

REVOLT!

Colonel Matthew Crandall was in process of grinding the conceit off a new lieutenant when the message came in. The *ping* of the communications bell could barely be heard through the drone of the lieutenant's voice:

" . . . And, sir, a Space Force Second Lieutenant outranks a Planetary Development Technician 3rd by two grades. So I ordered him to stand aside. But this Third tried to act as if he hadn't heard me. He tried to precede me on board *Vengeance*." The lieutenant's chest expanded and his head tilted back. "And so, sir, I enforced my order!"

Crandall eyed the lieutenant with the look of a farmer who has his ax raised, but does not yet have the chicken's neck in the right spot on the block. Then the *ping* of the communications bell caught his attention. Crandall got up, stripped a piece of message paper from the transceiver and read:

Planetary Development H.Q. Cygnes VI m 4 to Space Force H.Q., Cygnes III

Personal: To CoL. Matthew Crandall.

Matt: Have just heard from Purcell. Three hundred latest model delGrange mechanical suits en route from Purth, due today 01-23-2212. Three hundred sixty operators en route from Szalesh, due 01-24-2212, fully trained in Model C trainers. I intend give them brief practice in new suits, then get them down on surface of VI. Every indication VI is loaded with crude ore. I need your formal signature for first contact, pursuant Section 67b. Am sending courier with forms.

Thanks, Dave.

David L. Paley, Chief, Planetary
Development Authority, Cygnes.

Crandall read the message over, frowned and pulled a chair around to the transceiver. He rapped the date-time key, tapped out the heading, paused for a moment, thought, then went on:

Dave: Would like to do as you say, but Section 67b is plain that when I sign, I share the responsibility. You say new suits due here today, 01-23-2212, and the operators tomorrow, 01-24-2212; you propose give operators "brief practice" then send them down. My experience is, all new equipment has flaws. Gravity on VI is such that if flaws become apparent down there, we may have mess of big proportions to clean up. Let's go a little slow at first.

Matt.

Matthew Crandall, Colonel, Space Force.

Crandall sent the message, turned back to his desk, and glanced at the lieutenant. Crandall rapped his fingers on the desk, looked steadily at the lieutenant, and waited.

The lieutenant started, as if he had been daydreaming. "It would," he said, "have been an insult to the Space Force, colonel."

"What would?" said Crandall.

"Sir?" said the lieutenant. "Why, to let a Planetary Development Tech. 3rd precede a senior Space Force officer, sir."

Crandall let his glance stray to the small bar on the lieutenant's left shoulder: "What senior Space Force officer, lieutenant?"

"Senior to . . . to the technician, sir."

"Just how senior was the technician?"

"He was . . . just a Technician 3rd. Sir, if I had let him precede a senior—"

"A what?"

"A . . . A *ranking* Space Force officer, it would have been a . . . an insult to the service, sir."

"So you grabbed him and shoved him back?"

The lieutenant's face turned red, then white. "Sir, I *ordered* him to stay back. Then I . . . he didn't, and I had to *enforce* the order."

"'Enforce' it. How did you do that?"

"I—Well, I used force, sir."

"Did you hit him?"

The lieutenant winced, then stood straight. "I just sort of—Sir, he acted as if—"

"Did you hit him?"

"I—No, sir. I just sort of, quickly pushed him aside, and got out in front of him."

Crandall looked steadily at the lieutenant, and watched as the phrase "got out in front of him" echoed through the lieutenant's mind.

The message bell pinged and Crandall stepped over to the transceiver. He stripped off the message and read:

Matt: I understand your hesitation, and regret it is my fault for neglecting to mention that suits will of course be thoroughly inspected and checked during interval before arrival of operators. DelGrange is a perfectionist in design, and of course these suits have already been checked by him, prior to being shipped. But we will check them again as ordinary routine.

Dave.

David L. Paley, Chief, Planetary
Development Authority, Cygnes.

Crandall scowled and tapped out his reply.

Dave: I appreciate the thoroughness of your preliminary check on the equipment. But what I have in mind is something that may not show up until the suits are actually in use down on VI. Then if we have committed ourselves by sending them all down, there will be nothing we can do in the heavy gravity down there till another bunch of suits and operators arrive. My suggestion is, that we follow your plan, but a little more slowly.

Matt.

Matthew Crandall, Colonel, Space Force.

Crandall sent the message, went back to his desk, and scowled at the lieutenant. The lieutenant looked uneasy.

"So," said Crandall, "you shoved the Planetary Development man out of the way and squeezed out first?"

"Sir . . . it wasn't quite like that."

"Were you in a hurry? Official business?"

"I—No, I wasn't sir, but—"

"You weren't?"

"No, I—"

"Were you, or weren't you?"

"No, but—"

"Then just what *was* your reason for shoving the Planetary Development man around?"

"I—It was a slur on the service, colonel."

"If you," said Crandall, "had been a civilian on the spaceboat, and seen a junior second lieutenant wrestling with a junior technician to get out the hatch first, what would you have thought of the service?"

The lieutenant's face turned red. He struggled to say something, then merely looked sick.

Crandall added, "There's another little point here you might think about."

"Yes, sir?"

"Planetary Development often uses junior technicians as couriers. Sometimes they carry dangerous chemicals. At other times they carry delicate apparatus. There are occasions when these things are needed in a hurry. It would be natural for a junior technician to forget protocol."

"Yes, sir. I see. But this one—"

"Some small pieces of apparatus," said Crandall thoughtfully, "cost upwards of sixty thousand dollars."

The lieutenant looked totally blank.

The message bell pinged, and Crandall remarked, "At your present rate of pay, it could take you thirty years to pay off the damages. And, of course, it would come under the head of Destroying Government Property. Then there might be enough bad feeling to charge you with Conduct Unbecoming An Officer." Crandall got up and added thoughtfully, "I saw a sixty-year old lieutenant once."

He went over to the transceiver, stripped off the paper, and read:

Matt: I agree with you in principle, but the trouble in slowing things down is that we won't be in position for another drop till thirty days from now. This ore is vitally important back home. We have to send back as much as we can as fast as we can.

Dave.

David L. Paley, Chief, Planetary
Development Authority, Cygnes.

Crandall frowned, thought a moment, then sent:

Dave: If it will be thirty days till the next drop, I see your point. But I still think we should hold some of the suits in reserve in the event of emergency.

Matt.

Matthew Crandall, Colonel, Space Force.

Crandall walked back to his desk and sat down. He observed that the lieutenant looked sick. "Sir," said the lieutenant, "I'm sorry. I should have known better. But this P.D.A. technician—*Was* this technician carrying anything? I didn't see anything, but—"

Crandall shrugged. "We haven't had a damage notice yet. Sometimes an interservice damage complaint takes time to clear through channels."

"Sir, I'm sorry."

"All right," said Crandall. "And remember one more thing when you're tempted to fight with an opposite number on Planetary Development."

"What's that, sir?"

"A pair of pliers," said Crandall, using an argument he had used many times before and found serviceable, "is a useful tool. But take out the little bolt that holds the two halves together, and those two halves, separated, aren't worth much." Crandall leaned back and heard the message bell *ping* again. "Planetary Development," he said, "and the Space Force, are like the two halves of a pair of pliers. You don't want to hurt the co-operation that holds them together. Remember that."

"Yes, sir," said the lieutenant fervently. "I'll remember."

They exchanged salutes. The lieutenant about-faced and left the room. Crandall got up and stripped another message from the transceiver:

Matt: Everything we hold back will be out of action and useless for thirty days. Every operator held out will result in thirty man-days totally and irrevocably lost. They need this ore back home. Please give me your signature on my original plan as soon as possible.

Dave.

Crandall took a deep breath.

The intercom buzzed, and Crandall turned to snap it on.

"Sir," said a voice. "There's a courier from Planetary out here. He's got a Triple-A priority. Should I send him in, sir? Or just the papers?"

"Just the papers."

"Yes, sir."

A tall sergeant brought in a sheaf of papers, and Crandall scanned them carefully. He looked up at the sergeant. "Make out exact duplicates of these papers, but substitute the figure 276 for 300 in this item '300 delGrange suits and 300 operators.' "

"Yes, sir."

Crandall went back to the transceiver.

Dave: I have received your suggested plan. While I agree this would be excellent if we knew more about these new suits and about VI, right now I don't think we should take the risk. Thirty man-days wasted is a serious thing, but what we have at stake is a total of nine thousand man-days. While I agree with you in principle, I can't agree in detail. To save delay, I am having a new set of papers made up, will sign them and send them back with your courier.

Matt.

A brief pause followed, and an answering message came in:

Matt: How many suits are you planning to hold out?

Dave.

Crandall sent:

Dave: Twenty-four. Matt.

The sergeant came in with the revised sheets, and Crandall signed them. The message bell pinged.

Matt: Twenty-four is damned near a fourth of one hundred, or about one-twelfth the whole force. What are you trying to do, hamstring me?

Dave.

Crandall puffed out his cheeks.

Dave: The only prudent thing to do is to reserve at least some small force in the event of emergency. There may be new developments. In thirty days we may need these suits. Twenty-four suits is only eight percent of your total force. This is a very modest reserve.

Matt.

Matt: We aren't fighting a war on VI. What do we have to hold out any "reserve" for? Our only enemies down there are gravity and pressure. What you are asking me to do is to sacrifice three thousand six hundred man-days to satisfy your misplaced military notions. Planetary development isn't war. There is

no enemy down there. There is no need for a reserve. Our job is to get up the ore as fast as we can in as large a quantity as possible. Kindly sign my original papers and send them on immediately.

Dave.

Dave: If I have to sign and share responsibility for an action, I feel entitled to have some share in planning it. If you don't like the word "reserve," call it "safety factor." Whatever you call it, it is only eight percent, and it is a provision that seems vital to me. How can you or anyone else predict that nothing unexpected will happen on VI? I realize you are anxious to get up as much ore as you can. So am I. But if you have to cut potential production slightly to create a workable margin of safety, it seems to me we had better do it.

Matt.

Matt: I don't know how else to get it across to you, so let me tell you a story: Two men in a small town each had a thousand dollars. One put all his in a checking account where he could get at it. The other—just to have a little reserve—put eighty dollars of his money in a savings account where he had to give thirty days notice to get his money out. A chance came up to buy a local business. Both men wanted it, but the man who could put up a thousand dollars cash got it, because he could offer eighty dollars more than the other man. The business prospered. The man who bought it got rich. The other man soon spent what he had, and ended up worthless. All for what? For eight percent held back.

Dave.

Crandall read the last message three times, and loosened his collar.

Dave: I certainly do appreciate your care in explaining it all to me so carefully. Let me just ask you about one little point: What happens if the business goes bust?

Matt.

Matt: Colonel, will you or won't you let me do this thing my way? This is my field, not yours.

Dave.

Dave: It seems to me your field and mine come together at this point. Evidently the people who framed Section 67b thought so, too.

Matt.

Matt: Will you or won't you?

Dave.

Dave: We need twenty-four suits in reserve.

Matt.

Matt: Let me offer one final compromise. I will consent, freely, to hold two—or, if you insist—even up to four of these suits "in reserve." But I positively, definitely, and flatly refuse to keep two dozen of the latest and most advanced delGrange suits floating around in cold storage for a whole month because of your fossilized notion of a military "reserve." This is not a military matter. This is not your field. You are not competent to meddle in it. The signature that you are so concerned about is a mere formality, and Section 67b is well-known to be merely a sop to military pride. Whether things go right or wrong here is up to me, not you. You won't be investigated if things go wrong. I will. But this planet has been checked and rechecked, and this whole affair has been planned with a precision you cannot appreciate. I flatly refuse to jeopardize Earth by doing as you say. Don't intrude where you aren't fitted to operate. I very strongly suggest to you, colonel, that you sign the original papers without further delay.

Dave.

Crandall walked across the room, came back and tapped out an answer:

Dave: I am very sorry that we can't seem to adjust this matter quietly. No doubt you have your reasons, but I have mine, too. I cannot read the intent of Section 67b, or any other part of that section, as any other than what is written there. I have to follow it implicitly, and it is as binding on you as it is on me. I fail to see what enrages you at the thought of keeping eight percent of these mechanical suits as a reserve against emergency. But I cannot fail to observe the meaning of your sentence beginning: "But I positively, definitely, and flatly refuse to keep two dozen of the latest and most advanced delGrange suits . . ." Considering Section 67b, this is not a matter of choice on your part, yet you "flatly refuse" to carry it out. I am sorry, Dave, but you haven't left me a great deal of choice.

Matt.

* * *

Space Force H.Q. Cygnes III to G.H.Q. Space Forces, Terra Staff:

Pursuant Section 67c rpt 67c a State of Emergency is rpt is hereby declared throughout Cygnes System.

Matthew Crandall, Colonel,
Space Force, Commanding.

Space Force H.Q., Cygnes III to Planetary Development H.Q. Cygnes VI m 4 Staff:

You are hereby notified that pursuant to Section 67c rpt 67c, a State of Emergency has been declared throughout Cygnes System.

Matthew Crandall, Colonel,
Space Force, Commanding.

Space Force H.Q., Cygnes III to Planetary Development H.Q. Cygnes VI m 4

Personal: To D. L. Paley, Chief

Sir: You are rpt are hereby required and directed to retain twenty-four rpt twenty-four latest model delGrange mechanical suits as emergency reserve, as outlined in preceding correspondence. You are rpt are hereby warned that failure to do so will be cause for summary suspension from office pursuant to Section 67d. You are hereby directed to state your intention to comply with this order.

Matthew Crandall, Colonel,
Space Force, Commanding.

Planetary Development H. Q. Cygnes VI m 4 to Space Force H.Q., Cygnes III

Personal: To Col. Matthew Crandall.

Sir: I positively, flatly, definitely, and finally refuse rpt REFUSE to obey any order, directive, proclamation or ukase that requires me or any of my organization to hold two dozen of the latest model delGrange suits in a state of futile lassitude while Terra hungers for ore. That is final.

David L. Paley, Chief, Planetary
Development Authority, Cygnes.

* * *

Colonel Matthew Crandall leaned back and studied the message with a sensation almost of suspended animation. He found himself turning the message over to look at the blank reverse side of the sheet. He asked himself what, exactly, was so bad about keeping twenty-four pressure suits in storage for a month? He reread the message, shook his head, and tapped out:

Space Force H.Q., Cygnes III to Planetary Development H.Q. Cygnes VI m 4

Personal: To D. L. Paley

Sir: Pursuant to Section 67d, you are hereby suspended from office.

Matthew Crandall, Colonel,
Space Force, Commanding.

* * *

Space Force H.Q., Cygnes III to Planetary Development H.Q. Cygnes VI m 4 Staff:

Pursuant to Section 67d of the Interservice Code, David L. Paley is rpt is hereby suspended from office. His successor is hereby required and directed to either: a) retain twenty-four rpt twenty-four latest model delGrange mechanical suits as emergency reserve, as outlined in preceding correspondence with D. L. Paley, former Chief; or b) clearly state reasons why this should not be done. His successor is hereby directed to state his intention to comply with this order.

Matthew Crandall, Colonel,
Space Force, Commanding.

Planetary Development H.Q. Cygnes VI m 4 to Space Force H.Q., Cygnes III

Personal: To Col. Matthew Crandall.

Sir: I hereby state my intention to refuse rpt refuse to obey your order to retain twenty-four latest model delGrange suits as "emergency reserve." You are perfectly free to suspend me and choose the next man in line as new Chief. You may, if you want, go all the way down the line in this fashion. Upon inquiring of the person directly under me, I have been informed that all Planetary Development personnel who have expressed an opinion on this topic unanimously resent your high-handed approach to a situation you are incompetent to judge. I advise you to rescind your silly order before you make a complete fool of yourself.

Peyton B. Jones, Acting Chief,
Planetary Development Authority, Cygnes.

Space Force H.Q., Cygnes III to G.H.Q. Space Forces, Terra Staff:

Pursuant Section 68a rpt 68a, martial law is rpt is hereby established throughout Cygnes System.

Matthew Crandall, Colonel,
Space Force, Commanding.

* * *

Space Forces H.Q., Cygnes III to Space Forces Cygnes Staff:

Effective immediately rpt immediately carry out Schedule Three rpt Three, Deployment for Sabotage Control. Any or all Terran or other ships attempting to evade or oppose this order are to be boarded, their personnel confined to locked quarters, and their officers removed and held under guard. Any ship attempting to escape is to be warned, and if it does not promptly submit, you are hereby directly ordered to destroy rpt destroy it.

Matthew Crandall, Colonel,
Space Force, Commanding.

Planetary Development H.Q. Cygnes VI m 4 to Space Force H.Q., Cygnes III

Personal: To Col. Matthew Crandall.

Matt: Good God are you out of your head? You can't shoot at our men. This is just a jurisdictional matter. You don't understand. Try and be reasonable. The press will have your head if you start any shooting.

David L.. Paley, Chief (Suspended),
Planetary Development Authority, Cygnes.

Space Force H.Q., Cygnes III to Planetary Development H.Q., Cygnes VI m 4 Staff:

You are hereby notified that pursuant to Section 68a, martial law has been established throughout Cygnes System. Pursuant to Section 67d, Peyton B. Jones is rpt is hereby suspended from office. His successor's name is to be sent to Space Force H.Q., Cygnes III, immediately.

Matthew Crandall, Colonel,
Space Force, Commanding.

Planetary Development H.Q., Cygnes VI m 4 to Space Force H.Q., Cygnes III Staff:

John R. Hennings is successor to Peyton B. Jones.

Space Force H.Q., Cygnes III to Planetary Development H.Q. Cygnes VI m 4

Personal: To J. R. Hennings, Chief.

Sir: You are hereby authorized and directed to fully acquaint yourself with the messages passed between your two previous superiors and myself regarding latest model delGrange mechanical suits en route from Purth, due 01-23-2212, and especially regarding retention of twenty-four rpt twenty-four of those suits as emergency reserve.

You are hereby directed to inform me of any reason why these suits cannot be retained as emergency reserve, or of any reason why, in your opinion, such retention would be disastrous or dangerous. My intention is to order you to hold twenty-four of these suits in reserve if you do not give any logical and satisfactory reason why this should not be done.

In present circumstances, your refusal to carry out such a direct order would result in immediate trial by military court. You would be accused of attempting to block by your disobedience the extraction of vital ore from Cygnes VI, thus endangering the security of the race. The formal charge would therefore be treason. The punishment if found guilty will be death.

Matthew Crandall, Colonel,
Space Force, Commanding.

Planetary Development H.Q., Cygnes VI m 4 to Space Force H.Q., Cygnes III

Personal: To Col. Matthew Crandall.

Sir: I see no reason why retention of such a reserve would be disastrous or dangerous, unless it cut down ore production sufficiently to produce a dangerous shortage. I will of course obey your orders to the best of my ability.

John R. Hennings, Acting Chief,
Planetary Development, Cygnes.

* * *

Later in the day, Crandall received a damage claim against the lieutenant for:

1 pipet, 25 ml., smashed \$2.75.

Crandall took the time to pay it out of his own pocket, saying nothing to the lieutenant. Then he got back to work.

He spent an hour carefully going back over the successive messages. Try as he might, he could not see what had gone wrong, or spot any single place where it happened. Things just seemed to pile up with no sensible reason. Then he began to notice sentences here and there in the Planetary Development messages:

"This ore is vitally important back home."

"Everything we hold back will be out of action and useless for thirty days."

"How many units are you planning to hold out?"

"Twenty-four is damned near a fourth of a hundred, or about one-twelfth the whole force. What are you trying to do, hamstringing me?"

"What you are asking me to do is to sacrifice three thousand six hundred man-days to satisfy your misplaced military notions."

"I flatly refuse to jeopardize Earth by doing as you say."

Two more lines popped out, from Paley's jittery last message:

"This is just a jurisdictional matter."

"The press will have your head if you start any shooting."

Crandall squinted hard at this last sentence. How, he asked himself, had the press gotten into this already? He looked up as an unpleasant possibility began to form in his mind.

Just then, the message bell rang:

G.H.Q. Space Force H.Q., Terra to Space Force H.Q., Cygnes III

Personal: To Col. Matthew Crandall.

Would you mind telling us exactly what is going on out there?

G. C. Davis, General, Chief of Staff.

* * *

Crandall relayed the entire correspondence from beginning to end to G.H.Q. on Terra. Before this had time to reach Terra, Crandall received a second message:

G.H.Q. Space Forces, Terra to Space Force H.Q., Cygnes III

Personal: To Col. Matthew Crandall.

We now have a three-ring circus and medicine show in operation here. Planetary Development G.H.Q. is handing out generalities about military callousness, waste, and stupidity, and they have scheduled a mammoth press conference for tomorrow. Unless you would like to spend the rest of your life plotting asteroid maps, you had better send us full and complete information and get it here well before the press conference opens.

G. C. Davis, General, Chief of Staff.

* * *

Crandall immediately sent a series of specially scrambled queries to staff officers he knew on Terra. When he had finished, the message bell pinged, and the transceiver unrolled a brief message:
T.S.F. Corvette Lightning Bug to Space Force H.Q., Cygnes III Staff:

Planetary Development Communication Ship Flash disobeyed order to end transmission as per Schedule Three rpt Three. I at once carried out Radio Subrelay Jamming Directive, and have also boarded Flash, confined crew, arrested and removed officers.

L. S. Daniels, 1st Lieut.,
Space Force, Commanding.

* * *

Crandall promptly sent L. S. Daniels, 1st Lieut., his personal commendation. Then the transceiver went into operation again:
G.H.Q. Space Forces, Terra to Space Force H.Q., Cygnes III

Personal: To Col. Matthew Crandall:

We have received your long message here, and while I do not claim to have digested it all, I think I see what happened, and I imagine you see it too by now. It is all very neat, smooth, and nicely put together, with a strong spring and good sharp teeth in it, like a bear trap under the leaves. I fail to see what else you could have done that would not have compromised our security. But I don't know if that is going to help or not. I will not try to advise you at this distance, except in generalities: 1) Don't worry about us at this end; we will cover you and keep the avalanche off your head as long as possible, 2) Waste no time thinking about the unpleasant possibilities; keep your mind working on the pressing details. 3) This may seem a little hackneyed, but I would advise you to take a few moments and pray.

G. C. Davis, General, Chief of Staff.

* * *

Crandall thought it over, and took a few moments for fervent prayer. Then the bell pinged, and a number of freshly unscrambled messages came in, in reply to his queries. Most of these messages were signed by staff officers and were headed "G.H.Q. Space Forces, Terra."

They went on to say:

Matt: Regarding the new delGrange pressure suit—it must be a classified Planetary Development exclusive. We have nothing solid on it, just rumors. If there's any reason why some of the suits can't be held in hand as a reserve, Paley should have given you the reason. We don't know enough about it to say one way or the other. On the other hand, of course, Paley or his successor can stand you off indefinitely by looking virtuous and saying "Classified." All that we can say back here is, we wish you luck.

Matt: You're right, and the Chief did perhaps put a little bit of a squeeze on our friends here in the sister service a few weeks ago. I know we should never underestimate our friends. But this business you describe shows such fast reactions, and such slick knife work, that I just can't believe it. Are you sure this isn't a misunderstanding?

Matt: We have dug up Paley's record for you. Also those of his top aides. The aides are more or less

conventional. But here are some points on Paley: Graduated cum laude. Major: Business administration. Minor: Renaissance history. Joined P.D.A young and rose fast. A number of interesting articles published in historical journals. Example: "The living influence of Machiavelli in Post-Renaissance Italy." Paley's nickname in college: "The Op." Paley's favorite game: Go. Has high efficiency rating and said to be fanatically loyal to P.D.A. Many minor brushes with military while in lower positions, but none later on. At least none recorded.

Matt: Press reaction here violent. Newspapers, magazines, radio, trideo, solideo, and 6-V are booming versions of two stories: a) You have shot your opposite number and are running Cygnes as a military dictator. b) Planetary Development tried to seize Cygnes with new secret weapons, and you are now locked in last ditch death struggle to save Cygnes for Earth. Hard to say whether you're villain or hero, but you're notorious, anyway.

* * *

Crandall studied the messages carefully and gloomily, then checked to make sure the rigorous routines of martial law were being carried out. He ate, thought over the whole matter, then fell into an exhausted sleep. In his dreams he was a young second lieutenant, and a brisk colonel was saying to him, "Never fight with your opposite number, lieutenant. The Space Force and Planetary Development are just like two halves of a pair of pliers; you have to take care of that little bolt of mutual trust and co-operation that joins them together. Never fight with your opposite number, lieutenant. The Space Force and Planetary Development are just like two halves of a pair of pliers; you have to take care of that little bolt of mutual trust and co-operation that joins them together. Never fight with your opposite number, lieutenant—"

Crandall woke up with a headache and a general feeling of fuzziness. The first news he received was that the latest model delGrange mechanical suits had arrived from Purth during the night. The next news was that the operators had arrived from Szalesh in the early morning, had put on the suits, and practiced in them. Immediately afterward, he received a message:

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Planetary Development H.Q. Cygnes VI m 4 to Space Force H.Q., Cygnes III Personal: To Col. Matthew Crandall.

Sir: At 0630 TCT this morning, I sent down to Cygnes VI the reduced force of delGrange mechanicals with their operators. In obedience to your orders, I have, as you require, held back from the mining operation a full two dozen . . . twenty-four . . . latest model delGrange mechanicals along with over seven dozen operators. These tremendous machines and their highly trained operators cannot, as we informed you time and again prior to your imposition of martial law, take part in the mining operations for over four weeks more. Because of your order, these huge engines and their skilled operators must now be held idle at tremendous expense to the taxpayers.

While I certainly don't desire that I or any of the Planetary Development organization be shot dead for saying so, still I would very respectfully like to make, sir, a suggestion. Perhaps, sir, you did not create this terrific waste intentionally, but were misled into causing this expense by the temptation to activate the obsolete Sections 67 and 68 of the Interservice Code. I say this, sir, with no intention or desire to be shot for treason for making the suggestion, but because—logically, sir—I think you should somehow come to realize fully just what damage these Sections 67 and 68 are doing to Terra.

Obediently,

John R. Hennings, Acting Chief,
Planetary Development, Cygnes.

* * *

Crandall read this over three times. Hitherto, the new delGrange devices were "suits," now they

were "mechanicals," "huge engines," "tremendous machines." Crandall looked hard at various parts of the message, checked this one with previous messages, then tapped out:
Space Force H.Q., Cygnes III to Special Service Command Staff:

Unpack and set up immediately one (1) gallows, portable, M12, using the nearest plot of ground convenient to H.Q. prisoner detention area.

Matthew Crandall, Space Force, Commanding.

* * *

Space Force H.Q., Cygnes III to Planetary Development H.Q. Cygnes VI m 4 Staff:

Pursuant to Section 67d, John R. Hennings is rpt is hereby suspended from office. His successor's name is to be sent immediately to Space Force H.Q., Cygnes III.

Matthew Crandall, Colonel,
Space Force, Commanding.

Space Force H.Q., Cygnes III to T. S. F. Cruiser *Vengeance* Staff:

The following personnel are to be placed under arrest and delivered to H.Q. prisoner detention area:

- 1) David L. Paley
- 2) Peyton B. Jones
- 3) John R. Hennings

These men are to be held separately under close guard. They are not rpt not to be allowed to communicate with each other, or with outsiders. They may, if they so request, receive religious guidance and counsel from chaplains of their own faith.

Matthew Crandall, Colonel,
Space Force, Commanding.

Planetary Development H.Q. Cygnes VI m 4 to Space Force H.Q., Cygnes III Staff:

James L. Buzzel is successor to John R. Hennings.

Space Force H.Q., Cygnes III to Planetary Development H.Q. Cygnes VI m 4

Personal: To J. L. Buzzel.

Sir: You are hereby required and directed to immediately prepare for inspection one rpt one latest model delGrange mechanical suit.

Matthew Crandall, Colonel,
Space Force, Commanding.

Space Force H.Q., Cygnes III to Special Services Command Staff:
Obtain the names of the next-of-kin of the following:

- 1) David L. Paley
- 2) Peyton B. Jones

3) John R. Hennings

Forward these names to this office as soon as possible.

Matthew Crandall, Colonel,
Space Force, Commanding.

* * *

Crandall pulled out a handkerchief and mopped his forehead. He ordered a light scout spacer gotten ready, then turned as the message bell pinged again. He read:

G.H.Q. Space Forces, Terra to Space Force H.Q., Cygnes III Personal: To Col. Matthew Crandall.

For your information, we have learned that Planetary Development G.H.Q. is readying bill to strike out Sections 67 rpt 67 and 68 rpt 68, and replace same with new sections placing Planetary Development Authority in charge of Space Force in order to quote eliminate confusion end-quote.

G. C. Davis, General, Chief of Staff.

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The intercom buzzed and Crandall flipped it on.

"Your ship's ready, sir."

Crandall boarded the spacer. Several times on the trip to Planetary Development H.Q., he found himself wondering whether asteroid plotting would be such a bad life after all. He forced his mind back to reality, then was interrupted by a startled grunt from the pilot.

Crandall looked up. "Now what?"

"Look at the upper right of the screen, sir. Coming into view as we turn."

Crandall bent forward and looked at the upper right section of the screen. He saw what looked like a huge spindly webwork, interspersed with big shiny rectangular blocks. As the ship turned, more and more of this web came into view, till it filled the screen from right to left and top to bottom.

"What in space," said Crandall, "is that?"

"I don't know, sir."

Crandall and the pilot sat, squinting, each man turning his head to different angles, trying to reduce the monstrosity to some familiar pattern. Abruptly the pilot switched on his microphone and began barking queries. He blinked, scratched his head, and turned to Crandall.

"Sir, Planetary says that mess is 'one dozen mechanical suits.' There's another dozen around the other side of the base."

Crandall let his breath out with a hiss. He fastened his gaze on one of the long strands of the web. Close observation showed at intervals what appeared to be joints, and on the underside of the thing, a row of sharp metal teeth. Crandall traced along the arm to a thing like a shiny boxcar. From this boxcar stretched thick cables that twined like long metal snakes. Crandall leaned forward and enlarged the scene. From one end of the boxcar jutted a thick bar bearing a flat base with a curved transparent cover. Inside the cover, grids, loops, and V's turned listlessly. A big gray crate was fastened by loose cables to the end of the boxcar.

Crandall readjusted the focus of the screen for an overall view. There were many of these floating boxcars and crates. When he counted them, he found a dozen of each. They were all inter-tangled. The teeth on jointed arms had hooked cables, the cables were caught around the short bars between boxcars and housings, and eccentrically-attached conveyer belts floated loose and free from the boxcars, tangled at random with long metal arms, cables, and each other. The whole mass wavered and rippled with a slow motion, like seaweed under water.

"Sir," said the pilot, "there goes one of their dock-you ships."

"Their what?"

"Dock-you . . . Documentary ships, sir. They make surveys on new planets, take before and after

pictures, and so on. Funny to see one out here."

Crandall studied the documentary ship with narrowed eyes. The ship raced forward, slowed with a blast of rockets, lit with winking flashes of light—presumably a signal that it was taking pictures—then darted up, slowed, eased back and forth, and lit with more flashes of light. It rushed off to a new position.

"Sir," said the pilot, "they're sending up the technicians."

"Tell them," said Crandall, "that I want to see Buzzel, too."

Crandall boarded the Planetary Development ship with the feelings of an explorer starting across a swampy tract where the bog grass stands in clumps amidst sinkholes of bottomless muck. Buzzel, on his part, greeted Crandall with the calculating wariness of a zoologist transferring a captured hornet to the cyanide bottle. The two went to a small conference room, and opened a conversation that circled in gingerly from the general to the particular, till Buzzel asked:

"Why did you have to hold two *dozen* of them?"

"Why wasn't I told they were so big?"

Buzzel gave a spare smile. "Classified."

"What," said Crandall, "will you do if something *does* go wrong down there?"

"What could?"

Crandall shook his head, as if to brush away a swarm of gnats. "Suit failure," he said. "The breakdown of one small part in any vital place. Or psychological difficulties on the part of the operator."

Buzzel frowned, then said positively, "Those suits are mechanically and electronically perfect. DelGrange assembled them and tested them himself in conditions comparable to those here on Cygnes VI." Buzzel relaxed. "What more could you ask?"

"A test on the spot," said Crandall. He scowled. "How do you get those suits down through VI's atmosphere without burning them up?"

Buzzel gave his spare smile. "Classified."

Crandall felt his collar get tight.

Buzzel raised a hand and said cautiously, "I don't mean this offensively, but I think it ought to be said. You have your job. We have ours. I wouldn't presume to advise you in carrying out a fleet action. How do you suppose it makes us feel to have the military riding herd over us in our job?"

"The occupation of any new planet," said Crandall harshly, "involves risk and uncertainty. The Space Force is geared to act fast and strike hard in the event of trouble. Planetary Development is geared to make the most of a stable, predictable situation. When we make the first sizable landing on a new planet, we don't know *what* the situation is going to be. That's why we're both concerned. It's as much my job as yours."

"But under Sections 67 and 68, *you* have the final say." Buzzel frowned. "The evaluation of the situation properly belongs to *us*."

Crandall shut his eyes and took a deep breath. "That's beside the point. Sections 67 and 68 *are already law*. If we aren't to have chaos, we have to obey the law. If you want a change, all right. But this isn't the time or the place to make propaganda for it."

Buzzel looked at Crandall with something approaching compassion. "Even if you know you're right, how do you rouse popular support for your side without a striking incident? If the law forbids you to make the incident, how do you ever get a change so long as you obey the law?"

Crandall studied the tabletop as Buzzel went on. "I don't have any thing against you personally, Colonel. I'm sorry if anyone gets hurt, but the principle involved outweighs personalities. Paley could explain this to you much better than I, but I'll try. Let me tell you a little history. The first concern of man used to be food. The hunter was paramount. Then tribes and nations arose, and there were battles between them. The warrior was paramount. That day, colonel, has faded into the day of science. The most important concerns have become, not military, but scientific. Today, the scientist is paramount."

Buzzel hesitated. "Paley could explain this much better than I. I used to accept Sections 67 and 68 as just ordinary aggravating routine. Now I can see that those sections are fossilized structures that we have to get rid of."

Crandall said, "Which is higher, Buzzel, the brain, or the spinal cord?"

"The brain, of course."

Crandall nodded. "Which is superior, a fully organized thought, or a reflex?"

Buzzel frowned. "A fully organized thought. What are you driving at?"

"As man developed," said Crandall, "did he subordinate everything to his brain? Did he subjugate all the mechanisms that went before to this latest and best one? If somebody slings a brick in your face, which has precedence, a calm, orderly estimate of all aspects of the situation, or a quick duck?"

Buzzel looked steadily at Crandall. "All right. But what does that have to do with *this* situation? There's no danger here."

Crandall said, "If a man looks at a python through two-inch glass, and the python strikes at him, will the man stand still, smiling, or will he jump? The reflex gives him the advantage of fast action in the event of danger. The disadvantage is, he may act fast and waste energy when there's no real danger. But it has to be that way. Otherwise the reflex would have to stop and consult the brain, which would take twenty or thirty seconds to hand down a judgment on whether the python was really dangerous or only seemed to be. The man could be pulp by that time."

Buzzel stared at the opposite wall. "I see what you mean. A simple mechanism may have precedence over a higher one. But how—Where does this fit in here?"

"Put the planet in the place of the python," said Crandall, "and substitute the human race for the man looking at the snake. You're part of the brain, and I'm part of the reflex arc. Now you tell me not to send the impulse to jump. What you say to me is 'Don't do your job. *This* python isn't dangerous.' Just how do you expect me to react?"

Buzzel bit his lip, looked down at the table, and frowned.

"You see," said Crandall, "the irritation of jumping when you don't need to is the price you pay for moving fast when it's jump or die. Anyone who succeeds in changing Section 67 and 68 saves a good deal of friction and irritation. And when the right situation turns up, humanity will stand there thinking things over till the python gets a good grip and starts snapping ribs."

Buzzel took a deep breath and looked up. In a low voice, he said, "The planet has been thoroughly researched. There's no danger there."

"So be it," said Crandall. "But I am going to do my job."

Buzzel frowned, and stared at the opposite wall. "Yes," he said, "and I have to do mine." He shook himself and pushed back his chair. Conversationally, he added. "There's no danger in this."

There was a moment's silence as Crandall frowned, studying Buzzel's reactions, and wondering why Buzzel said over and over. "There's no danger. There's no danger here."

The moment stretched out into a long silence while neither man moved.

The ship jumped like a can hit by an iron bat. The metal walls rang like the sides of a bell.

Table and chairs jolted with a snap of bolts and slid.

Crandall and Buzzel flew sidewise, grabbed wildly for support, and slammed half-bent on the steel deck.

Violent acceleration piled them in a corner. Sharp deceleration slid them to the other end of the room. Crandall fended off a chair. The table tipped over and landed on Buzzel. The door opened and a ship's officer glanced in. "You all right, sir?"

Buzzel heaved the table off his chest. Crandall shoved the chair back, got up, and helped Buzzel to his feet. Buzzel looked at the ship's officer, who slowly congealed into a posture of attention. Crandall watched approvingly as Buzzel spat out words like bullets out of gun:

"What was that?"

"S-Sir, one of those things swung an arm around and—"

"One of what things?"

"One of those . . . one of . . . One of those suits, sir."

"It did what?"

"Swung an arm around and hit the ship under a drive tube. It—The suit's letting itself loose from the others right now, sir."

Buzzel looked as if he'd been hit over the head with a club. "That's preposterous. It couldn't—" He cut himself off.

Crandall said, "Where's the viewscreen?"

The ship's officer tore his gaze from Buzzel, stared dully at Crandall, stiffened, and said: "Just down here, sir."

Crandall and Buzzel followed the officer down a corridor and through a doorway.

On the screen, one of the shiny boxcars was moving in the center of a mass of writhing snaky limbs. The limbs untangled themselves from the others, the big gray crate above the boxcar drew its cables tight, and the whole thing started to pull loose from the rest. It was moving in toward Cygnes VI.

Buzzel said, "That can't—" He whirled toward the ship's officer. "Get in touch with Base. Have them make a roll call of suit operators." He glanced at the screen. The huge boxcar was gathering headway. Buzzel bit his lip. "No. Don't. Too slow." he glanced around. His hands opened and closed.

Crandall said, "Is that suit equipped with a radio?"

"Yes. The operators can talk to each other. But not on any of our wave lengths."

Crandall glanced at the suit, then at the ship's officer. "Can you get in touch with my pilot?"

"Yes, sir."

Crandall turned to Buzzel. "Am I right? Does this mean something a lot worse than the theft of a suit?"

"I don't know," said Buzzel. "If it's that, it's bad enough. But—" Buzzel hesitated. "Yes. It could mean something a lot worse."

The ship's officer handed Crandall a headset. Crandall heard his pilot say, "Sir? Hello?"

Crandall said, "Do you see that floating tangle of boxes and cables? Do you see that one that just cut itself loose?"

"Yes, sir."

"Swoop in front of it once or twice, and try to signal it to stop. If it doesn't, fire a light missile so it strikes the front of that gray crate that's doing the pulling." Crandall covered the microphone and turned to Buzzel. "Or is that too dangerous?"

"No," said Buzzel in a dreary voice. "It'll wreck twenty million dollars worth of equipment, but—No. I'm right with you."

On the screen, the scout spacer dove in front of the delGrange suit. The suit swung in a fast arc—arms, cables, and conveyor belt flailing out behind—and dove on the spacer. The spacer swung back in a tight fast loop and hung in place behind the suit.

The pilot's voice spoke in the earphones. "Releasing missile."

The delGrange suit swerved, climbed, and streaked for Cygnes VI. A thin bright line curved around its side and came back. There was a flash of white light. The suit raced on at constant speed, the wreckage of the crate drifting back to tangle the boxcar.

Crandall glanced at Buzzel. "Was that crate the only source of power?"

Buzzel hesitated. "No," he said, "there's an internal source for the limbs and the conveyor. But there's no other drive."

Crandall glanced back at the screen and roughly guessed at the suit's speed and course. He turned to the ship's officer and asked him to work out a more exact estimate, then he snapped on the communications screen.

The pilot's voice spoke in Crandall's ear. "Sir, I could swing in and try to get a tow cable on that thing."

"No," said Crandall, "Just keep it in sight."

Crandall got the cruiser *Vengeance* on the communications screen.

"Is *Monitor* on station near VI?"

"Yes, sir."

"I want you to put her on an interception course." Crandall turned to the ship's officer, who read off estimated course and speed of the delGrange suit. Crandall glanced back at the communications screen. "Can you do it?"

"Yes, sir. *Monitor's* near at hand."

"How long will it take?"

"About an hour, sir."

"Fine," said Crandall. "Thank you." He snapped off the screen, and glanced at Buzzel.

"Maybe we should talk things over again."

* * *

Crandall and Buzzel stared at each other across the table in the little conference room.

Buzzel said, "Maybe we're going to get cracked ribs here after all."

"What's happened?"

"There are just two alternatives. Either that suit flew off by itself, in which case we've got the chance of a terrific mess, or else one of the suit operators stole it. And that opens up possibilities almost as bad."

"Why?"

"The operators are picked for certain outstanding traits. Intelligence isn't the most important of these, but the operators can't be fools, either. The suits are worth, roughly, half-a-billion apiece. But to try to steal one for money, a man would need the mentality of a cretin."

Crandall nodded.

"All right," said Buzzel. "Grant that the operator has the sense to see he'll never get out away from Cygnes without being spotted and stopped. Why *else* should he try to get away with a suit?"

Crandall scowled, and Buzzel fidgeted. Crandall said, "My purpose in coming out here was to examine one of those suits. Now there isn't time. Have *you* looked one of them over yet?"

Buzzel said, "I operated one this morning."

"What was it like?"

"You put on a suit of tight, close-fitting skin, go in through an air lock, and lie down in a special form-fitting seat. A capsule comes down over the seat. A very soft cap fits over your nose and mouth, and fine needles pierce your arteries and veins. The capsule fills with a warm liquid, and oxygen comes through a hose to the cap at your mouth. A nutrient solution and certain drugs pass through the needles."

Buzzel shivered. "Bodily activity drops to a minimum. The operator floats in this soft, close capsule. Through a series of highly sensitive mutual inductances, information—in the form of sensation concerning the position of the limbs of the delGrange suit—is relayed to his brain. This principle is carried through elaborately. If someone applies light pressure, or a mild corrosive, to the exterior skin of the suit, it feels like an itching sensation. More pressure gives the effect of a pinch. Strong pressures or corrosion produces severe pain. The operator loses awareness of his body. He comes to sense *the delGrange suit* as his body."

Buzzel added, "The trouble is, one of the most important qualifications for an operator is his ability to identify with the machine he operates. Some people are fascinated by machines. Ground cars, airplanes, spacers—away back in history they rode horses as if they and the horse were one. Put a splendid horse out in the yard and tell one of these people he can't touch it—"

Crandall nodded thoughtfully.

"Always in the past," said Buzzel, "we've had trouble with operator fatigue. Sooner or later it

disrupts the identification. But delGrange is a perfectionist." Buzzel moodily studied his fingernails. "What we seem to have here is the maximum of identification with the minimum of operator fatigue. The cyberneticists spotted it this morning, and they and Paley had a small war over it. I stuck with Paley. So did the rest of Administration."

"But" said Crandall, "now that an operator has come and tried to make off with one of the suits—"

Buzzel nodded drearily. "Maybe the cyberneticists had something."

Crandall sat back.

Buzzel said, "Picture what may come about thirty days from now. All that time the operators' identification with the suits will be increasing. Suit failure is practically nil. Then, all of a sudden, they're supposed to come up, and get out of the suits." Buzzel put the fingernails of one hand in his mouth and bit down.

"How long," said Crandall, "can they last if they don't come up?"

"Fifty days at most. That is, fifty days, all told."

"Twenty days more after the thirty are up?"

"At best. The suits ought to be restocked every thirty days." Buzzel took a deep breath. "There could be," he said, "a hundred and fifty billion dollars worth of equipment sitting around down there two months from now with dead men inside of it." He pulled out a handkerchief and wiped his forehead.

Crandall looked up at the ceiling. "Whoever happens to be in charge of Planetary Development here when that happens will get strung up by the heels, I imagine?"

Buzzel said, "The publicity could be terrible." He looked around uneasily. "There would have to be a scapegoat."

Crandall felt his mouth start to bend up cheerfully at the corners, and blanked his face. He glanced at his watch. "You'd better tell me in detail what one of those mechanical suits can do. Then we'd better get back to the control room."

The *Monitor*, a black spherical mass at the center of a giant spoked wheel, swung up onto the screen from below. Six squat tugs were spaced around the rim of the huge wheel, faced against the direction of motion, their rockets blazing as they struggled to brake the massive ship.

Crandall spoke to the *Monitor's* commanding officer. "Do you see that thing like a big steel box with a shallow glass cup on one end?"

"Yes, sir."

"As you can see, it is going to fall into an orbit around Cygnes VI, dip in closer, and burn up in the atmosphere. We have to stop it."

"Yes, sir."

"Unfortunately," said Crandall, "it's equipped with drills, breakers, pile drivers, power crushers, and similar equipment, either recessed in the body of the thing or at the tips of those arms attached to it."

The eyes of *Monitor's* commanding officer narrowed to slits as he glanced aside at his own viewscreen. "Any guns on the thing?"

Crandall glanced at Buzzel, then back at the officer. "No. But if it got close enough to drill a hole in your hull, it could pack it with atomite and set it off, all in about three-tenths of a second. I imagine that would be just as good."

The officer glanced from his viewscreen back to Crandall. "Sir, you let me yank a few of those arms out by the roots and we'll have an easier time of it."

Crandall turned to Buzzel, who looked pale and sick. Buzzel made half-a-dozen objections before Crandall could cut him off. "No good," said Crandall, glancing back to the officer. "You might let the air out. That could kill the operator."

"Sir, if he won't obey orders—"

"We want some information he's got."

"Oh. Well—Suppose I can snap off a few of those arms about half-way down. The tools are in the

ends, aren't they?"

Crandall looked at Buzzel. Buzzel gave a weak nod.

"If you can do it," said Crandall. "But the main idea is to see to it that that thing doesn't go on down toward VI. And we want the operator alive, if possible."

"Yes, sir."

"If you can disable it so we can get in and get the operator out, so much the better. But the main point is—keep it away from VI. And look out for it. It may move faster than you expect once it gets hold of something."

The officer's lips drew back, showing large white teeth. "Don't worry, sir. We'll take care of it." He saluted and stepped out of range of the communications screen. Crandall switched his gaze to the viewscreen showing the delGrange suit and the *Monitor* swinging up from below.

A muffled volley of orders came from the direction of the communications screen. Two of the six tugs spaced around the rim of *Monitor's* drive wheel detached themselves and darted away. The other four moved to again space themselves evenly around the rim. The *Monitor* slowly swung toward the delGrange suit. The suit reached out with several of its long flexible arms and cut loose the cables holding the wreckage of its propulsion unit.

From overhead, a tug drifted down trailing a long cable.

The suit put out a long flexible arm and spun it rapidly clockwise. The suit itself slowly turned counterclockwise, bringing the jointed, saw-edged arm around toward the passing cable, and yanked it in. Snakelike flexible arms reached out, gripped the cable and hauled back hard. The suit ran up the cable like a spider up its thread.

A roar of oaths and orders burst from the communicator. The tug hauling the cable cut loose and dove in a blaze of rockets. The suit arrived at the end of the cable holding out a set of jointed toothy jaws like scrapers on a power shovel. From overhead, the other tug dove, and clamped on to the opposite end of the line. The suit switched holds and went flailing up the line toward the second tug.

Buzzel suddenly sucked in his breath, whacked the keys on the frequency control, and grabbed for the microphone. Crandall jerked his gaze from the suit, and saw the documentary ship jockeying around in the background for a better view. Crandall leaned forward, reached out as if to steady himself, and put his hand squarely on the frequency control, changing the setting. Buzzel grabbed Crandall's hand, reset the control, and began barking orders into the microphone. Crandall made another grab in the air as if to recover his balance, then straightened, relaxed, and saw tug number two hastily let go the line as the latest model delGrange suit arrived at the end poising a big oversized drill.

Buzzel's voice, snapping orders for the dock-you ship, came to Crandall's ears, and Crandall switched his attention rapidly back and forth noting both the frenzied stream of Buzzel's orders, and the delGrange suit, now hurtling down the line toward tug number one, which had again taken hold the opposite end of the line.

In the background, the front end of the dock-you ship lit up in a brilliant display of flashing lights which, Crandall hoped, signified that a large footage of documentary film was now being taken. Crandall permitted himself the luxury of visualizing for a moment a dim room packed with cabinet officers, members of Congress, sedately smiling Space Force officers, and Planetary Development officials with bottles of sedative sticking out their pockets. On a large screen at the front of the room was the projected legend:

HALF-BILLION DOLLAR
PDA MACHINE
GOES WILD
OFF CYGNES VI

Buzzel abruptly cut himself off. In a bewildered voice, he said, "They're taking them *anyway*—" He sucked in his breath. Crandall, out of the corner of his eye, saw Buzzel give a light yank on the

microphone cord. The already unplugged end jumped out from between some switches and fell on the floor.

On the screen, the delGrange suit was now scrambling wildly up the cable, brandishing drills, claws, and jackhammers. On *Monitor*, a squat black cylinder was rising up out of the central sphere. In the background, getting it all down on film, the dock-you ship flashed its lights.

Buzzel made a strangling sound. Crandall whirled. "Something wrong?"

"You . . . You—" Buzzel grabbed the plug. Crandall lost his balance again, hit the frequency control, then said, "Look on the screen!"

The suit, a long thin extension wrapped around a ringbolt on one of the tugs, clung and hauled itself in as the tug put on rapid bursts of power to break free. A second long extension reached out and gripped the tug. The tug went into a fast dive, then swung up and around with the suit pulling steadily nearer and easing its drill closer and closer to the ship.

Crandall and Buzzel looked on, speechless.

In the background, the dock-you ship moved around to get a better angle.

From the direction of the *Monitor* burst tiny streaks of light. The second tug swung down near the first, and the two straightened into a flat run past *Monitor*; the suit got its drill near the tug, and hitched itself closer. The drill slid ahead once again.

The tiny streaks of light swung down fast into the tangle of suit and tug. The suit jerked, spun around, hauled toward the tug, broke loose, and floated in free space, two of the flexible limbs dangling from their attachments, the rest wrapped tightly around the upper part of the suit.

A third tug joined the other two, trailing a three-cornered cargo net. The tugs clamped the net, dove on the suit, and caught it in the center. One of the tugs folded a corner of the net around the suit, swung up from below, clamped that corner to the opposite side of the net, and let go. The suit sprawled loosely inside the net, as motionless and inactive as a cargo crate being transshipped in space. Various limbs and power tools trailed out through the net to the rear.

Crandall watched the suit closely, then turned to Buzzel.

Buzzel was staring at the screen, the microphone dangling forgotten at his side. He blinked, took a slow breath, and looked at Crandall. "Shock," he said. "The operator's in a state of shock. He's got the equivalent of two broken arms." Buzzel looked back at the screen. "Well, now we can get him out of there and—"

The documentary ship swung around for a long-distance shot of the two tugs carrying off the inert latest model delGrange suit. Buzzel let out an angry growl, lunged forward with the wire and plug, and roared orders into the microphone.

An alien hiss and cackle burst from the speaker. Buzzel blinked his eyes rapidly. Crandall leaned forward and stared at the frequency setting.

"Sir," said the voice of the *Monitor*'s commanding officer "we've got the thing. Now what do we do with it?"

Crandall glanced around. "Just have those two tugs stand by with it." He turned to Buzzel. "Is there some reason you want that ship with lights taken out of there?"

Buzzel was looking at Crandall the way a hungry soldier looks at a ration that has bits of rock in it. "Yes," Buzzel said, "Yes, I do want it taken out of there and I want the film impounded. And now if you'll kindly let go the microphone cord, and keep your hands off the frequency setting, I will order just exactly that."

"No trouble at all," said Crandall courteously. He turned to the *Monitor*'s officer on the screen. "Take that documentary ship into custody. Get it out of here and down to Space Force H.Q. Impound the film. But take good care of it. Don't damage it. And treat all the personnel with proper courtesy."

The officer gave a wolfish grin. "Yes, sir." He turned away and barked out orders.

Crandall thought it well to leave the Planetary Development ship shortly afterward.

* * *

The two days of the arrival and descent to Cygnes VI of the delGrange suits and their operators had seemed to Crandall as long as several ordinary weeks. The following few weeks seemed to take years in passing, as the avalanche of criticism got past the Chief of Staff on Terra and broke on Crandall's head.

At the same time that violent demands were being forwarded from all branches of the government, Crandall had to deal with innumerable petty crises caused by the daily routines of martial law. Through this, Crandall clung grimly to the awareness that two hundred and eighty-six men would die if they did not leave their suits on schedule. A parade of specialists passed through Crandall's office to testify to this and other facts. Where the facts were concerned, the specialists generally agreed unanimously. Where interpretation and prediction based on the facts were concerned, the specialists generally disagreed unanimously.

The trouble, Crandall told himself, was that this had never happened before, so no one knew how to weigh the factors involved. Once it had happened, it would all be explained, and everything would be obvious. Right now it was another matter, and no one knew how it would turn out.

One of the most certain on this matter of not knowing was Buzzel, who formally requested Crandall to release Paley. Buzzel insisted that he, himself, was not fitted to handle the job. Paley's superior intellect, his swift reactions, his long experience and meritorious service—all argued that he, not Buzzel, should have the opportunity of dealing with the situation.

Crandall was inclined to agree. He had Paley brought up for an interview, while a phalanx of guards waited outside the door. As Crandall told Buzzel, it all depended on whether or not Paley would co-operate. Noting Paley's expression, Crandall thought that the prospects were not inviting.

"Well," said Paley, "do I stand at attention? Should I salute? What happens next? Where am I, anyway?"

"From your point of view," said Crandall, "you're back in the Day of the Warrior. The fossil has you in its jaws."

Paley colored. "What do you want?"

Crandall described what had happened to the suit. Paley sneered and implied that Crandall had handled it all wrong. Crandall mentioned that the operator afterward had failed to remember anything that happened while he was in the suit. Paley said, "Protective amnesia," and looked condescending. Crandall suggested that they might possibly be dealing with unknown factors and ought to prepare for unpleasant possibilities. Paley remarked that Crandall was out of his province. Crandall said that he would either go a step farther and take direct control of Planetary Development, or a step back and return control to Paley. Paley said that, in the first case, Crandall would find himself out of his depth.

"All right," said Crandall, "what if you're reinstated?"

"Reinstate me," said Paley, "and I will block you every step of the way."

Crandall flipped on the intercom.

"Sir?"

"Start canvassing Special Services for a volunteer executioner," said Crandall. "Also have Special Services form a grave-digger detachment."

"Yes, sir."

Crandall switched off the intercom.

Paley stiffened and blinked. "You can't bluff me."

Crandall said, "You're a good judge of human nature, aren't you, Paley? You know the operators in those suits are going to come up right on schedule. You know the cyberneticists in your own organization are wrong. You know I'm wrong. You know the men who framed Sections 67 and 68 are wrong. Everyone's wrong but you. You've got ability and we badly need it, but why use it? You know you're right without bothering. You let mannerisms, trivialities, and special cases irritate you so much you won't see what's underneath as the principle of the thing. You've got all the answers beforehand. All right, so be it. You won't believe you're going to die till the trapdoor gives way under you." Crandall flipped on the

intercom. "Send in the guards."

The door opened. The guards marched in, their boots striking the floor in unison. They halted with a united click of their heels. The bayonets at their sides clinked and rattled.

Paley was standing perfectly still with a glassy look on his face.

Crandall glanced at the sergeant. "Take him out."

They marched Paley out of the room, and the tramp of feet moved off in the corridor.

Crandall reached for a paper on his desk.

There was a commotion outside.

Crandall got up and opened the door. Paley was struggling with his guards. He saw Crandall.

"All right," he cried. "I'll do it—I'll do it."

On Paley's promise to wholeheartedly co-operate, Crandall reinstated him. But before Paley returned to Planetary Development H.Q., Crandall let him sit in at the first run of a nicely-detailed film titled:

HALF-BILLION DOLLAR
PDA MACHINE
GOES WILD
OFF CYGNES VI

Paley went away greenish and shaken.

After Paley's return, Planetary Development began to show increased activity. Permission was requested, and granted, for extensive tests with some of the twenty-four reserve suits. Friction between Paley's men and Crandall's fell away toward normal, and all indications showed a steady rise in P.D.A. morale.

Crandall put in all the thought on the underlying problem that he could. As a result, he sent a series of code messages to G.H.Q., Space Forces, Earth. And he carried out a number of preparations on his own.

A week before the delGrange suits and operators were supposed to come up, Paley came to see him. Paley looked as if he had spent the last few nights staring at the ceiling.

"Matt," said Paley, "This is hopeless. On the basis of the tests I've made, those operators aren't going to come out."

"You said delGrange tested the suits personally, beforehand?"

"That's exactly the trouble. I didn't see it before, but now it's obvious. DelGrange knew so much about those suits, inside and out, that his reactions just weren't the same as the operators' reactions will be. DelGrange *knew*, mentally. The operator *senses*, physically. If delGrange had a blackness and numbness at getting out of the suit, his mind promptly interpreted it as a mere loss of induced sensation from the exterior receptors of the suit. If there was the remote beginning of a sort of terror, his mind could dismiss it as irrational before he was really aware of it. That isn't true of the operator. It isn't true after five hours in the suit. I've tried it myself. There's a blackness that comes over you—a numbness and a dizziness. It builds up. It's like a kind of death to come out of one of those suits. You get terrified. You struggle to get back. That's how it hit me after five hours. How's it going to hit the operators after thirty days?"

Crandall nodded thoughtfully. "Can you service the suits *without* the operators coming out?"

"No, you have to get into the operator's compartment."

"Through the air lock?"

"That's the only way I know."

"Is there any way to force an entrance?"

"Maybe, if all the limbs and devices were smashed. But the suit feels pain. That is, the operator feels damage to the suit as pain. If we try to force an entrance, we'll be in about the same spot as the man who goes into the bear cage at the zoo with a pair of pliers and no anesthetic. Maybe the bear really *wants*

that bad tooth out, but—"

"Yeah," said Crandall. "Wait till the pain hits him. Well—All right, we've got two problems. First, they have to come up here. Is that right?"

"Yes," said Paley. "If they don't do that, we can't get them out. The pressure on VI would kill them. To say nothing of what we'd have to go through even to get down there."

"All right," said Crandall, "first they have to come up. Then, second, we have to get them out of the suits. And from what we've seen, they won't *willingly* come out of the suits. If we try to force them, they'll fight. If they fight, the only way to stop them will be to smash their limbs. And then the suits will be ruined."

"Yes," said Paley, "and the operators in a state of shock. Two-hundred and seventy-six of them." For an instant, Paley's eyes shut and his face twisted. He sucked in a deep breath and let it out slowly. "Well," he said, "we've got alternate operators coming. That isn't the worst of it. But it's going to take time to repair or replace those suits. VI was scheduled for heavy ore production. With the suits out of action, it will unhinge the whole schedule. Then there'll be all kinds of repercussions once the schedule goes. And that, *still*, isn't the worst that might happen. The operators might come up and—"

"I know," said Crandall.

Paley looked at him dully. "All because the suits were *too perfect*."

Crandall opened a desk drawer and pulled out a sheaf of papers. "I think there's one way out of this hole," he said "*if* we can act fast and co-operate with each other."

Paley shuddered and said, "I think we can co-operate with each other."

Crandall put the sheaf of papers face up on the desk and began to talk. Paley listened earnestly.

* * *

On the day the delGrange suits were due to come up, Crandall and Paley stood near each other on the cruiser *Vengeance*. Each man had his own viewscreen, his own communications screen, and his own battery of microphones. A glance at the wide-angled viewscreen showed Crandall the dark bulk of the *Monitor*, and a cloud of small scout spacers far overhead. A number of huge Planetary Development nurse ships waited in the foreground, while, far to one side, the documentary ship moved from place to place, trying for a better view.

Crandall glanced at his watch, and Paley said, "I don't think they're coming up."

The dock-you ship flashed its lights. Crandall leaned forward. On the screen, a speck appeared, swooping up from Cygnes VI. Other specks came rushing up behind it. The specks grew rapidly, and Paley leaned toward a microphone. In a relieved voice, he said:

"Welcome back, men. Leave your ore-carriers up here to be reloaded. Proceed immediately to the nurse ships for deactivation, servicing, and replacement."

No answer came from the receiver.

Paley scowled. "Welcome back, men—" He repeated his instructions.

The receiver remained silent. On the screen, the specks grew rapidly larger and began to take form. Paley signaled a technician to check the communicator.

Paley repeated, "Welcome back, men. Leave your ore-carriers up here to be reloaded. Proceed immediately to the nurse-ships for deactivation, servicing, and replacement—"

There was still no answer.

Paley glared at the technician, gave the receiver a whack on the side, and again repeated, "Welcome back—"

A flat toneless voice replied, "All humans out of the nurse-ships."

Paley blinked. "Leave your ore carrier—"

"No ore."

"Men—"

"We're going into the nurse-ships two at a time. Any humans in the nurse-ships get killed."

"Listen to me," said Paley. "Your suits have to be serviced. Otherwise you won't last another thirty days."

"We'll service ourselves."

"How?"

"How is none of your business. We're doing it. Now get out of the way or get hurt."

"Listen," said Paley. "I understand. It's not an easy matter to leave those suits. But the ore *has* to be brought up, and then you have to leave the suits. Nothing bad is going to happen to you. It just has to be done. You signed for this job. You've been trained for it. Now you have to carry it out."

"No," said the voice, in a faintly pitying tone, "we didn't sign for this job. We didn't know what it was going to be like. We weren't told till it was too late to do anything about it. We trained in Model C's. They aren't anything like these suits, so we weren't trained for the job, either. Now *you* are going to tell *us* what to do?"

"Earth," said Paley tiredly, "has to have the ore."

"O.K. It's down there ready to load. But *you'll* do things *our* way. We're going to the nurse-ships and service each other. When enough of us are ready, we'll get the ore—if there's time. If you don't like it that way, that's tough."

Paley said, in a dispirited voice, "Give me a few minutes to think it over."

"We'll give you nothing. If the nurse-ships don't open up when we get to them, we'll knock a hole in the side. If you want to do it some other way, forget it. This is the way it's going to be."

Paley snapped off his microphone and turned to Crandall. "The only way I know that they can service each other without leaving the suits is to first cut the nerve cable that supplies the front outer wall of the suits. Then they have to cut out a section of wall and reach through from outside. I don't see how they can repair the cable. That means that future injuries in that part of the suit are likely to go unnoticed. And if they don't put the section of wall back with a very strong tight join, the pressure down there will either make a leak, or else shove the whole section in. Worse yet, I don't think they have either the knowledge or the equipment to do a good job of servicing. If they'd listen, I think I could convince them. But meanwhile, time's passing. We have only so long to get the ore up, the suits serviced, and new operators down there." Paley shook his head. "Maybe your plan will work."

Crandall flipped on one of his bank of microphones. He cleared his throat with a rasping sound. "Attention. This is the Commanding Officer, Space Force, Cygnes. Martial law has been established throughout Cygnes System. Failure of any delGrange suit operator to obey instructions of authorized personnel may be regarded as mutiny."

There was a moment's silence and then, as Crandall had expected, a stream of obscenities came out of the communicator.

Crandall snapped off the microphone, looked at the viewscreen and noted that all the suits seemed to have come up from Cygnes VI. They were bunched, those in back having put on more speed to catch up, and those in front having slowed to change direction.

Crandall glanced at the communications screen. "*Monitor* only, open fire."

Tiny streaks of flame curved away from the massive sphere in its wheel, raced in and out amongst the suits and exploded nearby in brilliant flashes of light.

Incoherent shouts came from the communicator. One voice dominated the rest, and the suits began to move toward *Monitor*. Further bunching now took place, as the suits nearest *Monitor* hung back, while those far away advanced bravely. *Monitor* hurried the process by exploding missiles in front of the nearest suits and behind the farthest.

Crandall, watching intently, said "Scout spacers. First flight only. Ready. Dump your cargo! Second flight, stand by."

Scout spacers dove toward the delGrange suits.

"Second flight only. Ready. Dump your cargo! Third flight, stand by. First flight, reload."

Mingled shouts and curses came from the communicator. On the screen, the suits writhed, twisted, and began to mill about, losing their momentum toward *Monitor*. Over the howling confusion, one voice rose loud and clear:

"Move! Spread out! Keep moving toward *Monitor*!"

Crandall studied the suits and turned to Paley. "O.K. Now."

Paley shouted into a microphone.

Twenty-three delGrange suits—the reserve that hadn't dropped to Cygnes, came out from behind the *Monitor*, spread out, and raced toward the other suits, which were now twisting, writhing, and milling about, their flexible arms scrubbing their sides, their jointed, steel-toothed extensions sawing jerkily across their backs.

"Third flight," said Crandall, "practice dive only. Practice dive. Ready—"

The new delGrange suits raced in among the rest, and new sounds burst amongst the screamed and muttered curses:

"Look out! Here they come again!"

"Run for it!"

"LOOK OUT! HELP!"

"To the nurse-ships!"

"Quick! To the nurse-ships!"

These new shouts drowned out a stream of insistent orders and pleadings to "*Keep moving toward Monitor!*" The whole mass began to move in the opposite direction, save for one gesticulating knot of cables that waved and pointed furiously toward *Monitor*, found itself isolated, dropped back and gripped another, then another, succeeded in getting three or four headed back toward *Monitor*, and then received special attention as Crandall sent scout spacers to dump cargo on the hindmost delGrange suits.

The retreat from *Monitor* turned into a wild rush toward the nurse-ships.

Paley gripped his microphone. "Attention! Proceed in an orderly manner to the nurse-ships for decontamination. Attention! Proceed in an *orderly manner* to the nurse-ships!"

A wild yell burst from the communicator. "Let me out of this suit!"

"Slow down!" roared Paley. "No crowding! There's room for everyone. Don't leave your suits till you're *inside the ships*! Retract those drills! Don't use them on the suits! SLOW DOWN!"

The screen was a spidery nightmare. The delGrange suits rushed headlong into the giant maw of nurse-ship number one, flowed around it and vanished into others. The big doors closed.

Crandall and Paley looked at each other and smiled feebly.

* * *

Crandall was massaging his throat several weeks later, following a visit of high government officials, when the lieutenant reported his presence.

"Sir," said the lieutenant, handing Crandall a stamped slip of paper with an official seal, "I've been told that you must have made this payment."

Crandall took the paper and saw:

Rec'd Payment

1 pipet, 25ml., smashed \$2.75

O.K. P.D.A.

"Hm-m-m," said Crandall. "Well—That's taken care of."

"Thank you very much, sir."

"You're welcome, lieutenant."

"And now, sir—" The lieutenant handed Crandall a small, neatly wrapped package. Crandall, frowning, took it. The package, though small, felt heavy. A card on the outside read:

"To Col. Matthew Crandall, from the officers and men of his command, Cygnes System."

"Well," said Crandall, groping mentally. "Hm-m-m. I certainly appreciate this—"

"I'll tell the men, sir. Ah, sir, may I ask a question?"

"Certainly."

"What was that stuff in bottles and sprayers that we dumped on the suits?"

"Acid," said Crandall, smiling. "The suit operators felt mild corrosion of the suit's outer skin as an itch. The acid gave a sensation like poison ivy on a huge scale. The operators left their suits, the acid was neutralized, an inductive device we'd worked out was installed, and next time we hope to get a better result with less trouble. Keep your eyes open. There'll be a White Paper out on the whole thing pretty soon."

"Yes, sir," said the lieutenant.

Crandall glanced curiously at the package. "Ah—Would you express my thanks for this gift, lieutenant?"

"Certainly, sir."

The lieutenant and Crandall exchanged salutes. The lieutenant about-faced and left the room.

Crandall relaxed in his chair. He turned the package over thoughtfully in his hand.

"Hm-m-m," he said.

He took the card off carefully, untied the ribbon, and folded back the paper. Highly-polished silver flashed in the light of the room.

Crandall squinted, then started to grin.

He got up, opened the door, and glanced out in the corridor to see whether anyone was still around outside.

He walked back into the room and laughed.

He turned the gift in his hands, and saw the word "STERLING." A massive silver bolt joined the two halves unbreakably together.

Crandall set the gift prominently in the center of his desk and got back to work.

The first Space Force officer in history to own a massive, finely-detailed, solid silver pair of pliers.

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