himself for the time being. In the few days spent on the base, he had learned a lot about conditions down here near the Jovian surface whenever the South Tropical Disturbance overtook the Great Red Spot. Even though there was, in all probability, a transmitter such as he had just described, even assuming they found it and it was still operative, the chances were that the signal, no matter how powerful, would utterly fail to penetrate that hell of gas and hydrogen explosions which must certainly be going

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on all about them at that very moment. Such a homing beacon would have been designed for normal conditions on Jupiter, terrible as they were by ordinary standards. But what was happening now throughout six thousand miles of undiluted hell above them, was far from normal.

Mentally, he shrugged the thought away. To think along such lines at a time like this was dangerous, could slow a man's reflexes and mental processes below the danger point. In a way, he had suggested a plan of action simply to take their minds off the real precariousness—possibly, hopelessness—of their position.

Norbert Donner took two deep breaths to calm the twitching in his nerves. The viewing screen was blank now, an overall gray, reflecting only the curved, distorted images of Stanton and himself in its depths. They had switched off the video after fifteen anxious, futile minutes, striving to pick out that ship against the background of hydrogen flares and sweeping clouds of frozen ammonia and methane, driven on by the vast tornadoes which enveloped the planet.

"Is there any hope for them at all, do you think?" He felt his throat dry and the vocal cords seemed all tensed and constricted, making it difficult to form words properly.

"Very little, I'm afraid." Some of the helplessness showed through in the other's tone.

"Isn't there some kind of homing beacon on board that ship?"

"Yes. But as we've just seen, there's no signal coming through."

"Then they're either all dead, or something has happened to the robots."

Stanton ran his fingers through his thinning hair. He inclined his head toward the small receiver set high on the curved wall above the main instrument panel. "Keep listening out for them. In the meantime, I'll arrange for another ship to be made ready, just in case they do manage to get through to us."

He made his way toward the door, turned as Donner said sharply, "Just suppose that this million-to-one chance does come off and we receive that signal. What then?"

The other's features were set into a tight mask. "Then we will have to go down and look for them."

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"You can't be serious, sir! Hell, you've seen for yourself what it's like down there. Even with that transmitter on the ship functioning, the signal will be distorted, possibly warped by all that radio frequency emanating from near the surface. They could be anywhere within a couple of thousand square miles of the laboratory. How can we possibly search an area as large as that in the time left?"

"Do you have any other suggestions? It's either that or we simply leave them there to die."

Whirling abruptly, the other went out, the door sliding shut behind him. Donner stood quite still for a long moment, then went back to the chair in front of the instruments, lowered himself wearily into it. He kept getting the feeling that he would choke. He had been against allowing those three to go down there all along, not only because of what they might uncover once they got into that laboratory, but because something going wrong at any time during the descent would lead to a situation such as they now faced. He gritted his teeth and swore savagely under his breath, staring at the banks of instruments as though they could tell him something of what had occurred.

A whole mountain of frustration and depression was settling on him, crushing him physically and mentally. Above his head, the square receiver maintained its accusing silence.

"If only we'd stopped and listened to what they told us back on Io—" Jill said.

"I keep telling you what I've told you all along," muttered Durant slowly, forming each word with an exaggerated slowness. "They're trying to hide something. Coming down here was the only way we had of finding out what."

"There must have been some other way of finding out without risking our own lives in the process. We don't stand a chance now." Her voice trembled on the edge of hysteria.

From the far side of the cabin, Bush looked up, suddenly sharp. "We won't get anywhere with these recriminations. The sooner you both realize that, the better."

Durant bit down on the harsh rejoinder, said instead: "Have you found anything yet?"

Bush shook his head. He stepped down from the small dais, rubbed the palms of his sweating hands on his trousers. The air all around them trembled with the humming and

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the violent thunder of the storm. "It'll take time to work through all of these electronic systems. I'm not an engineer. I'm a physicist."

Durant flushed slightly. "All right, all right! Do what you can. Until we get that transmitter working, we don't stand a chance. Even if they've sent in another ship, they'll never locate us in this storm without a guide beacon."

Wearily, Bush turned back to the instruments. He had the inescapable feeling that he was simply beating his head against a brick wall. Why not simply admit that they were finished, that because of Durant's ingrained suspicion and pigheadedness they were doomed to die within the next few days? Why go on kidding themselves that there might be a way out when all common sense told them there couldn't possibly be? He found it almost impossible to comprehend the tremendous odds which were stacked against them. His stomach muscles tightened spasmodically.

Vaguely, he was aware that the senator had gone back into the small passenger cabin aft of the control room. Jill came over, stood beside him, her face twisted into a little grimace.

Acutely conscious of her presence, Bush concentrated on following the multicolored wires, tracing them down into the backs of the gray boxes. A row of seven cathode ray tubes were still operating, tracing out meaningless patterns of green across their smoothly rounded contours.

"I checked on the supplies in the ship," she said softly. "There's food and water. Durant thinks it will last us for three, maybe four days. After that—"

"Try not to think of what comes after, Jill." He spoke without looking up.

"If you do find this transmitter and get it working, what are the chances that they'll pick up the signal?"

Bush pursed his lips into a tight, grim line. "It all depends on the intensity of the radio emission from the storm. Unfortunately, we're right in the middle of it."

"Won't they have foreseen this? I mean, if it's there for an emergency such as this, they must have arranged for it to send out signals on a wavelength that won't be distorted by any other radio waves."

"That's right," he agreed, trying to force conviction into his tone. "If only they had had the foresight to mark these

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instruments." He waved a hand toward the bewildering array which faced them. "Seems they didn't foresee any accident wrecking the robots. They're the only ones programmed for such a crisis as this."

Stepping down, he moved across to the opposite side of the control panel. Even before he reached it there came a sudden roaring from somewhere outside the ship. It was a vast thundering that enfolded them like a great bubble of sound, smothering their senses, their entire beings, to all else. The vessel shuddered, tilted crazily. There was an awful sensation like falling down a lift shaft, as if they were hurtling down some gigantic slope into an abyss which had no bottom, gathering speed at an incredible, frightening rate. Even as he fell, sliding helplessly against the curved steel bulkhead, Bush thought crazily that the bottom had abruptly dropped out of the entire universe and they were plummeting headlong toward perdition.

He was not aware of the duration of the shock. It was the combination of stark surprise and the realization of what was happening that brought him savagely to his senses. He started to squirm, pulling his legs under him. Desperately, he willed himself to be calm. In his ears, the roaring went on and on, undulating up and down a raw-edged scale. The hard pain of the metal beneath him was an aching pressure against the bone and muscle of his body. He must have been unconscious, if only for a few seconds. Now he lay quite still, conscious of the warm wetness of blood on his forehead, trickling down from somewhere along his scalp. Forcing his head around, he blinked against the light. Everything seemed strange. Something hard and heavy lay across his legs, pinning them down. He put out a hand, felt the coldness of metal over his body. A momentary gust of fear went through him before he realized that the external tremor had tilted the vessel over onto its side and one of the shattered robots had slid out of its seat on top of him.

With a thrust of his legs, he kicked it away, sent it clattering onto the floor between the seats. *Damned, useless hulks of metal!* he thought angrily. If the robots had only done their job properly they might not be in this mess now.

Reaching above his head, he grabbed the edge of the panel, hooked his fingers around it, hauled himself up leaning forward into the tilt of the floor. Now the urgency in

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his mind overcame the sickness and the pain in his body. The thought of what lay outside the ship, just beyond the metal and ice of the hull, threatened to unnerve him completely. *He didn't want to die down here; he wanted to live!*

He half fell over Jill's inert body, went down on one knee and turned her over gently. Her eyes were closed, but she was still breathing and her pulse felt strong and steady beneath his finger.

He left her then, went back to the instruments, ignoring the blood which still oozed slowly from the deep cut on his scalp. He was still working through the maze of wires when Durant staggered into the cabin, clutching at his head. There was a sense of suspended horror about him as he stared around with wide, unfocused eyes.

"What happened, Sam? What in hell's name was it?"

"How should I know?" Bush rasped, anger and fear getting the better of him. "Another hydrogen explosion. Or maybe the surface settling under us. Now just sit down, senator, unless you feel like helping me."

Durant twisted his head, mouth working horribly. He was clearly on the verge of a complete mental breakdown. The sheen of sweat glistened on his face in the harsh, actinic glare. He moved forward on stiff legs like an automaton. Before Bush realized what the other had in mind, Durant had seized him by the collar, was shaking him viciously, savagely, teeth bared in an animal-like snarl.

"You've got to do something! For God's sake! We've got to get out of here right now or we'll all die!"

Bush acted instinctively, without thought. His bunched fist connected solidly with the other's outthrust jaw, sending the politician reeling back with the force of the blow. Durant fell against the far bulkhead, hung there for a moment with arms outstretched in an attitude of crucifixion. Then his legs gave way under him and his unconscious body slid down the steel wall, collapsing inertly on the floor.

Breathing heavily, trying to pull his chaotic thoughts together, Bush forced his shaking hands to steady. Deliberately, he shut everything out of his mind except the urgent need to locate that signal device which had to be somewhere. The sweat turned cold on his face.

It was fifteen minutes later when he located the switch

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at the rear of the long panel. A tiny muscle twitched high in his cheek as he threw the toggle across. For a second there was no change in the even humming of the electrical circuits. Then a needle kicked on a nearby dial. The yellow green trace on the nearest cathode ray tube altered abruptly in shape, began spiking at regular intervals. Bush leaned wearily against the hard metal, one arm thrown across his face. All of the strength seemed to have been drained from him.

IV

DONNER WAS still alone in the dome when the signal started coming through. He had been standing for several minutes with his back to the instruments, hands clasped tightly behind him, staring out through the port to where the looming mass of Jupiter half filled the distant horizon beyond the jagged peaks and curved escarpments of the crater rim. The vast oval of the Great Red Spot was now clearly visible. The South Tropical Disturbance was just visible, too, a gigantic whirlpool of gas, seemingly motionless from as close as Io Base.

Even from Io, they both looked enigmatic, sinister, as if possessing some alien kind of life all their own. They were still a little uncertain as to what the Great Red Spot was, even after all these years of close study. Back in the middle of the century, various theories had been proposed. It might be a mass of solid helium floating inside the Jovian atmospheric density. Since, under the pressures existing down there, helium could be solidified only at the lowest temperature known, less than a degree above absolute zero, this idea had been abandoned. From what they knew now, it seemed almost certain that it was some chemical combination of sodium, methane and ammonia, semisolid, drifting in the upper atmospheric levels but with vast tentaclelike appendages extending downward almost to the surface. Like a vast inorganic Portuguese man-of-war floating in some turbulent ocean, and a million times more deadly.

The sudden bleep of the signal, cutting in above the eternal crackle of static, brought him around sharply. Reaching the desk, he flipped down the switch of the internal communicator, waited impatiently for Stanton's image to appear.

"Yes?"

"The signal beacon. It's just started transmitting."

"You're sure that's what it is?"

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"Positive. Nothing else would come through on that particular frequency. It's very weak, but still discernible above the general static."

"I'll be right over." The screen went blank.

While he waited for Stanton, Donner adjusted the knurled knobs for maximum response, straining to isolate that feeble signal from the background noise which threatened to drown it completely. Whatever happened, they must not lose those faint, pulsing sounds which came to them on an incredibly narrow radio band from somewhere deep within that whirling, poisonous atmosphere. These sounds were the only link they had with that crippled vessel and the three people on board. If they lost that slender thread of contact, the three were as good as dead. Even with it established, the chances of bringing off a successful rescue were astronomically remote.

There was a sudden sound at his back. Stanton came in with two other men at his heels. Caldwell and Foster: one an astrophysicist, the other Durant's right hand man and adviser.

"The signal still coming through?" Stanton asked brusquely.

"Still there—but weak. It keeps fading. Must be due to the tremendous radio emission down there. I'm not sure how long I can hold it."

"Once we get a second ship on its way it won't be so damned important to keep picking it up here so long as we can home in on it from the ship."

"I wouldn't like to bet on your chances of doing that once you're in the atmosphere. There'll be all sorts of competing radiations coming in across the entire radio spectrum."

"Can you propose any other course of action?" put in Foster coldly.

"No. But it does seem to me that all we'll be doing is throwing away more lives in an attempt that's almost certainly bound to fail."

"That's defeatist talk."

"It makes sense and you know it," Donner snapped. "I've seen what the conditions are like down there."

"That signal means they're still alive. If that's the case, we must make an attempt to save them."

Donner shook his head. "Unfortunately, you're basing

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your entire argument on what may be a false premise. Just because that signal has started coming through doesn't necessarily mean that they're alive. One of the robots may have started the transmitter. It may even have come on automatically."

"You can't be sure of that." There was a faint note of irritation in Foster's tone.

"Nobody can be certain of anything," put in Stanton smoothly. He looked across at Donner. "But Foster is right. We've got to go on the assumption that someone is still alive down there. I've given orders for a ship to be ready, possibly two, but I'll explain that later. I've also asked for volunteers to accompany me down."

"You're going yourself?"

The other gave a quick nod. "I'm the only man on the base who's been down there. I consider it essential that I go."

Donner said tightly: "I think you're wrong, sir. If anything should happen—"

"We're not the only ones with troubles," replied the other. He turned to Caldwell. "Did you get any further information on the course of the S.T.D?"

The astrophysicist walked over to the long desk, unrolled a map. Donner crossed the room, stood looking over the other's shoulder. The sheet was filled with what appeared to be contour lines and colored arrows marking directions and velocities. Just to the right of center was a huge, oval blob which he recognized as the Great Red Spot. Evidently the South Tropical Disturbance was the closely knit mass of lines over to the left.

"I ran all of the information we have through the computer and plotted the probability lines as a function of time," explained the astrophysicist almost casually. "This is what it came up with. Naturally, we can't be one hundred percent certain that this will be the eventual picture, even over the course of the next few hours, let alone try to forecast accurately into the coming two or three days. But it's the best we can do."

Donner tried to swallow with a dry throat. He began to get a picture of the tremendous amount of activity which must be going on all over the complex now that this rescue operation was getting under way. He knew enough about

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Stanton to realize that the other would leave nothing to chance, would use every scrap of available information before going down into the Jovian atmosphere.

"As you can see," Caldwell was saying quietly, his forefinger moving over the map, "the S.T.D. is moving along this course, one which will almost certainly take it directly over the Great Red Spot. I've checked back through the astronomical records and I can find no other observation of this having happened. In all other cases, it has moved slightly above it on the disc, dragging it along for a little way before leaving it behind."

"All of which," said Stanton, "makes our task doubly difficult. As I understand it, the Disturbance normally drifts more quickly than the Spot."

"That's right." The other gave a brisk nod of his head. "There is one possible thing in our favor though. We know from past experience that when these two phenomena come into conjunction the radio activity rises to a peak which suggests that the atmospheric activity too is around a maximum. But from the observations we've been carrying out over the past five cycles, there's some evidence that down near the surface we get what you might call a blind spot, rather like the eye of a hurricane, due to some curious canceling of opposing forces. If that is the case, then it may be possible to reach that vessel when atmospheric turbulence is at a minimum."

"All of which will depend on extremely accurate timing," murmured Donner.

"Unfortunately, yes."

"I'll leave it up to you to work out the necessary details," Stanton said abruptly. "How long will it take you?"

Caldwell looked distinctly unhappy. "With the information I've got, a couple of hours to give you the best possible estimates. Even then, the danger will be extremely high."

"Is there anything further I can give you?" Donner asked thinly.

The astrophysicist glanced up, rolling the map in his hands. "Only to pinpoint the position of that ship as closely as you can. That's asking a lot, I know. But it's the biggest damned unknown in all of the equations."

"You're right." Donner compressed his lips into a hard line, stared around at the long bank of instruments. "Any

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estimate I can make is sure to have an uncertainty radius of at least two hundred miles. That's a pretty big area. Any further refinements can only be made from within the atmosphere itself."

Stanton scratched his chin in worried concentration. "Even then we'll need all of the luck we can get. Not only will the radio interference increase the deeper we go, but that surface down there isn't even solid in most places. It'll be like looking for one particular grain of sand in a square mile of desert."

"The Heisenberg principle on a macromolecular scale," muttered Donner under his breath, half to himself.

"What was that?" asked Foster harshly.

"Nothing. Just thinking out loud." Donner went back to the instrument board. Above his head, the faint, undulant bleep of the signal was still coming through over the crowding static.

Stanton was back within hours—alone. He was still obviously worried, more so than when Donner had last seen him. The furrows cutting his brow were deeper, more numerous.

"I've got everything fixed at my end, Norbert." He sighed. "Now I've come to tell you the part you can play in this rescue attempt. I'm not asking you to volunteer as I did the others. I know that won't be necessary. We've worked together far too long on this project not to know each other."

"You want me to come with you?"

"No. Not exactly. I've got another job for you. I've been rating our chances a little too high, I'm afraid. Caldwell has convinced me of that. There are still far too many unknowns which we can't possibly evaluate, either from here or once we get down into the atmosphere."

"What do you want me to do then?"

Stanton motioned the other to a seat. "Listen to me carefully. It's possible this entire operation may depend on you."

Donner sat down. He felt oddly removed from his person, every sense concentrated on that very moment of time.

Stanton said softly: "Like I say, it's impossible to calculate everything because it's impossible to figure exactly what's going on down there. If there is some tiny thing we haven't allowed for, maybe some side effect of the tremen-

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dous upheaval and radiation which can't be appreciated until it's too late, then our chances become vanishing small. That's why I want a second string to my bow. I want you to go down to the laboratory. The best estimates we have is that the ship came down within a couple of hundred miles of there. There's no doubt at all you'd be able to get a far more accurate fix on its position than we could."

"I see." Donner felt suddenly tight. He wanted to ask how Stanton could speak so casually about this; how he could be so certain that he would even make it to the laboratory when the others had failed so miserably. But he remained silent, waiting for the older man to go on.

"Don't think I'm not aware of the dangers. I am. But I think I've known you long enough to be able to ask this of you."

"Of course."

"Good. Then it's settled. I've made all of the arrangements. Two ships will be standing by to rendezvous with us just outside the atmosphere. You'll transfer to one and we'll take the other. Between us, we should be able to pull this off with a bit of luck."

The ship lifted off the monotonous, tumbled surface of Io with a surge of power that thrust Donner's body hard against the hidden springs. Behind them the tiny world dropped away into the reaching immensities while up ahead, vast and unpredictable and oddly frightening, loomed the gigantic sphere of Jupiter. Gradually, the pressure eased and he was able to sit upright, gulping air into his aching lungs.

Across from him, Stanton pushed one of the row of buttons on the plate in front of him. A small metal section slid aside, revealing the black depths which lay outside. He sat slumped back in his seat, staring out, engrossed in his own thoughts. Donner felt like talking to someone, but one look at Stanton's face warned him against intruding on the other in his present frame of mind.

Clasping his hands behind his head, he tried to make himself comfortable for the remainder of the journey. Whether they got Durant and the others out of this mess alive or not, there was bound to be one hell of a stink raised somewhere. It might even result in Stanton losing his job as head of the base, and almost certainly it would mean the

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government getting to the bottom of the experiments they were carrying out on the Jovian surface.

The chances were, however, that it would make little difference to him personally. The whole trip out from Io he had tried to push all thought of what was to come into the far recesses of his mind. Now, in spite of the tight hold he had on himself, the thoughts came crowding in on him. The terror of all that vastness out there, the unbelievable fury of that intense storm raging in the Jovian atmosphere and the frailness of the craft in which he would be traveling through it.

Stanton turned suddenly to face him. He glanced down at the watch strapped on his wrist. "Rendezvous in fifteen minutes, Norb," he said evenly. "You know exactly what to do once you get down there?"

Donner forced a nod. "We've checked every risk, but I'm still not happy. We did the same for that other ship and look what happened."

"I know. But that's how it's been for more centuries than we can comprehend. Without the risk, we'd still be back in some cave daubing patterns on the stone walls. Science, and everything associated with it, can only progress because someone takes a risk. As for what happened to that other ship, I've been thinking it over ever since we saw it happen on the viewer. I feel sure that it was nothing in our calculations, that it was something which couldn't possibly be foreseen. Something happened down there which possibly occurs only once in several million years. It was just our bad luck that it happened when it did."

Donner leaned his head back, closed his eyes. It *could* conceivably have happened like that, he reflected. There had been similar instances in the past. Science was, of necessity, divorced from humanity. There were events which were completely unpredictable, which entered a scientific progression from unforeseen directions and totally upset all of the calculations previously made, sometimes with disastrous results.

The work they were currently carrying out in the laboratory was strictly scientific in the sense that, although they were developing along lines which were completely new, each step they took was based upon logic. Going down into that maelstrom of poisonous gases was not. Looking at it coldly

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and objectively it was as close to suicide as anything he could imagine. Whether that made what they were doing right or wrong, he couldn't decide.

A slight jolt brought his thoughts back to the present, and he realized they had made contact with the first of the waiting vessels. Out of the corner of his eye he saw Stanton lurch abruptly to his feet. The others in the ship were also making ready to leave.

"Keep in contact with me every fifteen minutes once you're down there, Norb." Stanton squeezed his shoulder for a moment, then brushed past him, making for the airlock without a backward glance, as if not trusting himself to say anything further.

Not that there was any need for more instructions. They had discussed everything before leaving Io. All that remained now was for things to go as they had planned, because if they didn't . . .

He refused to allow himself to think of the consequences of failure. Deep down within himself he knew that if he did all of that terrible dread would come sweeping back into his mind, blotting out everything. He sat quite still and watched as the four men followed Stanton out through the airlock, making their way into the waiting ship, ready to go down into all that shrieking turbulence, that red death which now lay so close to them all.

The ship had been shifting slowly for the past thirty or forty minutes. It had not been a smooth, bearable motion. Had it been so, it would not have felt so bad. For several minutes it would remain stationary on a more or less even keel and then, without warning of any kind, it would slew sideways and down and there would be a terrifying, sickening drop which hurled Bush helplessly across the floor of the tiny cabin. He had debated whether or not to attempt to strap both himself and the girl into the seats previously occupied by the robot crew but had decided against it. It was just possible that rescue might come and they would have to move fast, unhampered by unwieldy straps. When every second meant the difference between life and death, there was no sense in adding to their difficulties.

All about him, the ship reverberated with the titanic convulsions of the atmosphere outside. At any moment, he ex-

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pected the entire ship to be picked up bodily by the screaming force of that storm and flung headlong over the uneven, shifting surface.

Jill suddenly moved on the smooth metal floor near the interconnecting door, forced herself up into a sitting position, one hand holding her head. He went over, held an arm around her shoulders, felt the uncontrollable trembling in her body, the curiously reassuring warmth of her next to him.

Her eyes flicked open wide. For several seconds there was no recognition in their depths. Then memory came back, clouding them over.

"How long was I out?" she asked tensely, clinging to him.

"About half an hour, I reckon."

"Has anything happened? Any word from the others?"

"Nothing much." He tried to sound calm and casual. "I got the emergency transmitter working. As far as I can tell, it's still sending out its signal, although whether they've picked it up or not we've no way of telling. The senator is still unconscious. I had to knock him out. He was on the verge of panic and we can't have that."

Shakily, she got to her feet with him helping her. A grimace of pain flashed over her features as she put her weight on her right foot. Gently, Bush helped her across to one of the vacant chairs, noticing the way she glanced obliquely at the shattered remains of the two robots. No sense in feeling any pity for them, he thought wryly; they were nothing more than pieces of metal and complex electronics. Their positronic brains were completely smashed now, delicate circuits shattered beyond repair.

"How will we know if they're coming to pick us up?"

"Perhaps we won't until they actually get here. I've checked through the controls. There's a communicator, but down here, inside this atmosphere, I seriously doubt if it will be of any use. Far too much interference."

Jill shivered against his shoulder. "It all seems so—so futile."

"Don't think like that." His tone was sharper than he had intended. "So long as we're still alive, there's hope. Let's take a look at Durant. Think you can manage to stand?"

"I think so." She got up, lips pressed tightly together.

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Durant still lay slumped against the hull, a thick trickle of blood drying slowly on his chin where a tooth had gashed his lip. A large bruise showed purple on the side of his forehead.

"Is he all right?"

"I think so. I had to hit him pretty hard." He felt the pulse in the other's wrist. "Help me get him into one of the chairs. There's no telling when this ship will start to slide again and I'll feel safer if he's strapped down in his present condition. If he goes berserk, he'll smash up everything."

Between them, they managed to drag Durant's heavy body across the cabin floor and hauling him into one of the chairs, Bush fastened the thick straps around the senator's chest and arms.

Scarcely had they done so when another severe jolt shook the vessel, swinging it violently sideways. Bush caught hold of the girl's wrist, held her with all of his strength as she fell away from him. He saw her face, white and bloodless in the brilliant glare of the arc lights, her eyes wide with sudden shock.

Oh God, he thought fiercely, I only hope she doesn't give out on me! Durant would be bad enough when he came around, but if he had to manage the two of them, things would become really difficult!

Grimly, he held on as the ship rocked and swayed precariously, threatening to topple over onto its side as the shocks grew stronger and more frequent. It felt as if the entire surface were breaking up, flowing away under them, giving way entirely.

Jill screamed faintly, her voice all but lost above the grinding roar which engulfed them on all sides. A titanic convulsion and he lost his grip on the edge of the control board, fell forward against the girl. They slid helplessly for several feet toward a looming bulkhead, would have crashed against it with bone-breaking force, but somehow Jill managed to catch hold of a steel upright, hung on desperately. The cabin tilted through almost ninety degrees. He felt his legs go from under him, slithered for a couple of yards, would have dropped between the controls and the curving bulkhead but for the girl. Out of the edge of his vision, he saw her brace herself, still gripping him with one hand, her

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other arm around the upright. For a second he thought they would both go careening into the unyielding metal, but there was an incredible strength in the girl's slim body. Somehow, she held his forward-sliding weight.

Slowly, an inch at a time, she pulled him up, holding him until he regained his balance. Teetering on the steeply canted floor, he wiped the sweat from his forehead.

"Thanks, Jill. I thought I was finished then."

"Another concussion like that and we'll all be finished." There was a perceptible tremor in the girl's voice which she fought in vain to control.

The tiny ship slipped like a silver fish into the atmosphere, headed down at a steep angle. Almost at once, the screeching tornadoes caught hold of it, rocking it violently from side to side. Clutching the sides of his seat, Norbert Donner felt his stomach come up in protest at the motion. Outside, the sirenlike shrieking rose to a banshee wail that hurt the ears. At times, it threatened to rise into the ultrasonic region.

The nightmare of his position would not go from him. Instead, it dominated his mind to the exclusion of all else. He felt a movement beneath him, heard the cracking around the ship as if the entire hull were breaking up into little pieces. The noise set his teeth on edge, drew out his nerves to breaking point. Right through every fiber it shrilled, as if his bones were crumbling into powder within him, his brain rattling inside his skull.

He grunted involuntarily. The deck of the ship felt solid under his feet, almost the only contact he had with reality. Wearily, he leaned his head back, closed his eyes to shut out the glare of the lights, but it was utterly impossible to shut out that sound. It was all about him, a wild cacophonous blare that transcended everything he had previously known.

The minutes dragged, each bringing its own eternity of waiting and fearful expectancy. He was scarcely aware of the abrupt jerk as the beam from the laboratory caught hold of the vessel, guiding it down through the murk, into the boiling, flaring hydrogen explosions which thundered just above the surface. Another thousand miles, he thought tightly, and with that beam gripping them fast, taking everything

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out of the hands of the robot crew, nothing could go wrong—nothing *should* go wrong.

A voice came suddenly through the speaker grille, cutting in on his thoughts: "The ship will land at the laboratory in ten point six minutes. We are now accelerating. Please insure that your straps are secured."

The dispassionate, utterly inhuman voice chilled Donner. He wondered then about that creature in the control room only a few feet away. During the talks with Stanton, the latter had dropped little hints about these robots, but at the time he had paid little attention to them. He did now, for it came to him that over the next day or so he would be the only human among them. The voice had sounded odd, much more so than he had expected of what was, in reality, little more than a programmed computer.

He made a quick check of the straps, eased himself back. The pressure of his body increased swiftly. Very close to him now, the shrill scream of the atmosphere about the ship lifted to an ear-splitting crescendo. They seemed to fall for an eternity, plummeting downward at an ever-increasing velocity.

He held his position in the seat with the straps biting deeply into his flesh, every muscle in him taut as wire, until the faint jar which told him that they had finally made physical contact with the laboratory. Only then was he able to relax a little. The worst part of the journey was over. Now he must prepare himself for what was to come.

"You may now release the straps and leave the ship, Doctor Donner." The same metallic voice sounded over the small communicator. Obediently, he unclipped himself, got shakily to his feet and moved toward the airlock, which slid open as he approached. The terrible thunder of the storms still roared in his ears, but it seemed curiously muted as though some strange blanketing effect was in operation.

A couple of steps and he was through the lock and standing inside the laboratory. Donner took a trembling breath, blinking against the light. The scene in front of him was one with which he was familiar although this was the first time he had seen it in person. Before, it had merely been an image on the video-viewer back on Io.

The place was far larger than he had expected, yet there was not an inch of superfluous space. He rubbed sweating palms against his tunic.

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"We received instructions that you were on your way, Doctor Donner." One of the robots took a fluid step forward.

"You know why I'm here then?"

"You wish to trace the position of the ship which crashed some hours ago."

"Yes. I gather you have the necessary equipment here for doing that." It was difficult to imagine that the other was merely a robot. Built of synthetic flesh and similar in outward appearance to a man, it was only the inflectionless voice which gave the impression of something inhuman.

"Certainly. But there is one problem. No one here has been programmed to use this particular equipment."

"But I understood that you could operate all of the machinery down here."

The other gave the human equivalent of a negative shake of its head. "There are some instruments here which have so far, never been used. Doctor Stanton only programmed us for the equipment associated with our experiments."

Donner bit his lower lip. There was something wrong here which he did not understand. It seemed impossible, but he knew that the other was deliberately lying to him. There was, of course, nothing he could do to prove it, or force the robot to tell the truth. So far as he was aware, all of the robots they employed, either here in the laboratory or in the atmosphere vessels, had been built to normal programming specifications, and one of the prime directives embodied in their positronic brains was that they always told the truth when questioned by humans.

"Very well. Show me where it is and I'll operate it."

"If you'll come with me, Doctor Donner." If there was something going on down here, he had better watch his step. A robot which, for some reason, did not comply with its programming, could be a highly dangerous thing. He wished that Stanton, who knew more about this than anyone alive, had warned him of the possibility of such a situation. *Or perhaps Stanton didn't know!*

There was, however, no hesitation on the robot's part as it led Donner toward a small side room off the large laboratory. The instrument was small and compact, a maze of solid-state electronics, built along one wall. Seating himself in the chair, he flicked down a switch. Behind him, the robot stood

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silent in the doorway, unblinking eyes watching his every move.

Red pilot lights flicked on across the panel, held their color for a few moments as the instrument warmed up, then snapped to green. Donner waited for a moment, then turned. "You can go back to your duties now," he ordered.

For a moment, he wondered if the other would obey the command. Then, obediently, the robot turned and went back into the laboratory, closing the door behind it.

The drumfire of liquid methane and ammonia, beating against the outer shield of high-pressure ice, was a muted thunder. It was obviously impossible to eliminate it altogether although the sound-proofing of the laboratory was of an extremely high level of efficiency. Deliberately, he forced himself to shut it out of his mind, concentrating only on the faint crackle which emanated from the machine itself. On the large cathode-ray tube which stared at him like some cyclopean eye from the very center of the instrument, a green line, like the second hand of some eerie clock, began circling the flat screen, sweeping out a complex, glowing picture of the surrounding terrain, visible as a mottling of green.

The laboratory had been built on a vast isthmus of high-pressure ice which, as far as the records showed, had been permanent in nature for more than seventy years. In extent, it covered the best part of seven hundred square miles with the laboratory situated almost exactly in the center. Toward the perimeter, however, the surface was gradually breaking up under the tremendous stresses and strains set up on the surface. As a result, the screen showed an almost continuous motion out toward the periphery of the island, which drifted slowly in a sea of mush.

All of this, of course, raised the question as to how long the laboratory itself would last. Estimates varied from a few years to a century or more, although everyone seemed agreed that its days were numbered. Reaching up, he thrust down the switch of the small communicator. If everything had gone according to plan, Stanton should be within range of the transmitter.

"Hello Stanton! Laboratory calling Stanton!"

There was no answer. Nothing but the general static, rising and falling in intensity.

He called again with the same result. He tried to suppress

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the first shiver of nameless dread which assailed him. Maybe it was just that the other was not yet within range of the instrument. Under such terrible conditions as now prevailed outside its range was clearly limited. If he had sufficient data it should be possible to calculate how far those signals would penetrate the atmosphere, but there was no time for that now. He had to try and locate the emergency signal from the crashed ship and feed it into the machine. Stanton could wait for a little while.

A single bead of sweat ran down the side of his jaw as he adjusted the dial for the correct frequency, but his hand was as steady as a rock. A needle began to kick, but only ever so slightly. Wherever that vessel was in relation to the laboratory and however hard it was striving to push its electrical impulses through the raging hell outside, it was still pitifully weak, too weak as yet to have any effect on the cathode-ray circuits.

Donner's body slumped forward a little. His hand on the secondary, amplifying circuits became tense and rigid. The background mush in the circuits began to hiss and fade, rise and fall. Now he kept his eyes glued to the cathode-ray tube, scanning the various green areas of differing intensity, seeking one tiny spot unlike the rest. It was, he knew, the only way by which he would recognize the signal from the ship. A hard, circular dot, tiny by comparison with the various land masses present, but theoretically recognizable for all its size.

Gently, he tuned in subsidiary circuits, striving to raise the amplification. For a second, he thought he saw something, a faint flash of green off to the right of center. Then it was gone, and he could not be sure if he had really seen it, or whether it had merely been a trick of his imagination. He began to edge the dial back, hoping to pick it out once more, then uttered a sharp curse as the door behind him clicked open and one of the robots entered.

Taut nerves got the better of him. Sharply, he said: "What the hell is it now?"

"I apologize for the interruption, Doctor Donner, but I feel I must warn you that the computer predicts an overload on the power within the next five minutes."

"Then handle it as best you can."

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He turned back to the instrument in a gesture of dismissal, but the other persisted.

"I'm afraid it isn't as simple as all that. We must cut down on the power fed to the instruments until the danger is past. Otherwise we run the risk of overloading all of the main circuits."

"Do everything you can through there," he snapped angrily. "But on no account is the power to this equipment to be reduced. Do you understand?"

"It will be difficult—" began the other stubbornly.

"There's no difficulty about it. That's a direct order. If you must reduce power, then cut out some of the computer banks. At the moment, this work has top priority. We've got to locate that ship, and as soon as possible."

"I'll do all I can." There had been a momentary pause before the robot answered and, once again, Donner had the feeling that these robots were being deliberately obstructive. He waited until the door closed behind it then rubbed the back of his hand down the side of his face.

His knuckles were white as he gripped the edge of the control panel. Good God, he thought fiercely, if these robots had progressed toward reasoning things out for themselves, if there was anything in Senator Durant's suspicions concerning them and instead of being controlled from Io they were actually doing the controlling, then he was in serious trouble.

This was the last thing he had expected and, as far as those three people on board that crashed ship were concerned, the worst that could possibly happen. So far, none of the robots here had made any direct move against him. But if they did have minds of their own, then God alone knew what might happen. It was just possible that they had engineered the apparent accident which had befallen that ship. Maybe the robot crew on board had deliberately sabotaged it on the way down, knowing that whatever happened, nothing could be proven against them. The fact that they had, almost certainly, been destroyed in the process counted for nothing. They had no feelings in the way that human beings did. Personal destruction meant nothing to them.

He checked through the readings to make certain that his order had been carried out and there had been no reduction in the power level. When he was satisfied, he continued his

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search of the narrow waveband for that feeble signal. Every so often there was a blast outside which seemed to his keyed up senses to originate from directly beneath the laboratory. The entire structure would shudder and reverberate as the shock wave traveled through it, and it seemed incredible that the laboratory could remain in one piece after all the physical battering it received.

After several frustrating minutes, during which nothing whatever appeared on the tube, he tried the transmitter again.

"Laboratory calling Stanton! Can you hear me?"

Leaning forward with his ear pressed close to the square communicator, he thought he heard a tinny, faraway voice above the infernal racket of static and storm. Urgently, he tuned up the amplifier, straining with every sense to pick out the words. Had he been mistaken again, or was that really Stanton's voice?

He put in the automatic cut-out which, although it reduced the intensity of the incoming signal somewhat, had the effect of cutting out most, if not all, of the background mush. This time he knew it was Stanton's voice.

". . . fairly weak. We must be at the extreme range of the transmitter. How are things down there?"

He let the breath sigh through his lips. "I thought I had the signal about ten minutes ago, but it was so faint that it failed to show anything on the scope. Have you managed to pick them up yet?"

"We still have their signal but it's impossible to get anything but a general direction from it. They must be within two or three hundred miles of us but unless you can get a bearing of some kind, we could go on searching for a couple of centuries without finding them. Can you boost the incoming signal at all?"

"I'll do my best. It isn't easy. The robots here, for some reason, are being extremely uncooperative."

A pause while Stanton digested this news, then: "How bad is it?"

"Bad enough. I've got the impression they're deliberately trying to prevent me from locating that ship."

"You can't be serious. That's utterly impossible. One of the prime directives is—"

"That they obey every command given them unless it re-

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sults in the death or injury of a human being. Unfortunately, something appears to have gone wrong where these robots are concerned. They haven't threatened physical violence or anything like that, but they seem to be bent on putting every kind of obstacle in my way."

"You'd better elaborate on that a little." Stanton's tone seemed oddly strained, even though distorted.

"Well . . . First, they claim that no one here can operate this instrument although, I understood, they have been programmed to use every piece of equipment down here. Then, they warned me of an emergency overload necessitating reducing the overall power within the laboratory. I ordered them to reduce power to any of the other equipment if it was absolutely necessary but on no account to interfere with this."

"Has that order been carried out?"

"So far, yes. But if they should decide to cut the power, there's very little I could do about it."

"I see." Another pause before the other continued: "We'd better arrange that you contact me every ten minutes from now on. If your call doesn't come through I shall have to assume that something has happened. If that should occur, I'll do all I can from this end. You've still got the laser gun?"

"Yes."

"Good. Then don't hesitate to use it if you have to. Better that all of those robots should be destroyed than anything happen to you and the equipment. We can always program more of them for future work. It won't be as easy to replace either you or that equipment. In the meantime, do your best to pinpoint that ship. We've been checking on the wavelength. There appears to be a horizontal component which is altered slightly, possibly due to some distorting effect of the storms. The factor we've worked out for it is minus one point seven six megacycles. This may explain your difficulty in picking it up."

"Thanks. I'll make the correction and call you in ten minutes."

He broke the connection, adjusted the dial and retuned the circuits. This time the needle kicked more violently, flickered over the closely divided scale. Bending, he checked with the scope. The sweeping line of green fire traced out its endless circles, mapping the contours of the surrounding

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ground, and it was then that he saw it—nothing more than a tiny, glowing pinpoint of blue green light, but standing out clearly from the background.

Carefully, he increased the magnification, moving the close-ruled grid in order to measure off the coordinates. The picture flowed outward from the center.

Noting down the coordinates, he glanced up to recheck them, saw to his surprise that the position of the dot had changed slightly. There was no doubt what was happening. The ship lay very close to the perimeter of the island where the surface was far less stable than that on which the laboratory itself stood. He felt a slight tremor go through him as he realized what this meant.

The ice layer out there was breaking up under the screaming fury of the storm. At any moment, the ship could topple into one of the ten-thousand-foot crevasses and be lost completely!

V

RED AND GREEN lights flickered along the curved walls to Bush's left and right, just within the edges of his vision. As far as he could tell, everything was continuing to function despite the hammering impacts which the ship had suffered during the past few hours. Every now and again, there would be a concussion far louder and more violent than the rest and the ship would lurch savagely.

Jill was seated in one of the seats, her head lying on her chest, eyes closed. But he knew she was not asleep. Next to her, Durant moaned at intervals but he was still not fully conscious. Once he stirred as if coming around but by the time Bush had reached him, he had slumped forward against the restraining straps.

During the past hour, Bush had examined most of the instruments, could guess at the functions of several of them. The drive itself had been smashed beyond repair by the crash. Even had it been operable, he knew that without the robots, it would have been useless. Neither he nor the senator could possibly get this vessel off the surface. If a miracle did happen and they were found, some means of transferring them from this ship to the other would have to be devised, and that in itself presented an almost insuperable problem.

He felt suddenly very tired. He was normally a man who went to sleep whenever he felt he needed it, no matter where he was, waking as soon as his body was satisfied. Rubbing his eyes, he stepped down off the raised edge of the control section, went through into the tiny cabin at the rear.

He stood in the central aisle between the two rows of seats, staring straight in front of him, seeing nothing. Inwardly, he was not sure how he felt. When a man was faced with the inevitability of death, it was said that all of the events of his past life flashed before his eyes. But he experienced

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nothing like that. Rather there was a growing anger, a tiny spark at the back of his mind, at the sheer stupidity of all this; the idea that he and Jill had thrown away their lives for nothing more than to prove a vague suspicion which existed in Clinton Durant's warped, political mind.

God, why hadn't they listened to what had been told them back on Io Base? He found himself prowling around nervously; his brain overactive and accelerated in spite of the weariness of his body. His fingers fretted spasmodically on the back of the nearby seat. If only there was some way they could get in touch with someone, even the robots at the laboratory. Maybe those scientists had already written them off as dead, not worth the considerable risk of entering the Jovian atmosphere to look for them.

Oh hell, he thought frenziedly, if that was the case they might just as well shut off all of the automatics and die from quick suffocation as the air gave out. He tried hopelessly to relax, pulled out a cigarette from his pocket, lit two without noticing it.

Trying to steady himself, he wiped his face on his jacket sleeve. If only there was something he could *do* instead of simply standing here. More shudders shook the ship, the hull responding with a sound all its own, a cacophony and dissonance which grated on his nerves. Surely the vessel could not withstand this much longer. Sooner or later, the hull would splinter and crack and that would be the end of them. He had already guessed that they had crashed somewhere on the edge of the stable area on which the laboratory had been built. From what he knew of this strange high-pressure ice and rock region, there was a continual breakup of the outer areas due to the internal stresses of the planet. Even the spot on which the laboratory itself stood was not permanent. Donner had made that much clear during their brief conversations on Io. Now that the storms were reaching their peak intensity, there would be renewed activity down here and it was more than likely that the surface immediately beneath them could settle and collapse within the next few hours.

The wave of fear came washing over him as he staggered back toward the control room, left him so startlingly weak that he was forced to clutch at the door to keep his balance.

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Jill turned her head to stare at him. With an effort, she rose to her feet, an expression of concern on her face.

"I'm all right, Jill," he reassured her. "I guess things just got the better of me for a moment."

"I understand."

In the other chair, Durant suddenly lifted his head, blinked open his eyes, made to move, then glanced down in surprise at the straps holding him. He jerked his arms and legs against them.

"What's the meaning of this, Sam?" he grated.

"Just a precaution, senator. You were on the point of going berserk when I knocked you out."

"What the devil do you mean?" Anger thinned the other's voice. "Now loosen these straps."

As Bush hesitated, the girl moved forward, but Bush caught her by the arm, shook his head slowly. "I'm afraid we can't do that at the moment, senator." He could see the other's knuckles whitening. The look he gave him back was one of almost pure hatred.

"I won't forget this when we get back to Earth, Bush. I'll personally see to it that you never get another post again—anywhere. I'll break you completely."

"If we get back," Bush said evenly. "You seem to have forgotten the full implications of our position."

"I've forgotten nothing!" snapped the other vehemently. "Damn it to hell! Do as I say!"

"No. I've got enough trouble as it is without having to watch you every second. I'm sorry, but that's the way it's got to be."

Durant thinned his lips, swung his glance on the girl. "Are you going along with this, Jill. I thought you were the one person in the party I could trust."

"I—"

"It's for your own good." Bush forced his voice into a reasonable tone. "Our position is precarious enough as it is, without making it completely hopeless. I've got the emergency transmitter working. With luck, they should have picked up our signal by now. All we can do now is wait."

"Don't be a bloody fool, Bush. There's got to be something else we can do. If we simply sit here and wait we'll die like rats in a trap."

Bush sighed and turned away, spreading his hands in a

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gesture of resignation. He tried to think clearly, but the continuous thunder of that interminable storm outside made it virtually impossible to do so. It went on and on, ceaselessly roaring with a demonical fury, filling the whole of their universe. It had now become the be all and end all of their existence. Deep within himself, he knew that if they should get out of this alive, it would haunt his dreams for the rest of his days.

Leaning an elbow against the metal of the interior hull, he said hoarsely, "See if you can whip up something for us to eat, Jill. Maybe it will help to take our minds off all this for a little while."

As the connecting door closed behind him, Stanton felt curiously alone, in spite of the fact that the two robots, seated in the high-backed metal chairs were only a few feet away. The message from Donner giving the coordinates of the wrecked ship had come in barely five minutes before, and although they had been fairly definite, he had misgivings. It was one thing to feel vaguely elated that they had finally managed to pinpoint the other ship with an uncertainty of only ten miles or so, and quite another to try to work out a plan of action if they should succeed in locating it.

The sense of inexorable time urging him to a decision was strong within him, yet he knew that any rash action could only be disastrous. The robot pilot had been given the course to follow and already the ship was turning, swinging broadside to the terrible tornado which had struck them viciously a little while earlier. Vaguely, he found himself wondering just how close they were pushing this vessel to the specification limits set upon it by the designers. It had never been intended that it operate within the atmosphere under the insane conditions which prevailed outside at that moment. The ion drive which was pushing them forward through those terribly dense gases was fighting against a wind force of more than a thousand miles an hour, and during those savage gusts which came off the edge of the approaching South Tropical Disturbance, the velocities they encountered were far in excess of this, striking at them from unexpected directions, so that even the computerized positronic brains

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of the robots were stretched to the limit in trying to predict the conditions from one moment to the next.

"When do we reach the position given?" he asked sharply.

There was a brief pause while the necessary data was processed, then the nearer robot said: "Eight points seven minutes. There is an uncertainty factor for which no allowance can be made."

"Very well." He adjusted the light inside the cabin, turning it down until only a faint greenish glow came from the instruments. Light made no difference to the robots. Their infrared scanners enabled them to see in total darkness, if necessary.

Another switch operated the forward viewer, which utilized the same principles. To Stanton, it was as though the metal and ice hull of the vessel, across the whole stretch above the controls, had suddenly become transparent, enabling him to see through into the raging holocaust beyond. Because of the low temperature of the vast hydrogen flares much of the radiation came through, not in the visible region of the spectrum, but in the infrared. Normally, such radiation would be totally invisible to the human eye, but the complex electronics of the viewer had the effect of shortening the wavelengths so that the gigantic fireballs could be seen as huge, expanding bubbles of fiery red and orange.

The swirling clouds of ammonia and methane, frozen into long, jagged crystals, driven on by the raging winds, made it difficult for the scanners to probe that atmosphere for much more than half a mile, but by the light of the flares it was possible to see much further than this whenever the outbursts erupted close at hand. Whether it would be possible to pick out anything as small as the other ship against that rugged background of ice escarpment and rearing cliffs, he did not know. Inwardly, he doubted it.

"Can we go any closer to the surface?"

"There will be danger." The metallic voice was utterly emotionless.

"Disregard the danger," he ordered. "This is the only chance we have of finding that ship."

The angle of descent steepened and he held onto a nearby stanchion, bracing himself, his gaze fixed on the screen, watching the flares which burst all about them, down near the vaguely glimpsed surface. The sensation of heat from

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those coruscating balls of flame was so real that he imagined he actually felt it on his face, slitting his eyes against the glare. It was hard to realize that the temperature down there was far below zero.

The shrieking wind buffeted them from all angles, sent the frail craft slewing sideways in dizzying spirals. Below them, rearing peaks of ice soared up dizzily from black, impenetrable depths which no human eye would ever see. Here and there, great chunks were sliding away from the main island, slipping down into the slush. Avalanches of liquid hydrogen poured along mile-high chasms which formed without warning as the surface began to shift unpredictably.

All in all, it was an incredible and terrifying sight, a spectacle so awe-inspiring that it stultified the mind, even of a man who had witnessed it all before. This must be the sort of hell our forefathers conceived, Stanton thought, shivering a little in spite of the warmth in the cabin.

He had deliberately sent the others back into the passenger space, closing the door on them. There was no telling what the sight of all that primeval chaos outside might do to a mind not prepared for it. Even he could feel his brain reeling at the sight of it.

"One point five minutes." The clipped tones of the robot broke in on his whirling thoughts. With an effort, he forced his mind to concentrate on the task in hand.

"Reduce speed to the minimum possible," he ordered tersely.

Leaning forward, fingers still gripping the cold steel of the stanchion, he peered intently into the viewer. *If only it were possible to make out details down there!*

There appeared to be a comparatively flat stretch of surface almost immediately ahead, but one broken up by deep crevasses which made it difficult to discern anything definite and to be sure of that which one could see. Here and there, the ground—he still persisted in thinking of it as that, although the term was not strictly correct—was corrugated with long, low ridges which were thrown into sharp relief whenever the vulcanism became particularly violent. Slowly, he scanned the entire area. They were now as close to the surface as it was possible to go in the circumstances. Any lower and a sudden gust in the tornado force winds could

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send them plunging helplessly out of control onto that nightmare surface.

Although he knew that the robots could pick out far more detail through their own inbuilt infrared scanners than he could with his limited vision, he nevertheless preferred to rely on what he himself could see. Ever since that somewhat alarming and enigmatic report from Donner at the laboratory concerning the robots down there, he had experienced a growing suspicion that it would be far from wise to trust these two as much as he would have liked. Something showed briefly over to their right. Stanton had only a fragmentary glimpse of it, could not even be quite sure of what it was, except that it had looked oddly out of place in the vivid glare of a hydrogen explosion which lit up the distant horizon.

"Turn to starboard and circle slowly," he ordered harshly.

The pilot obeyed without question. Ponderously, fighting against the full fury of the storm, the tiny ship swung around, tilted violently as a particularly savage gust caught it, dropped sickeningly for a hundred feet before the stabilizers regained full control.

Fighting to maintain his balance, Stanton leaned forward against the gravity pull. Below them, everything was suddenly dark as the hydrogen flare died. Had he been mistaken? It was so easy in his present frame of mind to imagine all sorts of things, and the grotesque patterns cast by the orange glare whenever one of the erupting fireballs surged up from those Stygian depths conjured up all kinds of illusions.

Probing downward, the infrared beams touched the surface. The impulses were fed back into the viewer, providing a faint gleam where streams of liquid hydrogen cascaded down vertical shafts of ice and rock. With no landmarks by which to orient himself, there was no certain way of picking out that particular spot again. Desperately, he peered forward. Since the outer hull of the ship he sought was composed of the same high-pressure Type IV ice as the surface itself, the only way one could differentiate it from its background was by the shadow thrown from the hydrogen explosions.

As they turned and began to work back along the way they had come, orange fire spumed and sheeted in the near

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distance. Now! If there was to be any chance at all, this was it!

The boiling glare almost dazzled him, even though the filters had been put up. Narrowing his eyes, he scanned the area as far as it was possible to see. The crisscrossing of crevasses etched a weird pattern on the screen. But there was nothing else. The tiny spark of hope died quickly within him.

"Nothing." He spoke the single word aloud, getting no response from either of the robots.

He forced his taut features to relax, line by deeply furrowed line. "Keep a look out for anything unusual down there. I'll recheck that position with the laboratory."

Punching the door button, he stepped through into the brightly lit passenger cabin. Caldwell glanced up quickly from his seat, half rose to his feet.

"Any luck, sir?"

Stanton gave a weary shake of his head. "I thought I saw something a few moments ago, but there's nothing there now."

"Can we get any closer to the surface." From the other seat, Foster spoke harshly.

"Not a chance. We're as low as we can safely go right now. The surface here is continually breaking up and some of those cliffs are more than three miles high. If we hit one of them, we're finished."

Foster's face registered concern and disappointment. "Are you sure of the position?"

"I'm going to recheck that now with Donner. He warned that the ship is still drifting. At present, we've no idea how quickly that ice mass down there is breaking up. They could drift more than a mile in a very few minutes."

"That makes our job virtually impossible, doesn't it?" grunted Foster. "Besides, how the hell do you manage to set up a reference frame of coordinates if the surface isn't even stable?"

"The only way we can do it is to use the laboratory itself as a zero point," Caldwell explained, as Stanton moved over to the communicator.

"That way we have a reference point which is at least semipermanent. It also has the added advantage that Norbert

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Donner can read off the position of the ship directly from his scope."

"Quiet now," Stanton said. He lowered himself into the chair facing the set, mentally shutting out the rolling rumble of an atmosphere gone insane. He wished it were possible to get into visual contact with Donner. It would simplify communications tremendously.

Donner's voice came in above the chatter of static, tinny and faraway. "There's been very little change in the position over the past hour. How far are you from the area?"

"We've just passed over it," Stanton said quietly. "The trouble is it's almost impossible to pick out anything against the background. The robots are continuing the search. Are you still picking up their signal on the scope?"

"It's very faint, but still there."

Stanton sighed, flicked down the transmitting switch. "Can you be absolutely certain that it's the ship, Norb?"

"If it came down within a radius of two hundred miles of here, I'm fairly sure of it. There's nothing else which looks anything like it. I've also been checking by tuning on either side of their frequency. This particular echo disappears whenever I do that and comes back on as soon as I tune back in to their wavelength. It can't be anything else."

"Then it's got to be here somewhere." Stanton was aware that the other two men had risen from their seats, were standing just behind him. "We'll continue searching for another hour. If we haven't located them at the end of that time, we'll head for the laboratory and try to think out something else."

He reached to switch off, paused with his hand still outstretched as Donner's voice came through again. "I think there's something else you should know, sir. There's a lot of vulcanism going on just to the north of that particular area. I've been keeping an eye on it for the past twenty minutes. It seems to be associated with an appendage of the S.T.D. Looks like there's a subsidiary front moving across the surface. At the moment, it's running parallel with the northern edge of the island, but there are some indications that it's beginning to break up with a line edging due south."

"How fast is it moving?" Stanton forced himself to speak evenly. He did not need to be a clairvoyant to know just what was on Donner's mind. He could foresee the danger

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himself from what the other had said. The South Tropical Disturbance was, in essence, a vast whirlpool of gas, possibly six thousand miles deep, stretching down from the upper atmospheric levels to the surface. Inevitably, it would produce violent repercussions down here, dredging the ice slush along with it as it roared through the planet's atmosphere. Stresses would be set up along the island shelf powerful beyond all imagining.

If it should start moving south they were in for big trouble. As far as he, personally, was concerned, the danger was not too great. But for that vessel grounded on the surface it could spell the end. For the first time, he had the feeling that there was absolutely nothing they could do for the senator and his two companions. A sense of utter defeat washed over him.

On the communicator, Donner said after a brief pause, "It's difficult to give any precise answer. The best estimate at the moment is around ten miles an hour."

"As slow as that." Relief replaced the sense of hopelessness. "Keep an eye on it. Let me know at once if there's any change at all, either in velocity or direction."

"Will do."

"Any more trouble down there from the robots?"

"None so far. They're all in the main laboratory at the moment."

"Good. Stay alert in case they try anything and remember one thing. If something has happened that we don't know about and they are progressing beyond their programming, they won't think in the same way as a human being. We have an inherent sense of self-preservation which dominates almost every action we take. This is completely absent in their makeup."

"I won't forget."

The receiver went dead as Stanton flipped the switch up into the "OFF" position.

VI

CAREFULLY, Donner increased the amplification of the incoming signals. This new problem of increased vulcanism along the northern boundary of the island was one they had not foreseen. Unfortunately, there were too many things about Jupiter which were impossible to predict. The planet was a law unto itself. Indeed, it would come as no surprise to him to learn that some of the physical laws of the universe with which they were so familiar no longer held on this planet. As a matter of fact, that was the main reason behind the building of this laboratory down on the surface; so that they might study the behavior of certain metals and individual atoms under conditions found nowhere else in the solar system.

Stretching his tired limbs, he got to his feet, scraping back the chair. Shaking alight a cigarette, he thrust it between his lips and drew deeply on it. Smoking helped him to relax and it was important that he should not allow all of these troubles to get the better of him. As he smoked, he checked the small laser gun he carried. He kept thinking of the warning Stanton had given him.

Just what were the robots in this place up to? Was it conceivable that they had been carrying out experiments on their own, along lines completely unknown to everyone on Io? Heaven alone knew there was sufficient scientific equipment down here for them to do so. If they were, what could possibly happen? What was going on inside those complex positronic brains of theirs? Toward what goal were they striving?

He had always felt a little afraid of these mechanical creations of Earth science. As a boy he had read various tales of robots who became so scientifically advanced that they were able to take over from the human race. Already, there were computers which could all but think for themselves. There were more than a million tiny, interlocking circuits in-

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side each robotic brain and it required only one of them to be changed, even in the slightest degree, to produce something akin to genius.

No, he must not think like that—at least not until this project was finished, one way or another. After all, there existed only a handful of robots. What possible harm could they do against the thousands of millions in the human race? Somehow, the thought did not bring the solace he had expected.

He thumbed the button of the door leading into the main laboratory, waited for it to slide open. When it remained shut, he pushed the button again, feeling his throat suddenly dry. The door refused to budge.

There was a small two-way viewer set in the wall to one side. Savagely, he knocked down the switch. The picture faded on almost immediately, yielding a view of the interior of the laboratory. Four of the robots were visible in his field of view, bending over a complex mass of electronic equipment.

The faint click of the viewer must have alerted the nearest for it looked up suddenly, transparent lenses glittering a little in the light. It unplugged its linkage with the machine, came over until it stood just in front of the viewer.

Fighting to keep his voice steady, Donner said: "The mechanism of the door appears to be faulty. Would you open it from your side."

The cold, unblinking stare did not change. "I'm afraid it is impossible to open the door at the moment. The emergency overload you were warned of a little while ago necessitated removal of the power from the subsidiary controls. Everything will be done to reinstate it once the atomic generators return to full power."

Donner felt a chill pass through him. "You're lying!" he snapped thinly. "I order you to open this door at once."

"I regret that is not possible. If we bring in the secondary circuits now there may be a complete shutdown. Our prime directive is to maintain the laboratory to the best of our ability and—"

"Your prime directive is to obey any orders given to you." Anger and a nameless fear edged Donner's tone.

"I'm sorry." The other moved away from the viewer, returned to the center of the laboratory.

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Donner wet his lips with his tongue. In spite of his suspicions, he had walked into a trap. Wildly, he stared about him. There was no other door to the room, no possible way of escape. Shocked, he wondered if they meant to keep him there until he died of thirst or starvation. Whatever they were planning it was clearly so important that they had perpetrated an act unprecedented in the whole history of robotics.

It had been well planned. Whether or not the cause of that other ship's being wrecked had been natural or brought about by the robots in the laboratory, there was no longer any doubt in his mind that they must have foreseen every decision which had been taken on Io. Not that this would have been difficult to compute. Unlike robots such as these, humans were predictable. In a given set of circumstances, there were only a few courses a man would follow to bring out a desired end. *God, he thought, these creatures know more about us than we do ourselves. If we aren't careful, this could bring about our downfall!*

Dropping the half-smoked cigarette onto the floor, he crushed it out under his heel. The sooner Stanton knew of this, the better. Of all men here, he was the only one who might have an answer to this. Lowering himself into the chair, he prepared to transmit, then remembered that the two-way viewer beside the door was still operating. Crossing the room, he switched it off, noticing before he did so that the robots were still absorbed in their work. How long it would be before they decided to shut off all power to the communicator was a debatable point. When they did, there would be no way of getting in touch with Stanton, and although the other would know something was wrong when no further calls went out, it was essential that he should be warned before he came down here to investigate.

On the cathode-ray screen, the long tongue of phosphorescent green which marked the area of vulcanism had moved slightly in relation to the grid. Its direction of motion still appeared to be due east, parallel to the equatorial belt, and there had been no increased in its velocity.

He threw the switch home.

"Laboratory calling Stanton." He spoke more quietly than before, almost afraid that his words might be overheard in the outside laboratory.

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The other answered immediately, almost as though he had been anticipating the call.

"Yes, Norbert. What is it?"

"Trouble, sir. The robots have taken over the laboratory completely. I'm securely locked inside the small transmitting room and I'm afraid that any moment now they may decide to cut off all power to the transmitter."

"Is there no way you can get out?"

"None at all, sir. They claim they had to shut off all power to the subsidiary circuits because of the peak overload, but there's no doubt they're lying. At the moment, they're working on something in the main laboratory. Whatever it is, it must be of vital importance to them, otherwise they would never have done this."

"I see." There was a long pause during which the other was clearly debating his next move. It would be a hard decision, Donner knew. If Stanton had to bring that ship back to the laboratory now, they could virtually say good-bye to those three people trapped in the wrecked ship. On the other hand, if he stayed and continued the search, it might prove to be too late to prevent these creatures from completing their experiments.

"Norbert, are you still there?"

"Yes, I'm here."

"Now listen carefully. There's a small secondary generator in that room. It works on atomics and you should be able to couple it to the communicator if they do decide to shut off the power. It's our only chance."

"And if they should decide to use violence?"

"Then you'll have to use the laser gun. If it means destroying them all, it will just have to be done. I'm sorry I can't be more helpful. You'll just have to play this by ear until we get there."

It was not until he had broken the connection that Donner realized the robots held one trump card—they still controlled the beam which was necessary to home Stanton's ship in on the laboratory. In addition, if these creatures were preparing to take over from the men on Io, those two robots piloting Stanton's vessel might have plans of their own. He had the feeling that they had all walked blindly into this trap, and at the moment these robots were simply playing a cat-

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and-mouse game with them, just biding their time before they played their master stroke.

A plan of his own was forming in his mind, although vague and ill-defined. I have always been practical, he told himself fiercely. That is, I've always acted scientifically, according to circumstance and environment.

After checking that there had been no major change in the position of that volcanic front along the north of the island, he prowled around the small room, searching for the atomic generator. There were piles of equipment, some obviously dating from the setting up of the laboratory and no longer in use, and he raked among them, heaving aside great pieces of metal, still as bright and shiny as the day they had been transported down from Io. As he worked, he began to assess the plan which was slowly crystallizing in his mind. There were certain problems and realities which had to be faced, of course. Once those robots out there realized what he was doing, they would certainly try to stop him.

Whether or not they knew he was armed was beside the point. Their own destruction was of no significance to them so long as they could bring their work to fruition. Five minutes later, just as he was beginning to give up all hope of finding the generator, he located it thrust away in one corner behind a disordered array of old cathode-ray tubes and accessories. Dragging it out, he hauled it across the floor toward the transmitting unit. Fortunately, anti-gravity plates kept the pressure down to Earth standard; otherwise, under the tremendous gravitational pull of Jupiter, he would never have managed it. As it was, his back and arms were prickling intolerably with the strain by the time he had man-handled the generator into position.

It was a standard piece of equipment, similar in design to those used on Io and a few minutes' examination was sufficient to convince him that, should the power from the main units be cut off at any time, it would be a simple enough process to connect the leads into the back of the communicator. The small Geiger counter on the side of the machine informed him that the radioactive level within the generator was still within the prescribed safety limits.

"All right, Sam. You've had your little game. Now just

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loosen these straps and we'll say no more about it." There was a wheedling note in Durant's tone now.

Bush leaned back against the canted hull of the ship, ran the tips of his fingers across his forehead, feeling the throb of blood pulsing under the taut flesh. He had unstrapped the senator's arms while the other ate the food which Jill had prepared, but the broad belt around the politician's waist was still securely fastened, holding him down in the seat.

"Not a chance," he said tightly.

"Damn it to hell! You know we're as good as finished. If they were looking for us, they'd surely have found us by now." Durant's voice lifted slightly in pitch. A crimson flush spread swiftly over his flabby features.

Bush was aware that Jill had turned her head and was looking at him, a questioning expression in her eyes. He shook his head decisively. "You'll stay where you are, senator. At least for another couple of hours or so. That signal will have been picked up somewhere, most likely at the laboratory. I don't want you lousing things up. There's our lives at stake here."

"Don't be such a goddamned fool! That storm out there is getting worse every minute. How long do you think the hull of the ship will stand up to it?"

"I don't know. Now stop asking damn fool questions and keep quiet!" Bush felt like yelling the words, fear and frustration getting the better of him. He took the girl by the arm, led her into the rear cabin and closed the connecting door.

"There's something I didn't want to say in there, in front of Durant, Jill," he began, keeping his voice down. "While we were eating, I was keeping an eye on the instruments. Now I'm not absolutely certain what this means, but about ten minutes ago, the radiation counter gave quite a large kick. It lasted only for a few seconds, but it was unmistakable."

"What do you think it was? Something to do with that storm outside?"

"No, I don't think so. It was far too short for any kind of vulcanism as we know it on Jupiter. Any bursts of radiation down here have a far longer duration, minutes at least."

"Then what do you think it could have been?" She regarded him questioningly.

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"I don't want to raise any false hopes, Jill. But my guess is it was the backwash of an ion beam."

"An ion beam?" she whispered.

"That's right. From one of the other atmosphere ships."

He saw the sudden flare of hope at the back of her eyes, felt the grip on his arm tighten. "Then that must mean that they've found us. How long ago was this? Ten minutes?"

He nodded. "About that. But don't get it into your head that they'll come hammering on the airlock at any moment. I may have been wrong, and it was nothing more than a secondary effect of one of the nearer hydrogen flares. Even if it was the other ship passing over us, it doesn't mean they've located us. There was no repetition of that radiation blast and the chances are that they passed almost directly overhead without seeing us."

The spark of hope died. "I understand why you didn't want to mention this to the senator," she said quietly. "But surely they must be picking up our signal."

"We can't even be sure of that. The distortion of radio signals by the atmosphere must be tremendous. And there's another thing. Unless they get within a quarter of a mile of us, it's almost certain they won't be able to pick us out against all of this ice. Don't forget that the outer hull of this vessel is composed of exactly the same substance."

"Oh God, I hadn't thought of that." Her hand went to her mouth.

"It's something we have to face, I'm afraid. If only we could salvage something from that wrecked equipment in the control cabin, maybe build up a video-viewer, or better still, a transmitter with which to get in touch with whoever is in that ship. I'd say that the fact they could have passed directly over us meant they have a good idea of where we are."

"What about some of the positronic circuits from the robots? Maybe they haven't been too badly damaged. And there's all the circuitry of the ship itself. One thing's certain, we'll never be able to lift off so we may as well try to utilize the rest of the electronics."

"You think you can unravel the positronics?"

"I think so. One doesn't get to be a robotics expert without learning some of the basic theories." Tentatively, she smiled up at him. Incongruously, considering the position

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they were in, he felt a strange tingle pass through him. He was suddenly glad that she had shed her usual air of aloofness, which had obviously been designed to keep men at bay. Not that she was one of those glamorous women, but there was a quality about her, an inner beauty which struck him deeply at that moment.

Gently, he drew her toward him. She stood on tiptoe, kissed him on the mouth, her arm tightening around his neck. Her hair was smooth under his hand, her body warm and alive against his own. His arms tightened and he held her very close for a long moment, and the thunder in his ears was a curious blend of the fury of the storm outside and his own blood pounding through his temples.

When he finally released her, she said a trifle breathlessly: "We'd better start work on those circuits. There may not be much time."

He made to reach for her again, but she pushed him away, shook her head. Turning quickly, she went back into the control cabin. From the chair in front of the long, curved panel, Durant glared at him, lips thinned back across his teeth.

Bush ignored him, moved swiftly toward the row of gray controls. Jill went down on one knee beside one of the fallen robots.

"What do you think you're doing now?" grunted Durant tightly.

"If it's of any interest to you, we intend to strip down these circuits and see if there are any we can use to build some form of transmitter to get in touch with whoever is out there looking for us," Bush said through tightly clenched teeth.

"That's no use. There's no one out there and you know it! Nothing and nobody can save us now. Everything's finished."

Bush turned his back on the other, fumbled beneath the long panel. There had to be a service kit somewhere around, he thought. These vessels didn't run forever without something going wrong. He located the small metal box a few moments later, ripped open the lid. It was, as he had hoped, full of tools.

Thrusting all of the background noises into the subconscious part of his mind, he began unscrewing the front plates of the controls. The meters on the board told him that the

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temperature and automatic air changing units were still functioning perfectly and he deliberately kept well clear of this. It would be fatal to cannibalize any of these by mistake.

Once he had the circuits exposed, he worked quickly but methodically. This was the type of work he had been trained to do, the kind he did best. Now he was a man in his own element, and for long moments the disturbance outside the ship had virtually no effect on him except whenever a particularly violent detonation sent a metal-screeching shudder through the vessel, knocking him sideways, forcing him to hold onto the steel stanchions for support. Much of the electronics was standard equipment, although here and there he came across circuits which were entirely new to him.

Back on Earth, he was considered the top man in his field; one of the main reasons Durant had chosen him to accompany the party to Io. But it was immediately evident that these men out here were developing complex equipment far in advance of anything known on the home planet. Some of this, of course, could be a direct outcome of experiments being carried out here, possibly in secret, on the surface of Jupiter. It was well known, he reflected abstractly, that the laboratory had been erected, at such a tremendous cost in both lives and money, for the purpose of studying reactions which went on at the extremes of pressure and low temperature. The trouble had been that no one on Earth was certain of how far this work had progressed, or even along what lines it was progressing. Maybe Durant had not been far off the mark in his suspicions of Stanton and the men working with him.

"Is there anything there we can use, Jill?" he asked, without turning his head.

"Not much, I'm afraid. Unlike the electronic circuits, these are so incredibly fragile that most have been shattered completely. I doubt if I'll be able to do much with them."

"See what you can salvage anyway."

"I still say you're simply wasting your time." Softly, gently, Durant moved his left arm down toward the belt around his waist, which pinioned him to the chair, moving his fingers a millimeter at a time. Since finishing the meal, his hands had been left unbound, and he knew that once Bush realized this and rectified it, there would be no chance at all of freeing himself.

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Neither Bush nor the girl appeared to be taking any real notice of him. They were too intent on their work. He watched them both carefully out of the edge of his vision. His fingertips brushed against the edge of the strap, probed downward for the metal clasp. He tugged at it experimentally, felt it give a little. The straps had been intended to open quickly in case of emergency and were rather like those on the interplanetary vessels. Cautiously, he began to loosen it, turning his head to survey his surroundings, lips pressed tightly together.

There was a small gun in his pocket, but first he had to free himself. He had contemplated drawing it out and using it to force Bush to release him, but the vessel was tilting and shuddering continually now and the chances were that until he could move around freely Bush might just be able to get the gun away from him.

He felt a sudden movement beneath him, a surging undulation. Sweat broke out on his forehead. The entire ship seemed to lift and then crash downward. Around him he could hear the creaking and cracking of the metal hull. The roaring grew louder in his ears. Slowly, the ship began to move again, sliding sideways. His mind leapt with the shock. Out of the corner of his eye, he saw Bush turn from the instruments, mouth open wide. Jill uttered a thin scream as she slithered helplessly across the floor. The seat into which he had been bound, tilted. The creaking became a savage cracking, and then the sound was completely lost beneath a fusillade of hammer blows against the hull.

Durant twisted his head violently. A spasm of pain lanced through his neck muscles and up into his skull. In the same moment, he felt the strap buckle give under his scrabbling fingers. Clinging desperately to the sides of the chair, legs flailing in an attempt to maintain his balance, he hung on grimly.

Gradually, the shuddering eased, the vessel steadied on a more or less even keel. On the far side of the cabin, Bush had pushed himself away from the curved wall, was moving forward to help the girl to her feet. He would never have a better chance. Thrusting the restraining belt away from him, he heaved himself from the chair, snatching the gun from his pocket and leveling it at Bush.

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"All right, Sam." He spoke stiffly. "Now get over by the wall there. Both of you!"

Bush hesitated, cursed himself inwardly for not searching Durant before strapping him into the chair.

"Do as I say, Sam." Durant's tone was low, deadly. "I'll use this gun if I have to. Don't make me kill you."

"Put that gun away, senator." With an effort, Bush forced evenness into his voice, standing perfectly still. "Kill us and you'll never get out of here alive."

Durant shook his head. "I'm taking over command now."

"And what do you intend doing? Unless we get some makeshift transmitter working soon, we don't stand a chance in hell of being found. Those storms out there are getting worse all the time. It's my guess that the surface beneath us is breaking up under internal stresses. Some of this ice is close to sixteen thousand miles thick but if any crevasses do form directly under us, we could drop down for a thousand miles. Have you considered that possibility?"

"Don't give me any of your scientific claptrap, Sam. You're getting to be as bad as Stanton and Donner. You know damned well that nobody up there on Io is going to risk their necks to come down and look for us. Are you so blind that you can't see how things really are? This is the best thing that could possibly have happened to us as far as Stanton and the others are concerned." His lips curled sardonically but the gun in his fist did not waver by a single inch; the muzzle pointed straight at Bush's chest.

"I can just imagine what Stanton is doing now. Transmitting a report back to Earth. We regret to inform you that due to an unfortunate accident, Senator Durant and two of his companions are missing in the Jovian atmosphere, presumed lost on the surface. All attempts to locate them have failed due to the conditions on Jupiter following the conjunction of the South Tropical Disturbance with the Great Red Spot."

He grinned, but there was no mirth in the thin twitching of his lips. "All of Stanton's problems solved in one fell swoop. He couldn't have done it better if he'd engineered this himself. Maybe he did, at that."

"Don't be absurd. How could he?"

"Quite easily. Hell, why didn't I think of it before. All of these robots are preprogrammed. Stanton told us that him-

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self. What could be simpler than to program them to crash this ship before it could reach the laboratory?"

Bush felt a shiver of fear pass through him. Certainly the other was talking madly at the moment; it was plainly visible in his face, the too bright eyes and outthrusting jaw—but there could also be some truth in his madness. Maybe, after all, Stanton did have something down here to hide, particularly from the government. Maybe he would go to any lengths to see that it was not discovered and publicized, even to the extreme of murdering them in this way. Oh God, if that was so—there was nothing they could do.

With an effort, he thrust the idea away into the back of his mind. "Stanton did all he could to dissuade us from coming here," he said thinly.

"Of course he did. He knew damned well that the more he tried to stop us, the more determined we would be to come. That's elementary psychology. And we were stupid enough to fall for it."

Bush drew in a deep breath. "Then if that's true, we'll simply be playing into his hands by fighting among ourselves. Now put that gun away. We've got to think this out logically and sanely. Once we get a transmitter built, we can get in touch with *someone*." As he spoke, he moved slowly toward the senator, careful to remain in front of Jill. It needed only one wrong move for Durant to pull the trigger.

"Don't give me that!" The muzzle of the gun stared at him like an empty eye socket. "Nobody's going to pick up any messages of ours, and even if they do, it'll be ignored."

"But you can't be sure of that." The gun wavered a little, less than two feet from him now. He saw Durant's finger tightening on the trigger, knuckles whitening, knew instinctively there were only seconds left to him now if he wanted to remain alive. The mad gleam was still in Durant's eyes.

"We can't be sure of anything." Bush moved his left arm slowly away from his body as he spoke, watching the other's eyes. Durant would have been more than human not to have followed the movement with his eyes, giving Bush a marginal advantage. For a fraction of a second, all time seemed to have been suspended as Bush made his move. Before Durant could recover himself, Bush's right hand flashed down against the other's wrist, knocking the gun hand aside with

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the edge of his hand. At the same time, he used his up-thrusting knee to good effect.

The gun went off with a sharp roar, the slug ricocheting off the instrument board. As Durant doubled up in agony, Bush slammed his interlocked hands down hard on the man's exposed neck, driving him down to the floor. Against a weaker man, the blow would have broken his neck. As it was, the senator's breath wheezed out of his lungs in a faint bleating sigh. He was unconscious before his body hit the deck.

The whole maneuver had taken only a couple of seconds. Bending, Bush picked the gun up off the floor, where it had fallen from the other's nerveless fingers, placed it in his pocket then turned to the girl. Jill had her hand to her mouth, her eyes wide.

"Is he dead?" she asked in a hushed whisper.

"It would take more than that to kill him," Bush said harshly. He stared down at the unconscious figure with a sour twist of his lips. "But he would have killed us without a second thought if I hadn't stopped him. The shock of all this must have sent his mind over the edge."

"Do you think he was right about Doctor Stanton? That he deliberately programmed these robots to wreck the ship to prevent our getting to that laboratory?"

"Of course not. But let's face it—unless we do something quickly, it won't make any difference whether he did or not. We'll still wind up dead. Check through those positronic circuits again while I make sure that Durant doesn't pull another trick like that on us."

Without pausing to see if she had understood, he caught the senator beneath the armpits and dragged him through into the passenger cabin. Propping Durant in one of the seats, he hunted around and came up with a few feet of wide-gauge wire which he wound around the other's wrists and ankles, binding him securely to the chair.

"Where in God's name can they be?"

Stanton's tone was one of uncontrolled frustration, tension and fear as he stood in the doorway of the tiny cabin. The filter intensity had been deliberately increased a couple of minutes before because the hydrogen vulcanism off to starboard was now visibly growing in fury and extent. Caldwell and Foster were now standing directly behind him, viewing

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the scene outside over his shoulder. The small chronometer on his wrist told him that they had been circling this particular area for more than twenty minutes since the moment when he had thought he spotted something on the infrared scanners. On the dial set in the very center of the control board, the needle which registered the strength of that feeble signal still emanating from the wrecked ship hovered near the bottom of its segmented scale, twitching slightly now and then, although whether this indicated some increase in the intensity of the signal or was merely something inherent in the instrument itself, he could not tell.

"How much longer before that storm activity reaches here?" Foster spoke the words through tightly clenched teeth. As he mentally elaborated on the problem, he realized that should Durant never be found, his own position would naturally increase in importance. As Durant's deputy, he would naturally take over the leadership of the party and, given the opportunity, it might be possible for him to salvage sufficient power from this blunder to replace him once they got back to Earth. In a way, this could be a blessing in disguise as far as his own political advancement was concerned.

"According to Donner, that storm front is still moving along its original course. If it continues to do so, there's little to fear from it. However, we must not assume anything as far as Jupiter is concerned, particularly at this time. It could swing around and head straight for us with very little warning." Stanton swallowed with a dry throat. It had not escaped him that he was responsible, not only for his own life, but those of these two men with him. Very soon now, he would have to make the decision whether to abandon this search and return to the laboratory. He pressed the tips of his fingers against his forehead. His head was aching abominably now. So many overlapping complexes had been suddenly thrust upon him that it was difficult to know what to do. The feeling that the "apparent" accident which had resulted in that other ship crashing was merely one facet of something much larger and more sinister refused to leave him. The anomalous behavior of those robots manning the laboratory had come as a distinct shock and surprise to him. Was it possible that they were all merely pawns in some larger drama, that every move they made was being forced upon them?

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He allowed his hands to drop to his sides. Quite suddenly, he felt drained of all emotion, the sensation of utter defeat uppermost in his mind. The two amphetamine tablets he had taken half an hour before had begun to make him feel overstimulated and restless.

"This is utterly hopeless," muttered Caldwell, shifting his feet uncomfortably. "How in heaven's name do you expect to pick out something the size of a ship against all that ice?"

"Precisely," Foster spoke up, his tone expressionless. "It's like looking for a black cat in a huge coal cellar in total darkness. There's nothing to differentiate the ice of that ship's hull from its background. If it were only composed of something else—"

Stanton swung on him sharply. "Wait a minute, though! You may have something there." He moved quickly toward the edge of the control board. "I wonder . . ."

"What is it?" Caldwell asked.

"Something I ought to have thought of before." Stanton was busy checking through the banks of equipment. "When we first constructed these ships we incorporated special equipment for locating the presence of metals within the ice layer. We were fairly certain that the rocky core of Jupiter contains minerals; otherwise it would be difficult to account for its mean density. What we found, however, was that if there is any, it must lie buried several thousand miles under the ice sheets. Certainly there's absolutely none close to the surface, and our results were completely negative."

"So how does that help us?" Foster inquired curiously.

Stanton lifted his head. "Don't you see? Although it's impossible to pick out the outer ice hull visually against the surface, we ought to be able to pinpoint a mass of metal. Ah, here we are. This looks like it. Probably not been used for almost ten years but it should still be in working order."

He pressed down a couple of switches, listening to the faint murmuring hum from the machine. Lowering his ample body into the cramped seat, he worked mechanically at the instrument, setting up the circuits carefully before pulling out the earphones with their flexible linkages snaking back into the nondescript gray metal of the panel.

The drumfire and crackle of noise from the storm hammered into existence in his ears, striking viciously through his skull. He forced his breathing to quiet, clenching his teeth

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tightly together against that shrieking waterfall of sound. In a single moment, the years fell away from him and he was back in the old times, one of the first men to venture down inside the roaring turbulence of Jupiter's atmosphere in an untried ship; perhaps even this very one in which he was now sitting. Some of the old terror, too, came back in a rush, speeding up the beating of his heart, tightening the muscles of his chest and stomach.

It was impossible to cut out much of that terrible, overpowering sound. Down here there were magnetic fields which caught and spun the electrons into spiraling, Dirac orbits. Synchronous magnetic radiation spilled out from all about them as the great gas clouds collided and mingled, driven on by the shrieking tornadoes which raced along the equatorial belt.

In spite of the tremendous bombardment which thundered in his ears, he knew that, should the instrument pick out that tiny ship down there, the resulting echo, rather like that used almost a century before on board submarines, would stand out above that discord and be readily recognizable. They were now maintaining constant altitude above the insane surface which lay below, stretching out to unbelievable horizons, lit now and then by the great flares. Circling slowly, buffeted by the giant winds which swirled around the leading edge of the South Tropical Disturbance, they backtracked along their previous course.

Stanton reached forward to tune down the incoming noise a little, but just as his hand touched the knob, there came the faint sound he had been waiting for, straining for with all his senses. For a moment, it was so faint, almost swamped by the background pandemonium, that he thought he had merely imagined it. Then it came again, a little stronger this time; a measured, high-pitched *ping* that sang thinly in his ears.

"Hold that course," he snapped harshly.

He felt tense and taut, with every nerve in him stretched almost to breaking point. There could surely be no mistake this time. The chance of there being any other deposit of metal in this region was astronomically remote.

"Have you picked them up?" Foster gripped the back of Stanton's chair, leaned forward.

With a quick gesture of his hand, Stanton waved him to

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silence. He cleared his throat unconsciously. This was going to be devilishly tricky. The wave of relief which came washing over him faded a little as he began to think ahead to the moment when they would locate the ship. Finding it was just the first problem they faced. Then would come the difficulty of getting any of those three people, if they were still alive, out of there. With the storms beginning to reach a peak of violence, it would be a race against time.

"Caldwell!"

"Yes, sir." The man was beside him immediately.

Stanton flexed his fingers on the controls, took a deep breath. "I want you to stand by with the rescue gear. We may not have much time once we find them, and there can be no mistakes if we're to have a chance of pulling this off. You know exactly what to do?"

"Everything's ready." Stanton felt glad of the sureness in the other's voice. Apart from Norbert Donner, Caldwell was the one man he could trust not to panic.

"Better double check everything while there's time. I don't want to have to go all the way down to the surface if I can help it. Things are pretty bad down there right now, and with the surface breaking up, the extra weight of this ship landing close to the other might just be enough to send us both into that slush."

"What do you intend to do when we find them?" Foster spoke quickly as the astronomer made his way back into the rear cabin.

Stanton pursed his lips, continuing to concentrate on that faint *beep* which still came through above the dissonance. "We'll try to use the magnetic grapples first of all. If we're lucky we may be able to raise the ship clear of the surface."

"You think this vessel will take all that extra mass?"

"It may. My estimate is that we're about a hundred and seventy miles from the laboratory. If we can get it back there, we have a good chance."

"And if these grapples don't work. What then?"

"Then we'll just have to think of something else. Goddamn it! Can you do nothing else but ask stupid questions?"

"I'm sorry," retorted Foster stiffly. "I just thought we should be prepared for any contingency."

"We are," Stanton snapped. "Now sit down and let us

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get on with it. If you want to make yourself useful, help Caldwell with that equipment back there."

Damn politicians, he thought, clamping the headphones more tightly against his ears; *They even try to make me feel guilty . . .*

VII

THE POWER went off without warning. Although he had been anticipating it, Donner still experienced an abrupt sense of shock as the lights along the front of the communicator flicked out. Automatically, he threw a swift glance at the two-way viewer near the door. It was still a blank gray with nothing showing on it but a faint reflection of himself, head abnormally enlarged by the slight curvature of the screen, his face extraordinarily chinless. Like some drooling idiot seated hunched over the instrument.

He pushed the thought out of his mind together with the faint surge of dread. Getting out of the chair, he bent beside the small generator, grabbed the flexible leads and moved around to the rear of the instrument, jerking out the useless cables from the main power supply. Deftly, he inserted the others, twisting them until they were securely locked in position. Going back to the generator, he thumbed the stud.

A needle kicked over. The machine commenced to hum softly to itself. Donner let the air out of his lungs in an audible gasp, straightened up. On the control board the lights were coming on again. His tension slackened off again. The cathode-ray screen picked up its greenish hue. There was a faint fifty-cycle trace on the cathode follower circuit which he adjusted automatically. Apart from this, the change-over to the auxiliary generator did not appear to have had any other adverse effect.

A quick check on the progress of the volcanic front told him that it was still holding its course. Behind it, the activity was apparently dropping off a little. Perhaps, he reflected, it was following the line of some million-year-old fault and, if this were so, then the chances were pretty good that it would not change direction and endanger the others. Taking out the small laser gun, he laid it on the narrow bench beside him, within easy reach. The fact that the

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robots had switched off the power almost certainly meant that his own position here was rapidly becoming untenable, unless he was prepared for any contingency. Although small and comparatively innocuous looking, the weapon could destroy one of these robots instantly if he hit it in the right place.

Leaning forward, he scanned the complexity of green shapes close to the spot where he had located the wrecked ship. Something similar to that blip suddenly flashed into being very close to the stationary point of glowing light. Donner heard himself grunt with astonishment. The blip vanished, then reappeared a moment later. He judged its position to be within ten miles of the other vessel. Automatically, he boosted the magnification, adjusting the focus.

There was now no doubt about it. There were two blips there, very close together, one waxing and waning in intensity, the other constant in brilliance. For a wild instant he thought that there was some defect in the apparatus, possibly associated with the change-over of power units. But as he strove to focus down more accurately, he realized what the moving shape was—of course—Stanton's ship. Somehow, he had caught an echo from it, which explained the difficulty in holding the blip steady.

Swiftly, he snapped down the transmitting switch. "Donner calling Doctor Stanton!"

There was a long pause, and he was on the point of calling again when the reply came: "This is Caldwell here, Norbert. Stanton's tied up at the moment homing in on that ship."

"I've just picked up your blip on the scope. You're within ten miles of the other ship. I'm keeping track of the hydrogen vulcanism to the north of you. So far there's no sign of any movement in your direction."

"Thanks. I'll let them know. We're going to try using the magnetic grapples once we get above that ship. If it works, we'll try to lift it clear of the surface and bring it across to the laboratory. How are things down there at the moment? Any further trouble from the robots?"

"They cut off the power a few minutes ago but I've got the atomic generator working and plugged in. At the moment, they've made no further move against me. If they do, I'll be ready for them."

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"We'll keep you informed of the progress here. Stanton was asking about the homing beam from the laboratory, whether or not it's still in operation."

"No idea, I'm afraid."

"Sorry, I forgot. Still, if it isn't, we'll just have to come in manually."

There was a solid click as the other broke the connection. Donner sat back in the chair, wiping the sweat off his forehead with the back of his hand. It was going to be a long wait. He felt frustrated and impotent. There was so little he could do now. The screen still threw its tiny tadpolelike wriggles of green light across its flat face, and now the two blips which marked the positions of the ships were almost fused into one. Very soon, Stanton would try to raise that smashed vessel and bring it here to the laboratory. If he succeeded, they would then find out whether all of this had been for nothing; whether there was anyone still alive on board, or if it were merely an ice-and-steel tomb.

It seemed to have grown suddenly warm inside the small room. He undid the neck button of his shirt, rubbed the muscles along the back. There was a stiffness in his limbs, and he got up to stretch his legs, noticing with a sharp sense of shock as he did so that the viewer above the door had come to life. The faintly distorted metal features of one of the robots was staring in at him, the round glassite eyes unblinking and devoid of all emotion.

Moving slightly to one side, he rested his right hand on the bench behind him, fingers sliding over the smooth surface until they encountered the butt of the laser gun. Gripping it tightly, he waited tensely. His heart was pounding furiously against his ribs. What were they planning now? To eliminate him before he could upset their plans, whatever they might be? Or would they simply be content to keep him prisoner there where they imagined he could do little harm?

There was a faintly audible click and a moment later, the harsh, metallic voice rasped over the communicator.

"Why have you hooked up the generator to the large communicator, Doctor Donner?"

"Isn't it obvious?" He forced himself to answer quietly. "The power supply from the main unit failed a little while ago. As you know, it was essential that I should remain in contact with the others."

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"Where are they now?"

"They're still searching for that other ship." He wanted to avert his eyes from the other, strangely chilled by the weighted stare, but forced himself to meet it, knowing that he must not show any sign of fear or weakness. No matter how closely they had been constructed in human form, he could never forget that they were little more than marvelously designed creatures of metal and delicate circuits, that their arms and legs were not arms and legs but merely fine tools designed for intricate and specific purposes.

"Have they discovered its whereabouts yet?"

"I'm—I'm not sure."

A pause as the other digested this statement, then: "Why were you sent here, Doctor Donner? The real reason. No man has been down to the laboratory for more than seven years. There has been no need."

"Evidently Doctor Stanton considered that the situation was sufficiently critical to send someone. It would have been extremely difficult to locate their signal inside the Jovian atmosphere due to the distortions caused by the storms. He felt that I might be able to locate them more easily with this equipment."

"And that was the only reason?"

"Yes."

"I think you're lying. I think that you have discovered something more of what is going on here. Since all of the tapes were strictly monitored before the information was transmitted back to Io, there must have been some other means by which you found out. I would suggest that Doctor Stanton used the accident to that other ship to send you here to probe into the experiments we have been carrying out."

"That isn't true. Besides, all of the experimental work has been supervised by us from Io. Everyone here has been preprogrammed to carry out only the work which we have authorized."

Donner's usually stolid nature began to entertain odd twinges of fear. *So Durant had been right in his assumptions.* Just what was it that these creatures had been working on in secret, cutting out of the tapes so that no inkling of it would appear in the records which were fed into the computers on Io?

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"The work we were programmed to do concerned only vague theories on the reactions of certain metals—and atomic processes—under extremes of temperatures and pressures. Those theories were confirmed more than two years ago. Since that time we have extended it much further than you, with your limited knowledge, would have thought possible. Naturally, we erased all of this later information from the reports sent out to Io."

"And I suppose," Donner said, puzzled, "that you mean to keep this information to yourselves."

"For a little while longer—yes. When we can be certain that neither you nor the others with Doctor Stanton return to Io, we can then execute the second phase of our plan."

The sharp edge of the bench was cutting painfully into Donner's back but he scarcely noticed. The robots, he knew, would not have parted with even this piece of information if they hadn't been certain that they had everything under control. He opened his mouth to say something more but the screen went abruptly blank.

As he waited, uncertain of his next move, there came the unmistakable whirring of hidden machinery and the connecting door began to slide back noiselessly on its grooved runners . . .

For centuries, the vast whirlpool of gases which was the South Tropical Disturbance had swept through the atmosphere of Jupiter: a tremendous funnel-shaped vortex, large enough to swallow the Earth several times over. At intervals, it would surge around the edge of the Great Red Spot, dragging the latter along with it for several thousand miles before disengaging itself. To the astronomers of the nineteenth and mid-twentieth centuries, viewing the spectacle through their telescopes, there was little evidence of the unbelievable activity which went on below the upper atmospheric levels. The radio astronomers had discovered the powerful radio emissions which occurred during the period of conjunction, but it was not until the ships had gone down into that berserk fury of hydrogen, methane and ammonia that the full significance of the periodic meeting of these two phenomena had been realized.

Not only did the Red Spot itself extend all the way down to the surface, but the invisible tip of the S.T.D. also. Nor-

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mally, the two passed within a few hundred miles of each other and the ensuing storms, although incredibly violent within the upper atmospheric levels, were not overly dangerous down near the surface.

But once every half million years or so, the South Tropical Disturbance collided head-on with the Spot and whenever this occurred the severity of the surface perturbations passed beyond all imagining.

The spot on which the laboratory had been located was perhaps the most stable on the entire planet, apart from one or two areas close to the poles: in the center of a vast ice plateau bordered by the Great Glacier, which curved for more than a thousand miles in a vast arm of ice, providing shelter from the great winds which howled along the equatorial zones.

In the three years before it had been erected, sonic soundings and remote-controlled exploratory ships had mapped out the entire region with the result that the topography of the area was reasonably well known. The plateau itself was a vast island of Type IV ice which floated semipermanently in the general slush of the surface, and as far as the astronomers on Io could tell, it had retained its present shape for more than three hundred thousand years.

Now, for the first time since the dawn of human history, the great whirling funnel of the S.T.D. was bearing down upon the Great Red Spot on a direct collision course. The great ice plateau was beginning to break up as the internal stresses exceeded the cohesive forces. The Spot itself would be sucked down from its upper level to within a few hundred miles of the surface.

On the plateau itself, the ten-mile-high ridge of the Great Glacier was crumbling. Cross drafts struck at it from all directions as the winds reached two and three hundred miles an hour gusts. There were other forces, too, at work. Gigantic seismic waves which rippled up from the semimolten, rocky core, spreading outward from numerous centers, interacting with each other as they neared the ice layer.

The days of the laboratory were numbered, but it was around the periphery of the island that the pressures first began to make themselves felt. Tremendous avalanches rumbled down rugged, steep walls, plunging into the dense slush. Icebergs surpassing those of Earth's polar seas by many hun-

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dreds of times, broke free and commenced to drift with the streaming equatorial currents.

Inside the cabin of the lurching, jolting ship it was utterly impossible now to shut out the terrible uproar of the storm. Within the past ten minutes, the noise had risen to the point where it blotted out all else. Elbows pressed tightly against the shuddering steel of the instrument panel, Stanton held the earphones hard against his head, struggling to pick up that faint *bleep, bleep* which was now his only link with the stranded ship.

His head ached and there was an uncontrollable shivering in the whole of his being. Beneath the narrow, cramped bench, his legs shook like a man with the ague, while in the ship itself the tension was electric.

Thrusting his head back, exerting all of the strength in his neck muscles, he glanced around to where Foster stood braced in the open doorway.

"We should be almost directly over them now." He yelled the words at the top of his lungs. "Warn Caldwell to be ready."

Foster heard Stanton's yell as a faint whisper, nodded to indicate that he had understood. Over the gleaming metal shoulder of the robot directly in front of him, he saw the picture on the wide screen. He wanted to squeeze his eyes shut, to blot out the image of what appeared on it; the picture of raw, undiluted energy at work outside the ship. Vivid splashes of red-tinted flame lit up the entire horizon, and even as he watched, a vast section of the glacier wall disintegrated and toppled downward out of sight into those unseen depths which lay below. The incident started a new and disturbing chain of thought in his mind. If these winds increased any more in their fury, there was nothing to say that their frail craft would not be smashed into tiny slivers against that stretching ice wall.

He knew—because Stanton had told him—that it was almost fifteen miles distant, but when the wind hit you like a solid brick wall at a velocity of more than two hundred miles an hour even the computerized skill of the two robots counted as nothing. Why the hell didn't they get out of this while there was still time, while they still had the chance to climb up out of this seething horror and head for outer

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space? Leave Durant and the other two down there. God alone knew, they must surely be dead already. Nothing—no one—could possibly survive down there. He felt sorry for Jill Packard and Sam Bush. He had nothing against them personally. But as for Clinton Durant. Even the thought of the man brought a faint sneer to his lips.

For years now, he had lived in that man's shadow, run here and there at his bidding. Had it not been for him, Durant would never have got to be where he now stood in politics. The senator was a man of ruthless ambitions, but one who used those below him to gain his own ends, picking their brains, draining them entirely, always taking the credit for those policies which were likely to advance his cause, bucking the blame for things which went wrong, standing aloof and privileged, shedding any criticism off his own hide and allowing it to fall on others. With Durant out of the way, Foster's career was made.

He glanced instinctively at the watch on his wrist, estimated that they had been down in this turbulence for more than three hours now. How much longer could they afford to stay? Surely Stanton was not the sort of man to risk their lives on what was fast becoming a useless venture? He turned his head to stare at the other's stern countenance, thrust forward over the instruments.

Abruptly, Stanton twisted his head around, yelled a sharp command to the robots. Foster felt the vessel lurch even more violently than before. His stomach came up and hit him sickeningly in the ribs. Swallowing, he forced the acid taste of vomit in his mouth down his throat, grimacing, eyes starting from his head. His hands had jerked out convulsively, were gripping the sides of the door with a rigid strength. His legs seemed turned to useless jelly, scarcely able to bear his weight.

They were going down, dropping almost vertically into that maelstrom which yawned like the pit of hell directly beneath them. He wanted to cry out in protest, to scream that they must not go through with this insane maneuver, that they would surely be destroyed if they did. But the words died in his throat, refused to come.

Out of the corner of his eye, he saw that Stanton was gesturing frantically at him. With an effort, he pulled his

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thoughts back to the present, away from the terror which had threatened to engulf him.

"Get back there and help Caldwell."

Turning automatically, he stumbled through the doorway, his body lurching from side to side along the gangway. Caldwell was bent over the manipulators. He glanced up sharply as Foster reached him.

"We're to make ready with the magnetic grapples as soon as Stanton gives the word," he yelled, placing his lips close to the other's ear to make himself heard above the heart-stopping din around them. The entire ship reverberated with the noise.

"I guessed as much when we started going down. Everything's in readiness." Caldwell pointed to the stubby levers of the remote-controlled manipulators.

"How do you expect to be able to see what you're aiming at?"

"I don't. We'll have to rely on Stanton. He'll direct us onto the hull of that ship."

"Sounds impossible to me."

"You're not far wrong," Caldwell shouted back. "We're going to need all the luck we can get—and then some. Stanton will have to place us right on the nose and also judge the distance if we're to pull it off."

"And if we don't?"

Caldwell merely shrugged his shoulders in reply.

The downward movement of the ship was still continuing, but they appeared to be slowing now. Foster could feel the gradually increasing pressure of the deck against the soles of his feet and his stomach was shifting back into its more usual position.

Stanton was suddenly in the doorway, lunging toward them, his face tight. With a jerk of his thumb, he gestured Caldwell out of the seat, scanned the instruments to check that all was ready, then gently began to extend the tubular grapples from the belly of the ship.

It was no easy task, that much was certain. The tearing gusts of wind caught at the ice-shielded metal tubes, threatening to flake off the ice and expose the steel beneath. Once that happened, the grapples would not last more than five minutes at these temperatures. In addition, there was the added thrust against the ship itself. These slender extensions

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bent with the fury of the storm, striving to twist the ship about its horizontal axis, to set it spinning helplessly, completely out of control.

Compensating mechanisms struggled desperately to hold the vessel steady. Down here, close to the surface, there was the advantage that at the moment, the howling wind was caught by the rearing ridge of the Great Glacier wall, providing them with a little shelter.

There was a sudden jolt which tore through the ship as the magnetically induced grapples connected with something directly blow them. The vessel swayed, then steadied a little.

Under Bush's skilled fingers, the communicator had taken shape. It was not a sophisticated piece of equipment by any stretch of the imagination, and in the circumstances it could not afford to be. All that he required of it was that it should be functional. Squatting back on his heels, he tried to visualize how long he had been absorbed in the task. Jill was slumped in one of the chairs before the controls, a faint sheen of perspiration on her face. A wisp of blonde hair hung down over her forehead but she did not seem to have noticed it.

Inwardly, she felt tired, with a growing emotion of self-pity. There was something so futile about all this; she felt sure of it. All they were doing was trying to keep their minds off an end which now appeared to be inevitable. As Bush lifted his head from the communicator in front of his knees, she noted the dark circles under his eyes, the oddly drugged awareness in the way he held his head stiffly upright.

"Will it work?" she asked flatly.

"It's got to. All we have to do is plug it into the main circuits. As far as I can tell there's no reason why it shouldn't. It's makeshift and some of the resistors I've had to use aren't the ones I'd have chosen if things had been different. Still, beggars can't be choosers."

He saw the growing sense of defeat in her eyes, said sharply, "Check on the senator, will you, Jill? He should have regained consciousness by now. Whatever you do, don't untie him, no matter how he tries to convince you he's thought better of his previous actions. Just remember what he tried to do the last time."

"Does it really matter, Sam? Why go on torturing our-

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selves with the idea that we'll ever get out of this? We're done for. What does it matter if the end comes now or three days hence? Better to switch off the air generators and die quickly than go on thinking and deluding ourselves in this way."

Suddenly, she was crying, great, racking sobs which seemed to tear her body in half. Bush went over, put an arm around her shoulder, drew her close to him.

"I'm frightened, Sam. More scared than I've ever been in my life. We're just fooling ourselves and—" She was talking wildly now, clinging to him desperately, her voice scarcely audible above the shrieking din.

"No," he said thickly. "We're not finished yet. Just trust in me, Jill. That's all I ask of you. Now try to pull yourself together. Go see how Senator Durant is. You mustn't give up on me now. Do you understand that, Jill?" He shook her violently as he spoke, seeking for a shock response, anything to snap her out of this state bordering on complete hysteria.

After a few moments, she wiped her eyes, straightened up, still holding on to him. She forced a feeble smile.

"I'm sorry. I guess I really let myself go just then."

Bush let his breath go in little pinches. "You'll be all right. Just try to hang on for a little while longer. I know they're looking for us, and if they're still picking up that signal, they can't be far away. Maybe we can even talk to them in a few moments." He gestured toward the crude transmitter on the floor.

"I'll try, Sam." She rose unsteadily to her feet, blinking the tears away.

Bush watched her closely as she went through into the rear cabin. He realized suddenly that he was trembling. Whether it was his own fear, or the reaction at seeing her give way like that, he did not know. *This can't be allowed to go on, he told himself savagely. If he gave way, they were all finished!*

Grabbing the lead from the communicator, he carried it over to the main power socket, thrust it home with a fierce movement then went back to the machine. He felt the tension crawl through every nerve in his body.

His forefinger reached out for the switch, hesitated for a brief second of time, then threw it over. It was probable that

a faint hum came from the instrument, but in the racketing din it was impossible for him to hear it. There was nothing audible to tell him whether or not it was functioning properly.

Gently, he turned the dial, searching through the wave bands, straining to pick out faint sounds against the background static which came flooding in from the receiver. He had only the vaguest idea of the wavelength on which Stanton, if he were there, would be listening out for them. If only he could match their signal with that being transmitted by the automatic beacon.

Jill came back into the cabin. "He still seems to be unconscious," she said loudly.

"Maybe it's better that way," he muttered abstractly.

She went down on one knee beside him, watching every movement. Bush tuned up the amplification. It was difficult to assess how far he could raise the power without—

There was a sudden, vivid flash as the current spurted across coils within the instrument. Tiny condensers, no larger than a pinhead, discharged in soundless sparks. The acrid stench of burned insulation eddied up to them. Instinctively, he cut off the power, rocked back on his heels with a sharp curse of anger and frustration.

"Damn! Damn! Damn!" His clenched fist beat savagely on the hot casing of the communicator. The sharp edge of the metal cut deeply into his flesh, drawing blood.

He sensed rather than felt Jill's hand on his shoulder, her fingers biting into his skin through the cloth. A ton of smothering nightmare seemed to crash down upon him, the utter bleakness of despair surging through his mind. *They had been so close, so damnably close.*

The sweat was on his forehead, bursting from the pores along his back; sweat which came from the terrible, overwhelming desire to live. The roaring of the storm, the insanity of it all, was in his ears like a mighty waterfall of sound, a tumult that entered his brain and threatened to drive all reason from his mind. It was the breaking point. Nothing could possibly save them now, yet all of his being cringed from the thought.

He wanted to scream, to curse the fate which had brought them here, to rave at that unconscious man back there in the passenger cabin, lying slumped in his seat, oblivious to

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it all, but no sound came from the lips which were stretched tight across his teeth.

It was in that moment, when his mind touched the bottommost pit of despair, that the sounds came from directly above his head; twin concussions unlike anything made by the storm.

VIII

JILL HUNG onto his arm, her head back, staring at the gleaming metal of the hull above her as if expecting it to come crashing down at any moment.

"What was *that*?" she asked tautly.

"I'm not sure." Puzzlement and a stirring of excitement tinged his voice. After those first two solid thuds, there had been no repetition of the sound, nothing but the endless roaring that was Jupiter in full fury surging about them. He scrambled to his feet. There was a wild idea at the back of his mind, struggling to get out. He gripped Jill by the arms, his voice quavering a little as the full impact burst upon him.

"It's the other ship. It must be! They've found us somehow and now they're using magnetic grapples. That must have been what we heard."

"Oh God! If only it is!"

The ship lurched. Bush staggered, felt Jill stumble against him. Holding her close, he helped her back toward the rear cabin. Durant was stirring in his chair, struggling against his bonds. The madness was still in his eyes, still visible in the lines of his face.

Bush grabbed him by the shoulders, shook him violently. "Snap out of it, senator," he yelled hoarsely. "They've found us. Do you hear? They've got grapples attached to the ship. It won't be long now."

"You're lying." A tiny trickle of blood oozed down his chin where his teeth had bitten into his lower lip. He head bobbed back and forth on his neck. His madness seemed to be firm at last.

Sighing, Bush stared around at the girl, saw the faint look of horror on her face. "He'll be all right once we get him out of this," he said reassuringly. "All this has just been too much for him. His mind has retreated into itself."

"Will they be able to do something for him?"

"I'm sure they will." Bush felt a faint sense of relief at

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the way the girl had apparently accepted that they would be rescued. Inwardly, he was not quite so certain, even with this fresh development. It was one thing, he knew, to attach magnetic grapples to the ship; another thing entirely to get them to the safety of the laboratory. So many events could happen before they were safe. The tremors they had felt within the past hour were evidence enough that the ground beneath them was beginning to crack up under the enormous stresses. If the ship started to slip again to any degree, even those grapples would not be sufficient to hold them.

There came a prolonged grinding motion, a grating all about them which ate at the nerves, setting their teeth on edge. The vessel was moving, was being dragged slowly across the ice. All about him, he could hear the unstable surface creaking and cracking above the fury of the storm.

Seconds dragged, extending themselves into minutes which were individual eternities of sound and jarring motion. The ice which formed the protective shield was tough and malleable under even extreme conditions, but constant abrasion would inevitably wear it away and once the underlying layer of metal became exposed, catalytically generated reactions would set in which would rot it away within a very short time.

Slowly, the grating gave way to a peculiar swaying movement.

"They must have succeeded in lifting us clear of the surface," Jill said tightly. She held on to the side of the nearby chair.

Bush nodded. The motion unnerved him a little. It was like being suspended from invisible ropes, swung in widening arcs from side to side. He could guess what was happening. Now that they were no longer anchored to the surface, much of their stability had gone. The wind was tearing at them from the side, swaying them like a giant pendulum beneath the other vessel. He wondered tensely how long the tubular arms of the grapples would hold without snapping. There might be difficulties associated with the magnetic field which was holding them clamped to the other ship. Here on Jupiter, there were swirling magnetic eddies which would almost certainly interfere, possibly even nullify that on which their very lives now depended.

He realized that he had been holding his breath and let

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it go in a long exhalation. Yard by yard, they moved on, edging across the great sloping ice desert toward the seemingly unattainable safety of the laboratory. All of his senses now seemed to be concentrated on that movement and the thunder of the raging turmoil all about them seemed to have faded to a muted wall of sound at the very edge of his consciousness. Beside him, Durant was staring straight ahead of him, lids occasionally blinking down over his eyes, his mouth moving horribly as he muttered inaudible phrases to himself. It was extremely doubtful, Bush reflected, that Durant even understood what was going on. His mind had pulled itself back behind a shield of indifference, had gone back into a shell where it could no longer be touched by their present circumstances.

Suddenly, the ship lurched horribly, canted over at a steep angle. There came a rasping to one side that shrilled along a saw-toothed scale. Jill slipped as the shock tore through the vessel. Bush grabbed out and caught her with a sudden violence that made her scream. The nightmare of her rolling down the central aisle to crash into the solid, unyielding metal at the rear dominated him. He shouted in her ear.

"Better get into that other chair and strap yourself in. I'll manage this."

He helped her to adjust the straps, checked that they were secure, then pulled himself hand over hand toward the forward cabin. In the doorway he paused for a quick look back, saw her sitting stiff-faced, straight as a ramrod beside the slumped figure of the senator. She tried to smile, and in that instant the whole bottom seemed to drop out of the world. There was the sensation of falling, like a nightmare suddenly crystallized into reality, and then the jarring crash. Everything exploded into a brilliant incandescence as his head struck the steel post, then dissolved into a timeless darkness.

Norbert Donner knew that he had to act at once, that unless he used the weapon in his hand, he himself was finished. There could be no doubting the malignancy of these robots now. The prime directive which had been supposedly incorporated into their minds clearly no longer applied. Whatever experiments they had been carrying out down

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here, unsuspected by anyone on Io or Earth, had thrust human directives into the background of their complex minds.

Cautiously, he shifted away from the bench. The robot's image had vanished from the viewer now that the door was sliding open. Stepping a little to one side, he leveled the weapon on the spot where the robot's head would be, his finger tight and rigid on the firing stud.

The robot came in, walked slowly forward, clearly expecting no treachery or violence. For an electric moment they faced each other, man and robot, tensed and silent. Then Donner swung the gun slightly, squeezed the stud. The thin beam of light which lanced across the room made no sound, was almost invisible in the actinic glare except where it splashed against the hard metal which encased the delicate positronic circuits of the robot's brain. Nevertheless, the effect was dramatic. The robot reeled drunkenly, arms wavering, legs jerking spasmodically as it struggled to remain upright. The searing beam had cut a hole cleanly through the tough metal; the circuits within the brain were fused and useless, totally destroyed. Still, something continued to drive it forward, arms lifting as though to take him around the throat, to squeeze all of the life from him like paste from a tube.

Then, when it was less than five feet from where he stood, the creature toppled forward with a crash, but the sound of its fall was almost lost against the roar from outside.

Swiftly, without pausing to think, Donner leaped over the prone robot, reached the open doorway in a couple of strides, the laser gun clenched tightly in his right fist. Although it had been mostly drowned out by the sound of the storm raging around the laboratory, it was just possible that some whisper of noise had penetrated to those other robots in the main room. He paused for a moment to consider his next move. Clearly, while there still remained a robot on the site, his life was in considerable danger.

With due care, he activated the viewer rather than expose himself in the doorway. There were, he saw, four robots in the large laboratory. At the moment, they were all intent on their work, bending over an array of apparatus, their flexible, multi-fingered hands deftly building up the solid-state circuits of some complex instrument in the center of

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the room whose purpose he could not even begin to guess. For the first time, he began to appreciate the terrifying concept of what was going on down here. That thing did not look like a weapon, but it was impossible to know what these creatures were building. For all he knew, it could be something far advanced of human technology, capable of destroying an entire world.

From the limited information he had gleaned a little while before, it was obvious that the robots were supremely sure of themselves and firmly believed that once their project was perfected, they were a match for the countless millions of humans who might face them.

Cold anger eupted in his brain. It began as a tiny stirring at the back of his mind, but it grew as a fire spreads through dry grass, until it blazed white hot through his brain.

This fury was partly at himself and the others on Io for making it so damnably easy for all of this to have been brought about. It was pure, consuming rage because he was sick of violence and death and because he could see, more clearly than ever before, that if this project succeeded, there could be no end to it.

He stepped through the doorway, leveling the weapon. What he was about to do was completely logical, inevitable—part of the complex pattern of fate. He felt no guilt at destroying the robots, which were, after all, creatures created by man, having no real being of their own.

The needle thin laser beam cut down two of the robots, sent them crashing to the floor, before the others discovered that anything was wrong. Wildly, he swung the gun, his left hand gripping the side of the door to steady himself as the laboratory shuddered from a succession of hammerlike blows from outside. Still no feeling of reaction, merely a cold, calculating force driving him on.

The blast of inferno heat, which laced past his shoulder and opened up a molten furrow in the steel of the doorpost, shocked him into a sudden awareness of his own danger. He had hesitated too long before destroying the other two. Numbly, he realized that their metallic reflexes were more than the equal of his own. Desperately, he threw himself down, kicked with the soles of his feet against the wall, heaving himself forward over the smooth, polished floor. His outstretched hands came sharply into contact with

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the side of the workbench. Pain jarred along his arm muscles and up into his shoulders.

He held his breath and struggled to control his disobedient muscles. Tiny spasms raced through him, and, all the time, a cold sweat crawled over his body from strain and fear. He ought to have guessed that there would be weapons of some kind down here. This project had to be protected in the event—unlikely perhaps in the circumstances—of anyone coming down to the laboratory and prying around.

A second searing bolt speared through the air and molten drops of metal spattered onto the floor around him. A couple touched his leg and he almost cried out aloud with the searing agony of it. He lay quite still, as though paralyzed, straining to pick out any sound of movement above the eternal din of the storm. Then he began to edge slowly to one side, holding his breath deep in his lungs. Reaching the side of the bench, he risked a quick look around. One of the robots was standing less than ten feet away.

Propping himself on his elbow, he jerked up the gun and fired. The laser beam missed with the initial burst but as he ducked back, his finger still hard on the stud, he saw the spear of light slice neatly through the metal legs, braced a couple of feet apart. The robot went down, threshing wildly. A smoking furrow appeared in the curved ceiling as the weapon in its hand struck the metal.

Now where the hell was that fourth robot?

He risked another look. The legless robot was struggling to heave itself across the floor on its arms, still clinging to the weapon in its hand. Ignoring the agony in his leg where the semiliquid metal had seared deeply into the flesh, he braced his shoulder against the side of the bench, aimed rapidly at the robot's head and squeezed the stud. The robot slid sideways and the faint scent of burned metal eddied back to him, biting at the back of his throat and nostrils.

Coughing a little, he drew his head back. There had been no sign of the fourth member of the laboratory's complement. *What was the robot doing? Waiting for him to show himself, ready to kill him the moment he came out of cover?*

For a second, he tried to put himself in the other's place, then shook his head numbly. That was impossible. These creatures did not even think like human beings. Their com-

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puterized minds worked on an entirely different level. He could be reasonably sure of only one thing. Whatever happened, that robot would do all in its power to protect the machine which lay on the workbench above him. Nothing else really mattered as far as it was concerned. Even its own destruction was merely a secondary consideration.

There were still those other robots out there in that seething hell of the Jovian atmosphere, capable of taking over where these had left off. Gingerly, keeping his head well down behind the mass of metal, he began working his way around the workbench. Now the odds were even. Human against robot. *But just how evenly were they matched?* he wondered tensely.

He lapsed into a further fit of coughing, felt a sudden stab of pain deep in his chest. For a moment, he thought it came from the eddying haze of metal fume which hung heavily in the air. Long seconds fled before the icy understanding of what it really was, swept over him, speeding up the rapid beating of his heart, bringing the beads of sweat out anew on his forehead.

The atmosphere inside this place was becoming stale, thinner! He cursed savagely under his breath for not having recognized the danger before. These robots had one very great advantage over humans. They had no need of air to keep them alive. They could survive in a vacuum with no trouble at all. Somehow, in the confusion, the last remaining robot had managed to slip away, to shut off the air conditioning units. There was no need at all for it to expose itself to possible destruction. *It had simply to wait for a little while until he died of asphyxiation!*

Returning consciousness brought an agonizing, throbbing headache and a painful stiffness to the side of Bush's face. With an effort, he forced his eyes open, found himself staring up at a glaring light which abruptly increased the red agony in his skull. Little kaleidoscopic images flitted through his mind, forming crazy patterns which made no sense. Flinging out an arm, his fingers encountered the cold, solid steel and the feel of the floor was a hard, cold discomfort along his back.

He lay quite still for several moments, sucking air into his lungs in long, rasping spasms. Then he lifted a hand and

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gingerly felt the flesh of his cheek. There was a crusty stickiness there which was not sweat. Withdrawing his fingers, he held them before his face, stared uncomprehendingly at the red smears on them. Limply, he allowed his arm to fall back, tried desperately to think clearly. Thoughts moved sluggishly through his brain as though forcing themselves along channels long unused.

Turning his head, he looked around, striving to marshal his memories into some form of coherent order. He remembered the sudden exultation which had seized him when those twin grapples had attached themselves to the hull of the ship and that slow motion across the ice desert had commenced. Then something must have happened, for there was certainly no such movement now. The whole ship lay tilted on its side and what had been the deck was almost one wall now with all of the movable equipment, including the remains of the two smashed robots, lying piled high against it.

Jill! Thought of the girl seared through his brain, giving him the necessary strength to struggle to his feet. He fell again as he tried to make his way back into the passenger cabin where he had left her strapped into the chair beside Durant. Everything had become a crazy nightmare, only it was one from which he doubted if he could ever waken.

Jill was lying on one side, her arms hanging loosely over the canted sides of the chair, fingers trailing on the metal of the deck. With a sharp choking sensation constricting the muscles of his throat, he stumbled toward her, calling her name at the top of his lungs.

He lifted a limp arm, fumbled desperately for her wrist, finger pressing down upon the vein. Staring off into the distance, he forced himself to ignore everything else but the sense of touch. The pulse was still beating there, faint but evenly. Gently, he tried to raise her more comfortably in the chair.

A few moments later, her eyes flicked open and she drew in a sharp intake of air.

"How do you feel?"

"I'm not sure." She put a trembling hand up to her head. "What happened to the ship? Did they manage to get us to the laboratory?"

He shook his head numbly. "I think the surface must have

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opened up directly beneath us. Somehow, I doubt if they still have the grapples in place on the hull. That icelide must have ripped them loose."

"How long have I been unconscious?"

He glanced at his watch but the glass face was completely shattered and the hour hand was missing. He held it up to his ear but there was no reassuring tick from it.

"I've no idea. That jolt must have knocked me out, too."

"It could have been hours." Her tone was frightened. "That means they could have given up the attempt to rescue us altogether."

"We'll be rescued now that they have a good idea where we are," Bush promised. "But it will take time. As long as we keep our heads, we'll be all right."

"But if the grapples have failed, what other way is there?"

"I'm not sure. There are, according to Donner, some anti-gravity units on board most of these ships, although I doubt if they've been used in years. If the worst comes to the worst, they might be able to land that other ship close by and make their way across to us."

"In *that* storm?"

"Hell, I know it won't be easy. But Stanton isn't the kind of man to give up. He'd never have got to be where he is now if he was. Besides, there's plenty at stake as far as he's concerned. If we aren't rescued and word of this gets back to Earth, then he's finished. He knows that as well as we do."

He paused as he noticed the look on her face. "I'm sorry, Jill. I guess I shouldn't have sounded off at you like that. Maybe that crack on the head went for my nerves a little more than I thought."

"I understand. I'm not being much help, am I?"

"You're doing all right. Any other woman in your position would have lapsed into uncontrollable hysterics long before now. If only we could—"

He broke off sharply, twisted his head around.

"What is it?"

"Funny, I thought I heard a voice." He tapped his forehead with the flat of his hand. "I must be hearing things."

"Maybe the senator—"

"No. He's still out cold." Acting on impulse, he moved over to the wall nearby, pressed his ear tightly against it, ignoring the icy chill of the metal against the side of his

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bruised, aching face. Almost at once, he hear the voice again, faint and faraway as if the owner were speaking to him from the depth of some fathomless, echoing well.

". . . to Senator Durant. Can you hear me? This is Doctor Stanton calling to Senator Durant. Can you hear me?"

"Yes, I can hear you, Stanton! This is Sam Bush here. Where in God's name are you?"

"Sam!" Jill called to him, her voice suddenly sharply pitched. "Are you all right?"

He turned to face her for a moment. The expression on her face told him that she thought his mind had finally broken.

"It's all right, Jill," he reassured her. "That was Stanton. He must be somewhere close to the ship, maybe even just outside."

"But how . . . ?"

"He's obviously got some metal rod pushed hard against the inner surface of the hull. That would be sufficient to transmit sound waves."

He leaned back against the hull, straining to pick out the words which came faintly to him. "Listen carefully, Bush. There isn't much time. The whole area is going to go at any minute. We had the grapples on you but a chasm opened up and your ship went down into it. There's absolutely no chance of pulling it out now. I'm going to try to work my way around to the airlock. I'll hammer three times as a signal for you to open it. Then you'll have to make your way back with me to the other ship. Do you understand?"

"I'll be ready, Stanton."

He waited for a moment but there was only the background rumble of the atmosphere, frozen slivers of ice and ammonia, scouring along the hull of the ship.

There was a cold sharpness in his mind now. Motioning Jill to remain where she was, he fumbled his way toward the airlock. "Don't worry," he called over his shoulder. "Stanton will be here in a minute. He's got a plan to get us out of here."

He did not mention that they would have to leave the ship and go out into that raw, savage fury which lay outside. Better not even to think about it until the moment to leave actually came.

Three minutes after he reached the airlock, there came

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the trio of measured thumps against the outer lock. Working swiftly now, he spun the wheel which opened the outer door, waited impatiently. The meters showed that the pressure within the lock had surged violently, the only indication he had that the mechanism had functioned. Three more raps sounded faintly, this time on the inner door. Arm muscles aching, he spun the wheel in the reverse direction. Then he unlocked the switch and threw it over. The reading on the meter began to fall as the internal pumps removed all of that poisonous atmosphere, draining it away. Once the reading showed a near vacuum, he operated the mechanism of the inner door, stepping back as it slid open. There was a faint rush of noxious ammonia and methane.

A suited figure clambered awkwardly through the opening; a grotesque shape, not even remotely resembling anything human. It was the first time Bush had seen one of the small anti-gravity units. Totally encasing the man inside, it shone and glittered in the lights, sparkling with the sheen of ice.

There must have been some internal mechanism to the unit, for a moment later, the bulbous headpiece tilted back and Stanton's lined face appeared.

"We haven't much time." His voice sounded tired and husky. "The other ship is less than fifty yards away but at any moment there could be another eruption. How are the other two?"

"Jill Packard is all right. A bit scared, that's all. But the senator is unconscious. This was a little too much for him. He's—"

"As bad as that. Hell, what a bloody mess." It was not easy to shrug shoulders in an anti-gravity unit, but Stanton tried it. "Let's get the units out and get him into one. We may be able to set it on automatic."

"Do you think there's a chance?"

"It's the only one we've got now, so we'd better take it." Stanton inclined his head toward the rear of the passenger cabin. "The units are in there."

Releasing Jill from the straps, he helped her to her feet and between them they managed to manhandle three units from the store. No time just now to think about the horror of the storm which lay beyond the hull, a nightmare through which they would soon have to go; time only to get the

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semiconscious Durant and then themselves into the cumbersome, unwieldy units. Bush glimpsed Jill's white face for a brief moment before she snapped down the bulbous head shield, knew what thoughts must be running through her mind. They had already tasted sufficient of the terrors which Jupiter held, not to be afraid of what lay ahead. On this treacherous surface, in the teeth of that dreadful equatorial wind, with the scouring particles of frozen gas searing beneath an atmosphere almost as thick as the Earth itself, six thousand miles from the nearest sunlight, in an eternal night which had known no beginning and would know no end, even a distance of fifty yards would be an eternity of danger.

He fingered the interior controls as Stanton had shown him. The infrared viewer came on almost as soon as the headpiece had closed and he found—not without a sense of wonder and surprise—that he was able to see. Details were hazy and curiously distorted, and there were no colors, simply a strange, monochrome of gray; a dull wash of overall dimness which made everything appear flat and two-dimensional.

"Everything all right?" Stanton's voice crackled over the headset.

"All set." He tried to sound casual.

"How about you, Doctor Packard?"

"I think so." Jill sounded dubious.

"Now just remember to keep your heads once we step outside the airlock. Any panic and we're finished. Bush and I will handle Durant between us. I've set his anti-gravity controls to automatic. They'll operate once we're outside. Even with them at maximum, however, it won't be easy fighting your way against that storm. Fortunately, we're in the lee of the Great Glacier wall which will protect us from the worst of the tornado. Just follow me and whatever happens—*keep moving!* If you stop, even for a second, you'll be lost."

Bush felt his breath catch in his throat as he edged his way toward the airlock, both doors now sliding open simultaneously. Through the widening gap, he glimpsed the ravening fury which lay outside. Then he had switched on the anti-gravity controls, was drifting down behind the bulky shape in front of him, one without any external identity but which he knew to be Stanton.

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The next second, the full force of the shrieking tornado caught him. The whole scene before him seemed on fire from end to end. Never, even in his wildest nightmares, had his mind conjured up anything like this! The huge ridge of the Great Glacier stretched in an almost unbroken line of midnight shadow along the horizon, reaching up for miles into the storm-riven atmosphere. In every conceivable direction, the great glowing fireballs of flaring hydrogen leaped and burst above their heads.

In his ears there was an overwhelming sea of sound which drove through his skull, shaking his brain within the bone, a polyphony of noise that transcended everything he had known. The raw, primeval terror that was Jupiter. He wanted to yell aloud with fear at the utter insanity of it, but the words dried up in his throat.

The sweat was on him, breaking out all over his body, and the only thought in his mind was that he was dead and standing in the middle of Hell itself.

IX

DONNER looked about him desperately. He couldn't see clearly. Inside his head, his brain was a whirling chaos; his breath scorched in his throat whenever he breathed and the room all about him was a shivering haze through which he could see only indistinctly. The angry throbbing in his head soared to a crescendo, threatening to blot out all else.

He grew aware that he was leaning against the cold, hard metal of the workbench, that the laser gun was still clenched in his fist. For a long moment, he stared down at it in dull surprise. Just beyond the corner of the bench, the bright lights glittered on twisted metal, glassite lenses which fixed him with a terrible, empty stare that seemed to bore right through him.

Then he remembered. The sight of that broken robot reminded him of what was happening. There had been four of them in the laboratory, five including the one he had destroyed in that small room back there. One was still running around someplace. One who had shut off the air conditioning units in order to kill him!

Scarcely aware of what he was doing, he lurched drunkenly to his feet, clinging with one hand to the bench. With a wrench of neck muscles, he twisted his head around, probing the shadows with his dimming vision. There was no sign of the robot in the main laboratory, but there *was* a door at the far end which he had not noticed before. It must have been closed, fitting snugly with the wall when he had first entered. Now it stood open.

The air was becoming more stale with each succeeding minute and as he staggered around the side of the bench, he thought he detected a distinct whiff of ammonia at the back of his throat. *God, if that creature let in the Jovian atmosphere, he would be dead within seconds!*

Desperately, he forced his feet to move, dragging them across the smooth metal of the floor, eyes blinking and lid-

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ding. There was no time to waste. In spite of the growing weakness in his limbs, in spite of the pain which seared across his chest, he had to keep moving. He had almost reached the open doorway when he saw the sudden movement. The remaining robot had been expecting this move on his part. He dimly saw the shining tube in its tentacled hand, saw it lifting, coming to bear on him.

Amazingly, the robot hesitated. Only some time later, did Donner realize why. He was too close to that machine on the workbench. For the robot to have fired at that instant, it would have meant the possible destruction, not only to himself, but of the machine. Donner felt his injured leg go from under him, clutched at the bench with his left hand as he went down, his right forefinger activating the stud of the laser gun as he fell.

The beam lanced out, struck the side of the door high up, traced a smoking furrow across it, swinging over the glittering head of the robot as he hit the floor.

Retching violently, he rolled over, expecting the searing heat from that other weapon to fry the flesh off his bones. But it did not come. Forcing his eyes open, he pushed his stultified vision through the growing darkness. The robot was a twisted heap of useless junk in the doorway. Beyond it, just inside the small antechamber, he made out the tall panel which controlled the internal functions of the laboratory.

Scarcely aware of what he was doing, he commenced to crawl forward, slipping, scratching, struggling to pull himself toward the door. Inch by inch, no longer aware of anything but the thunder of his own blood hammering through his temples and the urgent need to reach that almost unattainable panel before he finally blacked out forever. All of his senses were funneled into that one despairing effort of movement. The nightmare of not making it, of choking out his last moments in an atmosphere of poisonous methane and ammonia would not leave him, providing him with the saving strength to go on when all his body asked of him was to sink down on the cold metal and surrender himself to the darkness which came seeping out of the walls to engulf him.

Suddenly, his clawing fingers touched the twisted metal which blocked the doorway. Shuddering, drawing in great rasping gasps of tainted air, he pulled himself hand over hand

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across it. The lever of the air conditioning unit had been thrown right over into the "OFF" position. He had to reach up to it, throw it back. Clinging to the base of the panel, he strove to draw himself up. His arms and legs no longer seemed a part of him. It was as though he were floating high above the floor of the laboratory, looking down upon his body crawling through hell. The roaring in his skull grew louder, the pain in his chest searing through every rib and nerve.

With a final, desperate thrust of his almost useless legs, he reared up, threw himself limply forward, leaning the whole of his weight against the metal. He could feel his senses slipping from him, draining from his body like paste being squeezed from a tube. Then his shaking fingers closed about the handle of the switch and with the last ounce of strength left in him, he threw it across.

There was a chill blackness in his mind. As he pushed himself into a sitting position, resting his back and shoulders against the panel, he noted that the air was now fresh. Sucking in great gulps of it, he waited, feeling the warmth and strength flow back into his body. Pulling himself finally to his feet, he walked unsteadily toward the workbench.

Everything about the machine which lay there was strange to him, but not strange enough to be frightening. He could have almost believed this to have been the work of men except that it looked to be beyond the capabilities of men to construct at the present time, even with their high level of technology. There were long, insulated cables which led out of the back of it, vanishing into the wall. Almost certainly there was some form of power unit hidden back there, but as to its exact nature, he could not even begin to guess.

In the center were two five-foot diameter circular discs set about a foot apart. Their inner surfaces were not smooth, he noticed on closer examination, but dotted with what appeared to be a random pattern of embossed nodules and tiny specks of light glimmered on and off within the transparent substance. Within the discs, two angular metal arms held a perfect sphere of the same substance. The arms themselves did not quite touch the inner surfaces of the discs but were separated by a few thousandths of an inch, and tiny, brilliant white sparks jumped incessantly across the gaps.

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There was power here, far more than he had ever dreamed of, but what purpose this machine had been designed to serve, he did not know. Its weight and obvious immobility seemed to preclude the possibility that it was a weapon of some kind. He recalled what the robot had told him of this project. The work they had been programmed to carry out had been concerned with certain, vague theories.

But what theories?

Only one man could give an answer to that.

Stanton!

He remembered that his scheduled call to the other ship was now long overdue.

It was Caldwell who answered his call, the astronomer's tone bearing a detectable trace of excitement even above the background static.

"Stanton left the ship about ten minutes ago, Norbert. We've landed close to the wreck. He went across in one of the anti-gravity units."

"Any of the others still alive?"

"Can't say at present. Too much interference here for us to get in touch with him. If there are, he intends to bring them back in the suits on board that other vessel."

Donner hesitated. It was essential that the others should know of what had happened here in the laboratory for unless he was very much mistaken there could still be trouble from those two robots on board the ship.

Keeping his voice level, he said: "Can either of those two robots with you overhear our conversation?"

"No. I don't think so. Why? What's wrong?"

"Listen carefully. This could be a matter of life or death. Durant was right all along. Tell Stanton when he gets back that those records we've been getting over the past couple of years from the laboratory only told us part of what's been going on down here; the rest was deliberately suppressed. They've built some kind of machine using the equations we programmed into them. I don't know what it's supposed to do but Stanton may when he gets here.

"Whatever it is, they tried to kill me to prevent me finding out. But above all, watch those two robots. I'm certain now that they were all in this together. They're almost sure to try to kill all of you, rather than let you get here alive."

A long pause, filled only with the hissing crackle of static.

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Donner could guess at the thoughts which must be running through the astronomer's mind at that moment.

"What's happened to all of the robots down there?"

"Destroyed—all of them."

"And you? Are you sure you're feeling all right?"

"Of course I am, damn it," Donner said savagely. There had been something in the other's tone which implied that maybe the alien conditions down there had affected him in some way.

"All right. I'll let Stanton know as soon as he gets back."

"Good. Tell him also that I'll direct the homing beam for you. If those robots should try anything, you'll need it." He thrust down the switch, sank back into his chair.

He watched the flickering green lights on the scope above his head for a little while, sunk in his own thoughts. There was a growing sense of depression in his mind which he was unable to shake off, making him feel angry for he could find no real reason for it. As far as his own position was concerned, he was relatively safe. Any danger which existed, apart from the increasing severity of the storms, was some miles away, inside that other ship. He found himself wondering what Stanton was doing at that moment and shivered a little as he thought of him out there in that boiling, ravenous hell. Covering his face with his hands, he fought for composure.

The real terror, the nightmare, had begun. A vast, skyward-reaching column of flame, fiery looking but in reality intensely cold, searched across Stanton's vision in a pillar of fire that spewed up from some hell-spawned mile wide rift in the ice sheet. The feeling of utter unreality closed in tightly. He wanted to close his eyes down tight against the hellish scene, dimmed as it was by the infrared viewer, but even if the others were able to do that, he had to see in order to lead them.

The ship was just visible almost directly ahead. Less than forty feet separated them from it, yet it might as well have been forty miles. The howling of the storm intensified and then diminished a little, as if it were being led by a legion of demons. The whole landscape was afire from end to end. They themselves were like insects, crawling across a board, the streaming waves of monochrome flame making the loom-

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ing ice pinnacles dance and move around them like columns of marching giants.

Beneath his feet, he felt the surface pulsing and heaving as if great underground waves were rippling through it, moving toward some far distant shore. Less than three hundred yards away to their right, visible in the light from the glowing fireballs, the ground opened like a yawning mouth, great ice blocks tumbling in a roaring avalanche down the widening sides.

From the edge of the viewer, he saw the others halt momentarily. Grabbing at Durant, he motioned angrily at Bush to keep moving, at the same time yelling harshly over the communicator:

"Come on! Don't stop now if you value your lives!"

They broke into a shambling run. Without the anti-gravity units which partially nullified the tremendous gravitational pull of Jupiter, they would have been squashed flat on the surface, unable to move a single inch. Even inside the units, it was virtually impossible to make any headway against that terrible wind which came shrieking, howling, screaming down from the crests of the Great Glacier.

Only a Dante or a Goya could have done justice to that hellish landscape, Stanton thought fiercely. There were no words by which he could describe it and God alone knew it must be worse for the others. He had already had some experience of this insane planet, had been down here some ten years earlier. Seeing it for the first time and under such wild conditions must be absolutely terrifying.

Thirty yards. Ahead of them the ice sheet remained flat but at any moment, he knew, it could heave and shatter as the tremendous internal forces, many miles under the surface, sought release. He clung desperately to Durant. Over the communicator, he could hear the senator's hoarse muttering above the gale of their combined breathing.

On the senator's right, Bush kept a tight grip on Jill's suit. Twice she slipped, would have fallen had he not hauled her violently upright. The nightmare of her losing her balance and rolling over and over, like some grotesque tumbleweed driven on by the fury of the wind.

The storm of frozen ammonia slivers scoured the outside of his suit, setting up a continual grating which ate at his nerves. The creaking of the ground under their feet rose to

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a cracking that was horrible and frightening. He had a vision of the ice sheet opening up and sending them toppling into a bottomless abyss, falling endlessly . . .

Ten yards. Even inside the cumbersome weight of the suit, Jill Packard had the feeling that she was naked, exposed to the ravening terror which surrounded her on all sides. Beneath her feet, the ground appeared to be rotting away, twisting, collapsing, while above her head was a blackness more dense and remote than even that of outer space, lit here and there by the vast, expanding spheres of flame which roared upward and were lost in a distance so great that her mind reeled at the very thought of it. The roaring of an atmosphere gone berserk grasped at her like a tangible thing, enfolding her in a great, muffling shroud of noise which passed beyond the limit of audibility and seared through every bone and nerve of her body, smothering her being to the exclusion of all else.

The last thing she saw through the infrared viewer before Stanton and Bush caught at her and thrust her headlong into the gaping airlock of the ship, was a whirling mass of darkness along the whole of one horizon, bearing down irresistibly upon the Great Glacier. Even at that distance she saw only a small part of it, the lowermost tip of the South Tropical Disturbance, its upper reaches, many thousands of miles across, lost six thousand miles away at the top of the Jovian atmosphere.

Caldwell was standing tautly in the doorway of the control cabin as Stanton shrugged himself out of the suit, letting it drop onto the floor. There was a small laser gun in the astronomer's right hand and Stanton felt a sudden stiffening of his facial muscles as he stared across at the other. Foster was a few feet away, white-faced, clinging grimly to one of the metal stanchions.

Caldwell said quietly, "Sorry about the welcome, sir. But we just received a disturbing report from Donner at the laboratory."

"Go on."

"Seems these robots have been building some kind of machine down there and keeping the information from us. He had to destroy all of them, otherwise they'd have killed him."

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Stanton let his breath go slowly. *It never rains but what it pours*, he thought bitterly.

"He's activated the beam for us but he seemed to think that these two might try to kill us to prevent us from getting there."

"Keep the gun on them. Use it if you have to." For a fraction of a second, the idea came to him that something may have snapped in Donner's mind, but he dismissed the thought almost before it had been formed. Even under these insane conditions, Donner was not the sort of man to succumb to any fanciful notions. He could be relied upon to keep his head.

"Take off and head for the laboratory," he ordered.

The whine of the ion motors came on a second later. The scene on the forward viewing plate went blank, then came alive again. The heaving ground, thrusting up in a hundred different places, spewing with flame as the internal forces of the planet were released by the passing fury of the storm, dropped away beneath them. Stanton had a brief glimpse of the gigantic whirlpool which formed the edge of the on-ward rushing South Tropical Disturbance over to their right. Then the invisible, but powerful, beam from the distant laboratory caught them on the nose, locked on to them. The lurching steadied a little. The scene on the scanner drifted swiftly from left to right as they turned.

Breathing a little more easily, Stanton leaned back, resting his aching shoulders against the hull.

A ball of coruscating brilliance took shape almost directly ahead and in ten seconds a reverberating explosion shook the ship as the detonation wave caught them.

Foster, standing behind him, cleared his throat. "That must have been close to the laboratory. You don't think that—"

"At the moment," Stanton cut in sharply, "I'm past thinking anything. All I know is that the sooner we reach the laboratory, the better."

"There's just the possibility that the laboratory itself won't last out this particular storm." The way Caldwell said it sounded almost like sacrilege.

"We've recognized that probability for a long time now," Stanton said. "Even at the time it was being erected down here. If it goes, there'll be nothing we can do about it. But

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I've got to examine that machine Donner spoke of. It could be of vital importance to the whole of mankind."

The yellow green blip that was the rocket showed clearly now on the large screen. The beam from the laboratory, although invisible outside in the atmosphere, was also faintly seen on the screen as a thin pencil of haze, where it ionized the atoms of ammonia and methane, rather like a meteor trail on Earth. They were now less than five miles away, still on course and no sign of any trouble.

Donner felt tense now, more so than before. The sensation of impending disaster was so strong within him that if the tiny blip had suddenly vanished before his eyes, he would have felt little surprise. But it remained steady and there was no deviation from the beam. He checked his watch automatically. Another five or ten minutes at the most and they should reach the airlock.

Getting to his feet, he went over to the main airlock, set the controls on automatic. On the workbench, the glittering machine stood like a huge question mark, demanding an answer. The embossed studs on the large, circular discs, each with its pale flickering of light, seemed to be arranged in some form of mathematical sequence. There was a small control panel to one side, with several of the heavily insulated cables running into it and a central red button which obviously needed only the slight pressure of his finger to put the machine into operation.

For a moment, the urge to press it, to see what happened, was strong within him, and it was only with an effort, that he fought it down and turned away.

Then the feeling of unreality was gone. The red light over the inner airlock door flicked on. He waited tensely. There was a long pause before the glowing bulb snapped to green and the door slid open.

Stanton shrugged himself out of the heavy suit and behind him the others did likewise. Sweat was streaming down the director's face and he brushed it away with an angry gesture of his hand.

Then he grinned across at Donner. "We've done it," he said loudly. "We've done it. Hell, I never want to go through that again." He turned and surveyed Bush and the girl. "It must have been worse for you."

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Donner walked forward. Senator Durant seemed to be in a bad way. His face bore a pasty look, his eyes were sunk deep into his head.

"Any trouble with the two robots?" Donner asked.

Stanton hesitated as a thunderous roar from outside shook the entire laboratory, then gave a negative shake of his head. "None at all. Caldwell here kept a laser gun trained on them all the way in. However much they've altered since we programmed them and sent them down here, they must have some instinct of self-preservation ingrained in them."

"That's more than I could say for the five down here." Grimness edged Donner's tone. He jerked a hand toward the dismembered robots strewn about the laboratory.

"So I gather." Stanton turned to Bush and Caldwell. "Better help the senator to a seat. He looks all in."

Durant was staring about him as if unable to comprehend exactly where he was, but he did not resist as the two men took hold of his arms and led him to a seat.

Stanton walked around the bench, took Donner's arm. Quietly, raising his voice just a little to make himself heard by Donner above the rumble of the storm, he said, "We don't have much time. My guess is that this entire bit of the surface is in the process of breaking up completely. No doubt you'll have guessed that this time the S.T.D. is on a direct collision path with the Spot itself. All hell is due to break loose down here in a few hours. Let's take a look at this machine you were talking about. See if we can make anything of it."

"It's something to do with the equations which were programmed into the robots. Once they figured they had me trapped, they seemed so sure of themselves that they talked."

"Go on."

"Those equations and theories they were investigating apparently led up to this." He nodded toward the machine. "Two years ago, they were able to transpose these vague ideas into something that works. Unfortunately, I've no idea just what it was they were working on."

"Naturally." Stanton gave a brisk nod. "All you had—all that anyone apart from myself had—was the data which came through over the communicator on Io. I think it's time you did know, especially now that they've dreamed up this. More than a century ago, Georg Cantor worked out a new

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theory of mathematics in which he proved that there were numbers much larger than the classical infinity.

"Unfortunately, his work was overshadowed to a large extent by Einstein's general and restricted theories of relativity which came out only a few years later, and while the astronomers were able to provide concrete proof of Einstein's ideas, Cantor's work remained little more than an abstract mathematical theory used only by pure mathematicians."

"And it was this you were trying to do down here? But why on Jupiter?"

"I'm coming to that," went on Stanton patiently. "In the nineteen forties, Campbell extended Cantor's work and suggested that if pursued to its logical conclusion, it should theoretically be possible for a material object to pass from one point in space to another *without passing through any of the intermediate points.*"

"But that's utterly impossible. We know that nothing having mass can exceed the speed of light. Isn't that what you're suggesting?"

Stanton shook his head slowly. "That would only occur if the object remained in space as we know it. If Cantor and Campbell were right, that isn't the case. The only thing standing in the way of carrying out a practical proof of the theory was the amount of power required to be imparted to the object. Even the energy generated by a hydrogen bomb is far too small. We'd need a thousand of them going off at once—or some form of energy out of the atom which is far in excess of that we can tap at the moment."

"I think I'm beginning to get the direction of your reasoning," Donner said, his voice tight in spite of himself. "That was the reason for carrying out these experiments down here under such extremes of temperature and pressure."

"Exactly. Somehow—I'm not yet quite sure how—they seem to have succeeded. Anyway, we'll soon find out whether I'm right or not."

He leaned over next to Donner, finger stabbing for the red button in the center of the small control panel. A tiny bead of sweat trickled down the side of the director's jaw, but his hand was steady as he pushed the button home.

For a long moment, nothing seemed to happen. Then a faint, almost inaudible hum came from the depths of the machine. The slender discs began to rotate, slowly at first but

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gathering momentum until, spinning, they seemed to be standing still. Donner blinked his eyes, feeling them water. The discs were now faint, wavering blurs, hardly visible. All that he could see were the leaping sparks which spanned the narrow gaps between their surfaces and the arms which supported the globe in the very center.

Beside him Caldwell licked his lips, asked hoarsely: "Is anything happening?"

Stanton did not reply. His face was turned toward the globe. The humming grew louder until it shrilled through the bone of their skulls, settling deep within their brains.

Donner swallowed convulsively. His vision seemed to be blurring strangely as he watched the sphere in whose center there was now a vague swarming of green fire. Not until several moments had passed did he realize that it was the sphere itself, that globe of curiously transparent material that was blurring.

The next second it had snapped out of existence and he found himself staring down at the surface of the workbench through the spot where it had been.

"Good God!" Foster cried. "It's gone!"

Stanton reached out and thumbed the button again. Slowly, the humming died, the discs began to slow, solidifying as they lost momentum, but the space in the center remained empty.

Caldwell took a hesitant step forward, his hand twitching.

Stanton let his breath out in a sighing exhalation. There was a curious expression on his flabby features.

"You were right, Norbert. They did it!"

"You mean—" began the astronomer hoarsely.

"I mean that sphere has been transported to some other place."

"But where?"

"To be quite honest, I've no idea. It could be somewhere inside this laboratory, or it may have gone outside the limits of the solar system."

His face looked tense and white in the greenish light. "All I know is that here we have the answer to interstellar travel. Until now, the only means of getting to Centauri and the other stellar systems has been to pack a whole community inside some ship and send them out on a voyage that could take centuries. Generations would live and die before their

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descendants reached their destination. Now, in one fell swoop, we can make the journey in a series of jumps which, as far as I can tell at the moment, are mathematically instantaneous."

"No wonder the robots wanted to keep this information locked away inside their positronic brains," muttered Caldwell.

"It would have given them the stars, there's no doubt about that," said Donner.

Stanton rubbed the bridge of his nose. "We'd better try to load this onto that rocket outside and prepare to leave. Make sure there's no static charge left on those discs; you're liable to get a nasty shock if there in. Unhook the cables from the back. I want to take a look at that power unit they have back there. *That* must be something extra special."

Leaving the others to transport the machine out into the waiting ship, Donner followed the director through the small door set in the wall. There was a room at the back which housed the power supply for the machine.

Staring down at it, he felt a sense of surprise at the compactness of it. Considering the energy which must have been fed into the instrument, he had expected to find a huge, bulky piece of equipment. Instead, it was little larger than a conventional generator. Totally encased, it was impossible to guess at what lay inside, and there was not time now to dismantle it and take a look. That would have to wait until they got back to Io.

"You think this thing will still work when we take it away from this environment?" he asked.

"I'm certain of it," Stanton nodded. "Now that we have the machine, it shouldn't take too long to work out the theory of it. Then all we have to do is to apply it practically to the drive of a ship."

Norbert Donner stood on the edge of the wide crater and stared across at the ship. His sensations were peculiar. The work of the past five months had been exciting and exhilarating, of course. It had been the sort of work which a dedicated scientist always found satisfying. He understood of course, the vital importance of the task they had accomplished, but it seemed now, looking back upon it, that it had been an impersonal accomplishment. Mystery still remained, though,

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for as yet the drive of the machine still was untested. No one on Io could be absolutely certain that it would work. Even Stanton, who had been the driving force behind the project, still expressed his doubts as to what would actually happen once they got on board, pointed it out in the direction of the stars and pressed the button which would activate the field.

Through his visiplat he stared beyond the gleaming metal sphere, which stood small against the rugged spread of the crater rim, up to where Jupiter still dominated the jet black velvet of the star-strewn heavens. He could still make out the enigmatic oval of the Red Spot on the banded yellow and orange disc, but there was no sign now of the gigantic whirlpool of the South Tropical Disturbance. It had drifted on along the belt and was now somewhere on the far side of the planet.

The laboratory, too, was gone. After returning to Io, he had spent more than thirty hours directing the Flies down to the surface, down to that scene of desolation, but there had been nothing visible. Sometime, shortly after they had left, making their way up through the streaming layers of the atmosphere, the storms had wreaked their final, inevitable destruction on that tiny bit of man-made metal down there, breaking it up completely and drowning it beneath the ice floes. Yet it had served its purpose.

Durant had left three days after their landing on Io, had returned to Earth, taking with him the secrets they had pried from that incredible machine and the memory of a nightmare which would live with him for the rest of his days.

He turned his attention back to the ship. In spite of its small size compared with the backdrop, there was an air of leashed power about it, a dynamic quiescence, which made it stand out, dominating the rocky foreground. The last of the stores were being ferried on board, the small party of technicians returning to the domes.

A bulky figure emerged from the nearby airlock, walked awkwardly in his direction. Through the transparent visiplat he recognized Stanton. The director gave him a tight grin, the faint wash of orange light from Jupiter lighting the planes of his face.

"All set, Norb?" Stanton's voice rasped over the communicator.

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"All set, but a trifle apprehensive. Are you sure this damned field is going to work?"

"If it doesn't, you'll still be able to get back with the normal ion drive. You'll have to get about ten thousand miles out before you can test that field anyway."

"Could be the goddamned thing will just blow up on us. I don't relish the idea of all that energy erupting in a couple of milliseconds around me. I can visualize there being nothing left of us but a drifting cloud of atoms somewhere up there in interplanetary space."

"You can always back out now if you want to."

"I think I'll go along for the ride."

"I guessed you'd take it that way. Believe me, I'd jump at the chance of coming with you but these old bones of mine just might not take the strain. By rights, of course, I should be the one to go along. This has been my baby all along."

"There'll be enough of us going along to check on everything. You'll get a full report if—when, we come back."

"I'll be looking forward to it." The other fell into step beside him as Donner made his way slowly toward the waiting ship. Sam Bush and Jill Packard were, he knew, already on board, and as he reached the airlock he saw Caldwell moving in from the other direction.

Stanton put a gloved hand on his arm. "The best of luck, Norb," he said. "I bet when you first came out here to Jupiter to work on the problem, you never expected to be heading out on the first voyage Man has made to the stars."

Donner grinned. A little of the excitement and enthusiasm was filling his mind now. "You can say that again."

He climbed on board. It was not until he stepped through the airlock that he realized this ship was far different from any others he had been on. There appeared to be no angles anywhere, every surface a perfect curve of brightly shining metal. Caldwell stepped up behind him and almost at once the airlock slid shut. The main corridor was a long tunnel which led them toward one side of the ship, where a wide port showed the airless stretch of Io's surface, bending away toward the crater rim. From where he stood, stepping out of the protective suit, he could make out the curved domes of the base complex and the dark, tiny shapes of one or two suited figures.

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Sam Bush said with enforced calm, "We'd better make ourselves comfortable, I guess. We'll be blasting off in a few minutes."

Lowering themselves into the seats, they strapped down against yielding foam which molded itself to the contours of their bodies. The small communicator set in the wall uttered a sharp click.

"Blast off in thirty seconds. Countdown at ten."

Donner forced himself to relax. The familiar tightness had come again into his body, constricting the muscles. Somewhere in the distance, the whine of the motors rose sharply.

"Ten. Nine. Eight—"

Donner fixed his gaze on the secondary viewer set high in the curved wall, the scanner picking out the ground below them, the tumbled rocks, unweathered since the satellite had been born. His head pressed back tightly against the foam.

"Seven. Six. Five—"

The monotonous voice picked out the last few remaining seconds.

"Four. Three. Two. One—"

Automatically, he tensed himself.

"ZERO!"

The acceleration hit him abruptly, driving his body hard against the seat. It was far less than that which he had experienced during the blast off from Earth. He felt his heart beating fast and then changing into another rhythm as the scene in the view altered rapidly. The ground dropped away into the far distance. The walls of the crater came crowding in, then the curve of the satellite, and beyond it the eternal darkness of space.

As they lifted off with the acceleration continuing, the orange burnished immensity of Jupiter showed, filling the entire screen. It began to drift away slowly into the gathering immensity of stars. He felt a little shiver pass through him as the sight of it brought back the memory of that nightmare journey down into those awe-inspiring depths.

Then he recalled that this ship was the outcome of it all. Maybe it had been worthwhile, although only time would tell.

In the seat beside him, Bush turned his head slightly. "Scared?"

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"A little."

"Who isn't?" grunted Caldwell, eyes still fixed in a kind of fascination on the screen above his head. "I feel like I'm sitting on top of a bloody great bomb with a damned short fuse."

The voice of the invisible pilot cut in on their conversation. "I'm engaging the hyperdrive in five minutes. Everyone remain strapped down."

"And then we'll know," muttered Bush, half under his breath, speaking more to himself than anyone else.

They remained silent for a while, watching the ever-changing picture on the wide viewer.

Turning to Caldwell, Donner said: "Since we don't know the range of this new drive, I presume we'll be pointed somewhere out of the plane of the ecliptic. Wouldn't do to arrive somewhere in the middle of one of the planets."

The astronomer nodded his head as much as he was able. "I talked this over with Stanton yesterday. We agreed to try for the direction of Tau Ceti."

"That a star?" asked Bush.

"That's right. One of the nearest—and one we're pretty certain has planets revolving around it. The only one we've been able to pick out has a mass around ten times that of Jupiter, but that doesn't mean there aren't a dozen smaller ones; maybe Earth-size."

"But surely that's too far away for us to reach, even in this ship, even if the drive does work."

"Perhaps. It's all of twelve light years distant. We could've headed for Alpha Centauri. That's only a little more than four light years away, but all of the evidence we've got suggests there are no planets in that system."

"God!" breathed Donner. "Twelve light years! It doesn't seem possible."

He grew aware of a subtle difference in the ship. The muscles of his chest became taut with an unconscious straining. And then he knew what it was. The ion drive had been switched off. They were drifting in space, the entire ship silent.

"Ten seconds!" said the voice over the communicator.

The ache along his back became a tight feeling. A hot needle point stabbed at his spine between his shoulder blades, digging into each vertebra. As it progressed down-

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ward, it turned into ice which melted and ran in a chill stream down his back. Sweat popped out on his forehead, trickled down into his eyes, half blinding him. He wanted to wipe it away but his hand refused to move.

His mind hung poised in tense fascination. His feet suddenly intolerably itchy. He waited anxiously for the manifestation of the jump.

There was a faint tearing sensation, the feeling that his body had been curiously turned inside out, and then everything jerked back into its proper position. He blinked his eyes several times, then stared at the viewer.

He felt hot. The weird sensation had passed leaving him unaccountably weighted by a suffocating lack of air. Gulp-ing in a rasping breath, he croaked: "There's the sun. Hell, that jump must have carried us the best part of four hundred million miles!"

The sun blazed against the blackness of star-studded night. From its size, he judged they must be somewhere inside the orbit of the Earth.

Caldwell jerked his head up from the chair rest, arms straining a little against the straps. There was a look of dumbfounded amazement on his lean features. He shook his head slowly, uncomprehendingly, then swallowed, his Adam's apple bobbing up and down in his throat.

"That isn't the sun," he said hoarsely. Unfastening the straps, he got swiftly from his seat, moved over to the communicator, snapping down the switch.

"This is Doctor Caldwell," he yelled. "Get me a spectrum of that sun out there."

It was very still in the cabin. Only the faint whisper of the ventilators could be heard in the vast, clinging silence. The spectrum of the nearby sun flashed onto the viewer, forming a narrow strip of glowing color, crossed by the dark Fraunhofer lines.

"Everything checks," he said excitedly. "That's Tau Ceti out there or its twin brother. Do you realize what this means? We've jumped twelve light years in no time at all!"

"The stars are ours now," murmured Jill softly. There was a dawning wonder on her face. "It means freedom for everyone, for all humanity. Soon there'll be colonies on every planet that will support life. We'll no longer be restricted to Mars and Venus and a few satellites where it's impossible

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to live without a dome over our heads, or totally enclosed in a rubberoid suit."

In the observation dome on Io, Stanton felt the sigh which escaped from his lips. He had watched the ship lift clear of the rocky surface, watched as it climbed up into the black heavens on the end of an incredibly thin pencil of ion flame. When it had become lost to sight, he had returned to the observation room and followed its flight out from the Jovian system of moons on the radar screen which showed it merely as a tiny spot of green light.

For several minutes, reaching the end of the ion-assisted flight, it had remained virtually motionless—and then the incredible had happened. One second the blip had been there, slightly off the center of the screen; the next it was gone.

"Where are they now, I wonder?" He was only half aware that he had spoken his thought aloud.

Foster turned his head quickly. "What was that, director?"

"Nothing. Just allowing my mind to wander a few light years." He felt weariness mingled with a sense of exultation that seared like a flame through him. "They'll be out there now, somewhere amongst the stars. And where they've gone, others will soon follow."

"You know that you may be recalled to Earth to explain those experiments you were conducting down there on Jupiter without the government's knowledge."

Stanton shrugged. "I hadn't overlooked that possibility. But it makes little difference now. My work here is finished. It ended when the laboratory was destroyed in that storm."

Turning his back on Foster, he walked across to the view port, stared out over the airless monotony of Io to where the looming bulk of Jupiter dominated the heavens. But now there were stars visible which he seemed to have overlooked before. All his life, he had walked a strange path toward a distant and unknown horizon. Now, reaching it, he found that it was not the end as he had thought, but a new beginning, marking only the rim of a vast and new continent of space, whose limits were set on a far infinity.



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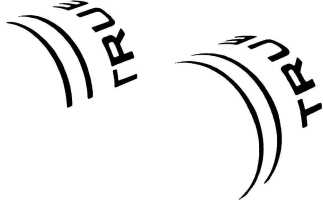


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