

Subspace Survivors

E. E. Smith

The background of the lower half of the page is a vibrant green. Overlaid on this are various blue geometric shapes: triangles, a diamond, arcs, and lines. Some shapes are solid, while others are outlines. The shapes are arranged in a non-repeating, abstract pattern. In the bottom right corner, the text 'Project Gutenberg' is written in white, bold, sans-serif font.

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Title: Subspace Survivors

Author: E. E. Smith

Release Date: May 30, 2007 [eBook #21647]

Language: English

Character set encoding: ISO-8859-1

START OF THE PROJECT GUTENBERG EBOOK SUBSPACE SURVIVORS

E-text prepared by Robert Cicconetti, L. N. Yaddanapudi,
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Transcriber's Note and Errata

This e-text was produced from Astounding Science Fact and Fiction, July 1960. Extensive research did not uncover any evidence that the U. S. copyright on this publication was renewed.

The original page numbers from the magazine have been retained.

Illustrations have been moved to the appropriate places in the text.

A few typographical errors have been marked in the text. If the mouse hovers over the marked text, the explanation will appear.

There was one instance each of 'hyperspace' and 'hyper-space'. There was one instance of 'hook-up' and one of 'hookups'. These hyphenations were not changed.

SUBSPACE SURVIVORS

By EDWARD E. SMITH, Ph. D.

Illustrated by van Dongen

There has always been, and will always be, the problem of surviving the experience that any trained expert can handle ... when there hasn't been any first survivor to be an expert! When no one has ever gotten back to explain what happened....



I.

"All passengers, will you pay attention, please?" All the high-fidelity speakers of the starship *Procyon* spoke as one, in the skillfully-modulated voice of the trained announcer. "This is the fourth and last cautionary announcement. Any who are not seated will seat themselves at once. Prepare for take-off acceleration of one and one-half gravities; that is, everyone will weigh one-half again as much as his normal Earth weight for about fifteen minutes. We lift in twenty seconds; I will count down the final five seconds.... Five ... Four ... Three ... Two ... One ... Lift!"

The immense vessel rose from her berth; slowly at first, but with ever-increasing velocity; and in the main lounge, where many of the passengers had gathered to watch the dwindling Earth, no one moved for the first five minutes. Then a girl stood up.

She was not a startlingly beautiful girl; no more so than can be seen fairly often, of a summer afternoon, on Seaside Beach. Her hair was an artificial yellow. Her eyes were a deep, cool blue. Her skin, what could be seen of it—she was wearing breeches and a long-sleeved shirt—was lightly tanned. She was only about five-feet-three, and her build was not spectacular. However, every ounce of her one hundred fifteen pounds was exactly where it should have been.

First she stood tentatively, flexing her knees and testing her weight. Then, stepping boldly out into a clear space, she began to do a high-kicking acrobatic dance; and went on doing it as effortlessly and as rhythmically as though she were on an Earthly stage.

"You mustn't *do* that, Miss!" A stewardess came bustling up. Or, rather, not exactly bustling. Very few people, and almost no stewardesses, either actually bustle in or really enjoy one point five gees. "You really *must* resume your seat, Miss. I must insist.... Oh, you're Miss Warner...."

She paused.

"That's right, Barbara Warner. Cabin two eight one."

"But really, Miss Warner, it's regulations, and if you should fall...."

"Foosh to regulations, and *pfui* on 'em. I won't fall. I've been wondering, every time out, if I could do a thing, and now I'm going to find out."

Jackknifing double, she put both forearms flat on the carpet and lifted both legs into the vertical. Then, silver slippers pointing motionlessly ceilingward, she got up onto her hands and walked twice around a vacant chair. She then performed a series of flips that would have done credit to a professional acrobat; the finale of which left her sitting calmly in the previously empty seat.

"See?" she informed the flabbergasted stewardess. "I *could* do it, and I didn't..."

Her voice was drowned out in a yell of approval as everybody who could clap their hands did so with enthusiasm. "More!" "Keep it up, gal!" "Do it again!"

"Oh, I didn't do that to show off!" Barbara Warner flushed hotly as she met the eyes of the nearby spectators. "Honestly I didn't—I just *had* to know if I could." Then, as the applause did not die down, she fairly scampered out of the room.



For one hour before the *Procyon's* departure from Earth and for three hours afterward, First Officer Carlyle Deston, Chief Electronicist, sat attentively at his board. He was five feet eight inches tall and weighed one hundred sixty-two pounds net. Just a little guy, as spacemen go. Although narrow-waisted and, for his heft, broad-shouldered, he was built for speed and maneuverability, not to haul freight.

Watching a hundred lights and half that many instruments, listening to two phone circuits, one with each ear, and hands moving from switches to rheostats to buttons and levers, he was completely informed as to the instant-by-instant status of everything in his department.

Although attentive, he was not tense, even during the countdown. The only change was that at the word "Two" his right forefinger came to rest upon a red button and his eyes doubled their rate of scan. If anything in his department had gone wrong, the *Procyon's* departure would have been delayed.

And again, well out beyond the orbit of the moon, just before the starship's mighty Chaytor engines hurled her out of space as we know it into that unknowable something that is hyperspace, he poised a finger. But Immergence, too, was normal; all the green lights except one went out, needles dropped to zero, both phones went dead, all signals stopped. He plugged a jack into a socket below the one remaining green light and spoke:

"Procyon One to Control Six. Flight Eight Four Nine. Subspace Radio Test One. How do you read me, Control Six?"

"Control Six to Procyon One. I read you ten and zero. How do you read me, Procyon One?"

"Ten and zero. Out." Deston flipped a toggle and the solitary green light went out.

Perfect signal and zero noise. That was that. From now until Emergence—unless something happened—he might as well be a passenger. Everything was automatic, unless and until some robot or computer yelled for help. Deston leaned back in his bucket seat and lighted a cigarette. He didn't need to scan the board constantly now; any trouble signal would jump right out at him.

Promptly at Dee plus Three Zero Zero—three hours, no minutes, no seconds after departure—his relief appeared.

"All black, Babe?" the newcomer asked.

"As the pit, Eddie. Take over." Eddie did so. "You've picked out your girl friend for the trip, I suppose?"

"Not yet. I got sidetracked watching Bobby Warner. She was doing handstands and handwalks and forward and back flips in the lounge—under one point five gees yet. *Wow!* And after that all the other women looked like a dime's worth of catmeat. She doesn't stand out too much until she starts to move, but then—Oh, *brother!*" Eddie rolled his eyes, made motions with his hands, and whistled expressively. "Talk about poetry in motion! Just walking across a stage, she'd bring down the house and stop the show cold in its tracks."

"O. K., O. K., don't blow a fuse," Deston said, resignedly. "I know. You'll love her undyingly; all this trip, maybe. So bring her up, next watch, and I'll give her a gold badge. As usual."

"You ... how *dumb* can you get?" Eddie demanded. "D'you think I'd even *try* to play footsie with *Barbara Warner*?"

"You'd play footsie with the Archangel Michael's sister if she'd let you; and she probably would. So who's Barbara Warner?"

Eddie Thompson gazed at his superior pityingly. "I know you're ten nines per cent monk, Babe, but I *did* think you pulled your nose out of the megacycles often enough to learn a *few* of the facts of life. Did you ever hear of Warner Oil?"

"I think so." Deston thought for a moment. "Found a big new field, didn't they? In South America somewhere?"

"Just the biggest on Earth, is all. And not only on Earth. He operates in all the systems for a hundred parsecs around, and he never sinks a dry hole. Every well he drills is a gusher that blows the rig clear up into the stratosphere. Everybody wonders how he does it. My guess is that his wife's an oil-witch, which is why he lugs his whole family along wherever he goes. Why else would he?"

"Maybe he loves her. It happens, you know."

"Huh?" Eddie snorted. "After twenty years of her? Comet-gas! Anyway, would *you* have the sublime gall to make passes at Warner Oil's heiress, with more millions in her own sock than you've got dimes?"

"I don't make passes."

"That's right, you don't. Only at books and tapes, even on ground leaves; more fool you. Well, then, would you *marry* anybody like that?"

"Certainly, if I loved..." Deston paused, thought a moment, then went on: "Maybe I wouldn't, either. She'd make me dress for dinner. She'd probably have a live waiter; maybe even a butler. So I guess I wouldn't, at that."

"You nor me neither, brother. But *what* a dish! What a lovely, luscious, toothsome *dish*!" Eddie mourned.

"You'll be raving about another one tomorrow," Deston said, unfeelingly, as he turned away.

"I don't know; but even if I do, *she* won't be anything like *her*," Eddie said, to

the closing door.

And Deston, outside the door, grinned sardonically to himself. Before his next watch, Eddie would bring up one of the prettiest girls aboard for a gold badge; the token that would let her—under approved escort, of course—go through the Top.

He himself never went down to the Middle, which was passenger territory. There was nothing there he wanted. He was too busy, had too many worthwhile things to do, to waste time that way ... but the hunch was getting stronger and stronger all the time. For the first time in all his three years of deep-space service he felt an overpowering urge to go down into the very middle of the Middle; to the starship's main lounge.

He knew that his hunches were infallible. At cards, dice, or wheels he had always had hunches and he had always won. That was why he had stopped gambling, years before, before anybody found out. He was that kind of a man.

Apart from the matter of unearned increment, however, he always followed his hunches; but this one he did not like at all. He had been resisting it for hours, because he had never visited the lounge and did not want to visit it now. But *something* down there was pulling like a tractor, so he went. He didn't go to his cabin; didn't even take off his side-arm. He didn't even think of it; the .41 automatic at his hip was as much a part of his uniform as his pants.

Entering the lounge, he did not have to look around. She was playing bridge, and as eyes met eyes and she rose to her feet a shock-wave swept through him that made him feel as though his every hair was standing straight on end.

"Excuse me, please," she said to the other three at her table. "I must go now." She tossed her cards down onto the table and walked straight toward him; eyes still holding eyes.

He backed hastily out into the corridor, and as the door closed behind her they went naturally and wordlessly into each other's arms. Lips met lips in a kiss that lasted for a long, long time. It was not a passionate embrace—passion would come later—it was as though each of them, after endless years of bootless, fruitless longing, had come finally home.

"Come with me, dear, where we can talk," she said, finally; eying with disfavor the half-dozen highly interested spectators.

And a couple of minutes later, in cabin two hundred eighty-one, Deston said: "So *this* is why I had to come down into passenger territory. You came aboard at exactly zero seven forty-three."

"Uh-uh." She shook her yellow head. "A few minutes before that. That was when I read your name in the list of officers on the board. First Officer, Carlyle Deston. I got a tingle that went from the tips of my toes up and out through the very ends of my hair. Nothing like when we actually saw each other, of course. We both knew the truth, then. It's wonderful that you're so strongly psychic, too."

"I don't know about that," he said, thoughtfully. "All my training has been based on the axiomatic fact that the map is *not* the territory. Psionics, as I understand it, holds that the map is—practically—the territory, but can't prove it. So I simply don't know *what* to believe. On one hand, I have had real hunches all my life. On the other, the signal doesn't carry much information. More like hearing a siren when you're driving along a street. You know you have to pull over and stop, but that's all you know. It could be police, fire ambulance—*anything*. Anybody with any psionic ability at all ought to do a lot better than that, I should think."

"Not necessarily. You've been fighting it. Ninety-nine per cent of your mind doesn't *want* to believe it; is dead set against it. So it has to force its way through whillions and skillions of ohms of resistance, so only the most powerful stimuli—'maximum signal' in your jargon, perhaps?—can get through to you at all." Suddenly she giggled like a schoolgirl. "You're either psychic or the biggest wolf in the known universe, and I know you aren't a wolf. If you hadn't been as psychic as I am, you'd've jumped clear out into subspace when a perfectly strange girl attacked you."

"How do you know so much about me?"

"I made it a point to. One of the juniors told me you're the only virgin officer in all space."

"That was Eddie Thompson."

"Uh-huh." She nodded brightly.

"Well, is that bad?"

"Anything else but. That is, he thought it was terrible—outrageous—a betrayal of the whole officer caste—but to me it makes everything just

absolutely perfect."

"Me, too. How soon can we get married?"

"I'd say right now, except...." She caught her lower lip between her teeth and thought. "No, no 'except'. Right now, or as soon as you can. You can't, without resigning, can you? They'd fire you?"

"Don't worry about that," he grinned. "My record is good enough, I think, to get a good ground job. Even if they fire me for not waiting until we ground, there's lots of jobs. I can support you, sweetheart."

"Oh, I know you can. I wasn't thinking of *that*. You wouldn't *like* a ground job."

"What difference does that make?" he asked, in honest surprise. "A man grows up. I couldn't have you with me in space, and I'd like that a lot less. No, I'm done with space, as of now. But what was that 'except' business?"



"I thought at first I'd tell my parents first—they're both aboard—but I decided not to. She'd scream bloody murder and he'd roar like a lion and none of it would make me change my mind, so we'll get married first."

He looked at her questioningly; she shrugged and went on: "We aren't what you'd call a happy family. She's been trying to make me marry an old goat of a prince and I finally told her to go roll her hoop—to get a divorce and marry the foul old beast herself. And to consolidate two empires, he's been wanting me to marry a multi-billionaire—who is also a louse and a crumb and a heel. Last week he *insisted* on it and I blew up like an atomic bomb. I told him if I got married a thousand times I'd pick every one of my husbands myself, without the least bit of help from either him or her. I'd keep on finding oil and stuff for him, I said, but that was all...."

"*Oil!*" Deston exclaimed, involuntarily, as everything fell into place in his mind. The way she walked; poetry in motion ... the oil-witch ... two empires ... more millions than he had dimes.... "Oh, you're Barbara Warner, then."

"Why, of course; but my friends call me 'Bobby'. Didn't you—but of course you didn't—you never read passenger lists. If you did, you'd've got a tingle, too."

"I got plenty of tingle without reading, believe me. However, I never expected to——"

"Don't say it, dear!" She got up and took both his hands in hers. "I know how you feel. I don't like to let you ruin your career, either, but *nothing* can separate us, now that we've found each other. So I'll tell you this." Her eyes looked steadily into his. "If it bothers you the least bit, later on, I'll give every dollar I own to some foundation or other, I swear it."

He laughed shamefacedly as he took her in his arms. "Since that's the way *you* look at it, it won't bother me a bit."

"Uh-huh, you *do* mean it." She snuggled her head down into the curve of his neck. "I can tell."

"I know you can, sweetheart." Then he had another thought, and with strong, deft fingers he explored the muscles of her arms and back. "But those acrobatics in plus gee—and you're trained down as hard and fine as I am, and it's my business to be—how come?"

"I majored in Physical Education and I love it. And I'm a Newmartian, you know, so I teach a few courses——"

"Newmartian? I've heard—but you aren't a colonial; you're as Terran as I am."

"By blood, yes; but I was born on Newmars. Our actual and legal residence has always been there. The tax situation, you know."

"I don't know, no. Taxes don't bother me much. But go ahead. You teach a few courses. In?"

"Oh, bars, trapeze, ground-and-lofty tumbling, acrobatics, aerialistics, high-wire, muscle-control, judo—all that kind of thing."

"Ouch! So if you ever happen to accidentally get mad at me you'll tie me right up into a pretzel?"

"I doubt it; very seriously. I've tossed lots of two-hundred-pounders around, of course, but they were *not* space officers." She laughed unaffectedly as she tested his musculature much more professionally and much more thoroughly than he had tested hers. "Definitely I couldn't. A good big man can always take a

good little one, you know."

"But I'm not big; I'm just a little squirt. You've probably heard what they call me?"

"Yes, and I'm going to call you 'Babe', too, and mean it the same way they do. Besides, who wants a man a foot taller than she is and twice as big? You're just *exactly* the right size!"

"That's spreading the good old oil, Bobby, but I'll never tangle with you if I can help it. Buzz-saws are small, too, and sticks of dynamite. Shall we go hunt up the parson—or should it be a priest? Or a rabbi?"

"Even *that* doesn't make a particle of difference to you."

"Of course not. How could it?"

"A parson, please." Then, with a bright, quick grin: "We *have* got a lot to learn about each other, haven't we?"

"Some details, of course, but nothing of any importance and we'll have plenty of time to learn them."

"And we'll love every second of it. You'll live down here in the Middle with me, won't you, all the time you aren't actually on duty?"

"I can't imagine doing anything else," and the two set out, arms around each other, to find a minister. And as they strolled along:

"Of course you won't actually *need* a job, ever, or my money, either. You never even thought of dowsing, did you?"

"Dowsing? Oh, that witch stuff. Of course not."

"Listen, darling. All the time I've been touching you I've been learning about you. And you've been learning about me."

"Yes, but——"

"No buts, buster. You have really tremendous powers, and they *aren't* latent, either. All you have to do is quit fighting them and *use* them. You're ever so much stronger and fuller than I am. All I can do at dowsing is find water, oil, coal, and gas. I'm no good at all on metals—I couldn't feel gold if I were perched right on the roof of Fort Knox; I couldn't feel radium if it were frying me to a

crisp. But I'm *positive* that you can tune yourself to anything you want to find."

He didn't believe it, and the argument went on until they reached the "Reverend's" quarters. Then, of course, it was dropped automatically; and the next five days were deliciously, deliriously, ecstatically happy days for them both.

II.

At the time of this chronicle the status of interstellar flight was very similar to that of intercontinental jet-plane flight in the nineteen-sixties. Starships were designed by humanity's best brains; carried every safety device those brains could devise. They were maintained and serviced by ultra-skilled, ultra-trained, ultra-able crews; they were operated by the *creme-de-la-creme* of manhood. Only a man with an extremely capable mind in an extremely capable body could become an officer of a subspacer.

Statistically, starships were the safest means of transportation ever used by man; so safe that Very Important Persons used them regularly, unthinkingly, and as a matter of course. Statistically, the starships' fatality rate per million passenger-light-years was a small fraction of that of the automobiles' per million passenger-miles. Insurance companies offered odds of tens of thousands to one that any given star-traveler would return unharmed from any given star-trip he cared to make.

Nevertheless, accidents happened. A chillingly large number of lives had, as a total, been lost; and no catastrophe had ever been even partially explained. No message of distress or call for help had ever been received. No single survivor had ever been found; nor any piece of wreckage.

And on the Great Wheel of Fate the *Procyon's* number came up.

In the middle of the night Carlyle Deston came instantaneously awake—feeling with his every muscle and with his every square inch of skin; listening with all the force he could put into his auditory nerves; while deep down in his mind a huge, terribly silent voice continued to yell: "DANGER! DANGER! DANGER!"

In a very small fraction of a second Carlyle Deston moved—and fast. Seizing Barbara by an arm, he leaped out of bed with her.

"We're abandoning ship—get into this suit—quick!"

"But what ... but I've *got* to dress!"

"No time! Snap it up!" He practically hurled her into her suit; clamped her

helmet tight. Then he leaped into his own. "Skipper!" he snapped into the suit's microphone. "Deston. Emergency! Abandon ship!"

The alarm bells clanged once; the big red lights flashed once; the sirens barely started to growl, then quit. The whole vast fabric of the ship trembled and shuddered and shook as though it were being mauled by a thousand impossibly gigantic hammers. Deston did not know and never did find out whether it was his captain or an automatic that touched off the alarm. Whichever it was, the disaster happened so fast that practically no warning at all was given. And out in the corridor:

"Come on, girl—sprint!" He put his arm under hers and urged her along.

She did her best, but in comparison with his trained performance her best wasn't good. "I've never been checked out on sprinting in spacesuits!" she gasped. "Let go of me and go on ahead. I'll follow——"

Everything went out. Lights, gravity, air-circulation—everything.

"You haven't been checked out on free fall, either. Hang onto this tool-hanger here on my belt and we'll travel."

"Where to?" she asked, hurtling through the air much faster than she had ever gone on foot.

"Baby Two—that is, Lifecraft Number Two—my crash assignment. Good thing I was down here in the Middle; I'd never have made it from up Top. Next corridor left, I think." Then, as the light of his headlamp showed numbers on the wall: "Yes. Square left. I'll swing you."

He swung her and they shot to the end of the passage. He kicked a lever and the lifecraft's port swung open—to reveal a blaze of light and a startled, gray-haired man.

"What happened.... What hap ...?" the man began.

"Wrecked. We've had it. We're abandoning ship. Get into that cubby over there, shut the door tight behind you, and *stay there!*"

"But can't I do something to help?"

"Without a suit and not knowing how to use one? You'd get burned to a cinder. Get in there—and *jump!*"

The oldster jumped and Deston turned to his wife. "Stay here at the port, Bobby. Wrap one leg around that lever, to anchor you. What does your telltale read? That gauge there—your radiation meter. It reads twenty, same as mine. Just pink, so we've got a minute or so. I'll roust out some passengers and toss 'em to you—you toss 'em along in there. Can do?"

She was white and trembling; she was very evidently on the verge of being violently sick; but she was far from being out of control. "Can do, sir."

"Good girl, sweetheart. Hang on one minute more and we'll have gravity and you'll be O. K."

The first five doors he tried were locked; and, since they were made of armor plate, there was nothing he could do about them except give each one a resounding kick with a heavy steel boot. The sixth was unlocked, but the passengers—a man and a woman—were very evidently and very gruesomely dead.

So was everyone else he could find until he came to a room in which a man in a spacesuit was floundering helplessly in the air. He glanced at his telltale. Thirty-two. High in the red, almost against the pin.

"Bobby! What do you read?"

"Twenty-six."

"Good. I've found only one, but we're running out of time. I'm coming in."



In the lifecraft he closed the port and slammed on full drive away from the ship. Then, wheeling, he shucked Barbara out of her suit like an ear of corn and shed his own. He picked up a fire-extinguisher-like affair and jerked open the door of a room a little larger than a clothes closet. "Jump in here!" He slammed the door shut. "Now strip, quick!" He picked the canister up and twisted four valves.

Before he could get the gun into working position she was out of her pajamas—the fact that she had been wondering visibly what it was all about had done nothing whatever to cut down her speed. A flood of thick, creamy foam almost hid her from sight and Deston began to talk—quietly.

"Thanks, sweetheart, for not slowing us down by arguing and wanting explanations. This stuff is DEKON—short for Decontaminant, Complete; Compound, Adsorbent, and Chelating, Type DCQ-429.' Used soon enough, it takes care of radiation. Rub it in good, all over you—like this." He set the foam-gun down on the floor and went vigorously to work. "Yes, hair, too. Every square millimeter of skin and mucous membrane. Yes, into your eyes. It stings 'em a little, but that's a lot better than going blind. And your mouth. Swallow six good big mouthfuls—it's tasteless and goes down easy.

"Now the soles of your feet—O. K. The last will hurt plenty, but we've *got* to get some of it into your lungs and we can't do it the hospital way. So when I slap a gob of it over your mouth and nose inhale hard and deep. Just once is all anybody can do, but that's enough. And don't fight. Any ordinary woman I could handle, but I can't handle you fast enough. So if you don't inhale deep I'll have to knock you cold. Otherwise you die of lung cancer. Will do?"

"Will do, sweetheart. Good and deep. No fight," and she emptied her lungs.

He slapped it on. She inhaled, good and deep; and went into convulsive paroxysms of coughing. He held her in his arms until the worst of it was over; but she was still coughing hard when she pulled herself away from him.

"But ... how ... about ... you?" She could just barely talk; her voice was distorted, almost inaudible. "Let ... me ... help ... you ... quick!"

"No need, darling. Two other men out there. The old man probably won't need it—I think I got him into the safe quick enough—the other guy and I will help each other. So lie down there on the bunk and take it easy until I come back here and help you get the gunkum off. So-long for half an hour, pet."

Forty-five minutes later, while all four were still cleaning up the messes of foam, something began to buzz sharply. Deston stepped over to the board and flipped a switch. The communicator came on. Since everything aboard a starship is designed to fail safe, they were, of course, in normal space. On the visiplates hundreds of stars blazed in vari-colored points of hard, bright light.

"Baby Two acknowledging," Deston said. "First Officer Deston and three passengers. Deconned to zero. Report, please."

"Baby Three. Second Officer Jones and four passengers. Deconned to——"

"Thank God, Herc!" Formality vanished. "With *you* to astrogate us, we may

have a chance. But how'd you make it? I'd've sworn a flying saucer couldn't've got down from the Top in the time we had."

"Same thing right back at you, Babe. I didn't have to come down. We were in Baby Three when it happened." Full vision was on; a big, square-jawed, lean, tanned face looked out at them from the screen.

"Huh? How come? And who's 'we'?"

"My wife and I." Second Officer Theodore "Hercules" Jones was somewhat embarrassed. "I got married, too, day before yesterday. After the way the old man chewed you out, though, I knew he'd slap irons on me without saying a word, so we kept it dark and hid out in Baby Three. These three are all we could find before our meters went high red. I deconned Bun, then——"

"Bun?" Barbara broke in. "Bernice Burns? How *wonderful!*"

"Formerly Bernice Burns." The face of a platinum-blond beauty appeared on the screen beside Jones'. "And *am* I glad to see *you*, Barbara, even if I did just meet you yesterday! I didn't know whether I'd ever see another girl's face or not!"

"Let's cut the chat," Deston said then. "Herc, give me course, blast, and time for rendezvous ... hey! My watch stopped!"

"So did mine," Jones said. "So just hold one gravity on eighteen dash forty-seven dash two seventy-one and I'll correct you as necessary."

After setting course, and still thinking of his watch, Deston said; "But it's nonmagnetic. It never stopped before."

The gray-haired man spoke. "It was never in such a field before. You see, those two observations of fact invalidate twenty-four of the thirty-eight best theories of hyper-space. But tell me—am I correct in saying that none of you were in direct contact with the metal of the ship when it happened?"

"We avoid it in case of trouble. You? Name and job?" Deston jerked his head at the younger stranger.

"I know *that* much. Henry Newman. Crew-chief, normal space jobs, unlimited."

"Your passengers, Herc?"

"Vincent Lopresto, financier, and his two bodyguards. They were sleeping in their suits, on air-mattresses. Grounders. Don't like subspace—or space, either."

"Just so." The gray-haired man nodded, almost happily. "We survivors, then, absorbed the charge gradually——"

"But what the——" Deston began.

"One moment, please, young man. You perhaps saw some of the bodies. What were they like?"

"They looked ... well, not exactly as though they had exploded, but——" he paused.

"Precisely." Gray-Hair beamed. "That eliminates all the others except three—Morton's, Sebring's, and Rothstein's."

"You're a specialist in subspace, then?"

"Oh, no, I'm not a specialist at all. I'm a dabbler, really. A specialist, you know, is one who learns more and more about less and less until he knows everything about nothing at all. I'm just the opposite. I'm learning less and less about more and more; hoping in time to know nothing at all about everything."

"In other words, a Fellow of the College. I'm glad you're aboard, sir."

"Oh, a Theoretician?" Barbara's face lit up and she held out her hand. "With dozens of doctorates in everything from Astronomy to Zoology? I've never met ... I'm *ever* so glad to meet you, Doctor——?"

"Adams. Andrew Adams. But I have only eight at the moment. Earned degrees, that is."

"But what were you doing in this lifecraft? No, let me guess. You were X-ray-eying it and fine-toothing it for improvements made since your last trip, and storing the details away in your eidetic memory."

"Not eidetic, by any means. Merely very good."

"And how many metric tons of apparatus have you got in the hold?" Deston asked.

"Less than six. Just what I *must* have in order to——"

"Babe!" Jones' voice cut in. "Course change. Stay on alpha eighteen. Shift beta to forty-four and gamma to two sixty-five."

Rendezvous was made. Both lifecraft hung motionless relative to the *Procyon's* hulk. No other lifecraft had escaped. A conference was held.

Weeks of work would be necessary before Deston and Jones could learn even approximately what the damage to the *Procyon* had been. Decontamination was automatic, of course, but there would be literally hundreds of hot spots, each of which would have to be sought out and neutralized by hand. The passengers' effects would have to be listed and stored in the proper cabins. Each body would have to be given velocity away from the ship. And so on. Every survivor would have to work, and work hard.

The two girls wanted to be together. The two officers almost *had* to be together, to discuss matters at unhampered length and to make decisions. Each was, of course, almost as well versed in engineering as he was in his own specialty. All ships' officers from First to Fifth had to be. And, as long as they lived or until the *Procyon* made port, all responsibility rested: First, upon First Officer Deston; and second, upon Second Officer Jones. Therefore Theodore and Bernice Jones came aboard Lifecraft Two, and Deston asked Newman to flit across to Lifecraft Three.

"Not me; I like the scenery here better." Newman's eyes raked Bernice's five-foot-eight of scantily-clad sheer beauty from ankles to coiffure. "If you're too crowded—I know a lifecraft carries only fifty people—go yourself."

"As a crew-chief, you know the law." Deston spoke quietly—too quietly, as the other man should have known. "I am in command."

"You ain't in command of *me*, pretty boy!" Newman sneered. "You can play God when you're on sked, with a ship-full of trained dogs to bite for you, but out here where nobody has ever come back from I make my own law—with *this*!" He patted his side pocket.

"Draw it, then!" Deston's voice now had all the top-deck rasp of his rank. "Or crawl!"

The First Officer had not moved; his right hand still hung quietly at his side. Newman glanced at the girls, both of whom were frozen; at Jones, who smiled at him pityingly; at Adams, who was merely interested. "I ... my ... yours is right where you can get at it," he faltered.

"You should have thought of that sooner. But, this once, I won't move a finger until your hand is in your pocket."

"Just wing him, Babe," Jones said then. "He looks strong enough, except for his head. We can use him to shovel out the gunkum and clean up."

"Uh-uh. I'll have to kill him sometime, and the sooner the better. Square between the eyes. Do you want a hundred limit at ten bucks a millimeter on how far the hole is off dead center?"

The two girls gasped; stared at each other and at the two officers in horror; but Jones said calmly, without losing any part of his smile: "I don't want a dime's worth of that. I've lost too much money that way already." At which outrageous statement both girls knew what was going on and smiled in relief.

And Newman misinterpreted those smiles completely; especially Bernice's. The words came hard, but he managed to say then. "I crawl."

"Crawl, what?"

"I crawl, sir. You'll want my gun——"

"Keep it. There's a lot more difference than *that* between us. How close can you count seconds?"

"Plus or minus five per cent, sir."

"Close enough. Your first job will be to build some kind of a brute-force, belt-or-gear thing to act as a clock. You will really work. Any more insubordination or any malingering at all and I'll put you into a lifecraft and launch you into space, where you can make your own laws and be monarch of all you survey. Dismissed! Now—flit!"

Newman flitted—fast—and Barbara, turning to her husband, opened her

mouth to speak and shut it. No, he would have killed the man; he would have *had* to. He still might have to. Wherefore she said instead: "Why'd you let him keep his pistol? The ... the *slime!* And after you actually saved his life, too!"

"With some people what's past doesn't count. The other was just a gesture. Psychology. It'll slow him down, I think. Besides, he'd have another one as soon as we get back into the *Procyon*."

"But you can lock up *all* their guns, can't you?" Bernice asked.

"I'm afraid not. How about the other three, Herc?"

"With thanks to you, Barbara, for the word; slime. If Lopresto is a financier, I'm an angel, with wings and halo complete. Gangsters; hoodlums; racketeers; you'd have to open every can of concentrate aboard to find all their spare artillery."

"Check. The first thing to do is——"

"One word first," Bernice put in. "I want to thank you, First Off—no, not First Officer, but I could hardly——"

"Sure you can. I'm 'Babe' to us all, and you're 'Bun'. As to the other, forget it. You and I, Herc, will go over and——"

"And I," Adams put in, definitely. "I must photograph everything, before it is touched; therefore I must be the first on board. I must do some autopsies and also——"

"Of course. You're right," Deston said. "And if I haven't said it before, I'm tremendously glad to have a Big Brain along ... oh, excuse that crack, please, Dr. Adams. It slipped out on me."

Adams laughed. "In context, I regard that as the highest compliment I have ever received. To you youngsters my advanced age of fifty-two represents senility. Nevertheless, you men need not 'Doctor' me. Either 'Adams' or 'Andy' will do very nicely. As for you two young women——"

"I'm going to call you 'Uncle Andy'," Barbara said, with a grin. "Now, Uncle Andy, you being a Big Brain—the term being used in its most complimentary sense—and the way you talked, one of your eight doctorates is in medicine."

"Of course."

"Are you any good at obstetrics?"

"In the present instance I am perfectly safe in saying——"

"Wait a minute!" Deston snapped. "Bobby, you are *not*——"

"I am too! That is, I don't suppose I *am* yet, since we were married only last Tuesday, but if he's competent—and I'm *sure* he is—I'm certainly *going* to! If we get back to Earth I *want* to, and if we don't, both Bun and I have *got* to. Castaways' Code, you know. So how about it, Uncle Andy?"

"I know what you two girls are," Adams said, quietly. "I know what you two men must of necessity be. Therefore I can say without reservation that none of you need feel any apprehension whatever."

Deston was about to say something, but Barbara forestalled him. "Well, we can *think* about it, anyway, and talk it over. But for right now, I think it's high time we all got some sleep. Don't you?"



It was; and they did; and after they had slept and had eaten "breakfast" the three men wafted themselves across a couple of hundred yards of space to the crippled starship. Powerful floodlights were rigged.

"What ... a ... mess." Deston's voice was low and wondering. "The whole Top looks as though she'd crash-landed and spun out for eight miles. But the Middle and Tail look untouched."

Inside, however, devastation had gone deep into the Middle. Bulkheads, walls, floors, structural members; were torn, sheared, twisted into weirdly-distorted shapes impossible to understand or explain. And, much worse, were the *absences*; for in dozens of volumes, of as many sizes and of shapes incompatible with any three-dimensional geometry, every solid thing had vanished—without leaving any clue whatever as to where or how it had gone.

After three long days of hard work, Adams was satisfied. He had taken pictures as fast as both officers could process the film; he had covered many miles of tape with words only half of which either spaceman could understand. Then, finally, he said:

"Well, that covers the preliminary observations as well as I know how to do it. Thank you, boys, for your forbearance and your help. Now, if you'll help me find my stuff and bring some of it—a computer and so on—up to the lounge?" They did so; the "and so on" proving to be a bewildering miscellany indeed. "Thank you immensely, gentlemen; now I won't bother you any more."

"You've learned a lot, Doc, and we haven't learned much of anything." Deston grinned ruefully. "That makes you the director. You'll have to tell us, in general terms, what to do."

"Oh? I can offer a few suggestions. It is virtually certain: One, that no subspace equipment will function. Two, that all normal-space equipment, except for some items you know about, will function normally. Three, that we can't do anything about subspace without landing on a planet. Four, that such landing will require extreme—I might almost say fantastic—precautions."

Although both officers thought that they understood Item Four, neither of them had any inkling as to what Adams really meant. They did understand thoroughly, however, Items One, Two, and Three.

"Hell's jets!" Deston exclaimed. "Do you mean we'll have to blast *normal* to a system?"

"It isn't as bad as you think, Babe," Jones said. "Stars are much thicker here—we're in the center somewhere—than around Sol. The probability is point nine plus that any emergence would put us less than point four light-years away from a star. A couple of them show disks. I haven't measured any yet; have you, Doc?"

"Yes. Point two two, approximately, to the closest."

"So what?" Deston demanded. "What's the chance of it having an Earth-type planet?"

"Any solid planet will do," Adams said. "Just so it has plenty of mass."

"That's still quite a trip." Deston was coming around. "Especially since we can't use more than one point——"

"One point *zero* gravities," Jones put in.

"Over the long pull—and the women—you're right," Deston agreed, and

took out his slide rule. "Let's see ... one gravity, plus and minus ... velocity ... time ... it'll take about eleven months?"

"Just about," Jones agreed, and Adams nodded.

"Well, if that's what the cards say, there's no use yowling about it," and all nine survivors went to work.

Deston, besides working, directed the activities of all the others except Adams; who worked harder and longer than did anyone else. He barely took time out to eat and to sleep. Nor did either Deston or Jones ask him what he was doing. Both knew that it would take five years of advanced study before either of them could understand the simplest material on the doctor's tapes.

III.

The tremendous engines of the *Procyon* were again putting out their wonted torrents of power. The starship, now a mere spaceship, was on course at one gravity. The lifecraft were in their slots, but the five and the four still lived in them rather than in the vast and oppressive emptiness that the ship itself now was. And socially, outside of working hours, the two groups did not mix.

Clean-up was going nicely, at the union rate of six hours on and eighteen hours off. Deston could have set any hours he pleased, but he didn't. There was plenty of time. Eleven months in deep space is a fearfully, a tremendously long time.

"Morning," "afternoon," "evening," and "night" were, of course, purely conventional terms. The twenty-four-hour "day" measured off by the brute-force machine that was their masterclock carried no guarantee, expressed or implied, as to either accuracy or uniformity.

One evening, then, four hard-faced men sat at two small tables in the main room of Lifecraft Three. Two of them, Ferdy Blaine and Moose Mordan, were playing cards for small stakes. Ferdy was of medium size; compact rather than slender; built of rawhide and spring steel. Lithe and poised, he was the epitome of leashed and controlled action. Moose was six-feet-four and weighed a good two-forty—stolid, massive, solid. Ferdy and Moose; a tiger and an elephant; both owned *in fee simple* by Vincent Lopresto.

The two at the other table had been planning for days. They had had many vitriolic arguments, but neither had made any motion toward his weapon.

"Play it my way and we've got it made, I tell you!" Newman pounded the table with his fist. "Seventy *million* if it's a cent! Heavier grease than your lousy spig Syndicate ever even *heard* of! I'm as good an astrogator as Jones is, and a damn sight better engineer. In electronics I maybe ain't got the theory Pretty Boy has, but at building and repairing the stuff I've forgot more than he ever will know. At *practical* stuff, and that's all we give a whoop about, I lay over both them sissies like a Lunar dome."

"Oh, yeah?" Lopresto sneered. "How come you aren't ticketed for subspace,

then?"

"For hell's sake, act your age!" Newman snorted in disgust. Eyes locked and held, but nothing happened. "D'ya think I'm dumb? Or that them subspace Boy Scouts can be fixed? Or I don't know where the heavy grease is at? Or I can't make the approach? Why ain't *you* in subspace?"

"I see." Lopresto forced his anger down. "But I've got to be *sure* we can get back without 'em."

"You can be *damn* sure. I got to get back myself, don't I? But get one thing down solid. *I* get the big peroxide blonde."

"You can have her. Too big. I like the little yellowhead a lot better."

Newman sneered into the hard-held face so close to his and said: "And don't think for a second *you* can make me crawl, you small-time, chiseling punk. Rub *me* out after we kill them off and you get nowhere. You're dead. Chew on that a while, and you'll know who's boss."

After just the right amount of holding back and objecting, Lopresto agreed. "You win, Newman, the way the cards lay. Have you ever planned this kind of an operation or do you want me to?"

"You do it, Vince," Newman said, grandly. He had at least one of the qualities of a leader. "Besides, you already have, ain't you?"

"Of course. Ferdy will take Deston——"

"No he won't! He's *mine*, the louse!"

"If you're *that* dumb, all bets are off. What are you using for a brain? Can't you see the guy's chain lightning on ball bearings?"

"But we're going to surprise 'em, ain't we?"

"Sure, but even Ferdy would just as soon not give *him* an even break. *You* wouldn't stand the chance of a snowflake in hell, and if you've got the brains of a louse you know it."

"O. K., we'll let Ferdy have him. Me and you will match draws to see who _____"

"I can draw twice to your once, but I suppose I'll have to prove it to you. I'll

take Jones; you will gun the professor; Moose will grab the dames, one under each arm, and keep 'em out of the way until the shooting's over. The only thing is, when? The sooner the better. Tomorrow?"

"Not quite, Vince. Let 'em finish figuring course, time, distance, all that stuff. They can do it a lot faster and some better than I can. I'll tell you when."

"O. K., and I'll give the signal. When I yell 'NOW' we give 'em the business."

Newman went to his cabin and the muscle called Moose spoke thoughtfully. That is, as nearly thoughtfully as his mental equipment would allow.

"I don't like that ape, boss. Before you gun him, let me work him over just a little bit, huh?"

"It'll be quite a while yet, but that's a promise, Moose. As soon as his job's done he'll wish he'd never been born. Until then, we'll let him think he's Top Dog. Let him rave. But Ferdy, any time he's behind me or out of sight, watch him like a hawk. Shoot him through the right elbow if he makes one sour move."

"I get you, boss."



A couple of evenings later, in Lifecraft Two, Barbara said: "You're worried, Babe, and everything's going so smoothly. Why?"

"Too smoothly altogether. That's why. Newman ought to be doing a slow burn and goldbricking all he dares; instead of which he's happy as a clam and working like a nailer ... and I wouldn't trust Vincent Lopresto or Ferdinand Blaine as far as I can throw a brick chimney by its smoke. This whole situation stinks. There's going to be shooting for sure."

"But they couldn't do *anything* without you two!" Bernice exclaimed. "It'd be suicide ... and with no motive ... *could* they, Ted, possibly?"

Jones' dark face did not lighten. "They could, and I'm very much afraid they intend to. As a crew-chief, Newman is a jack-leg engineer and a very good practical 'tronicist; and if he's what I *think* he is——" He paused.

"Could be," Deston said, doubtfully. "In with a mob of normal-space pirate-

smugglers. I'll buy that, but there wouldn't be enough plunder to——"

"Just a sec. So he's a pretty good rule-of-thumb astrogator, too, and we're computing every element of the flight. As for motive—salvage. With either of us alive, none. With both of us dead, can you guess within ten million bucks of how much they'll collect?"

"*Blockhead!*" Deston slapped himself on the forehead. "I never even *thought* of that angle. That nails it down solid."

"With the added attraction," Jones went on, coldly and steadily, "of having two extremely desirable female women for eleven months before killing them, too."

Both girls shrank visibly, and Deston said: "Check. I thought that was the main feature, but it didn't add up. This does. Now, how will they figure the battle? Both of us at once, of——"

"Why?" Barbara asked. "I'd think they'd waylay you, one at a time."

"Uh-uh. The survivor would lock the ship in null-G and it'd be like shooting fish in a barrel. Since we're almost never together on duty ... and it won't come until after we've finished the computations ... they'll think up a good reason for *everybody* to be together, and that itself will be the tip-off. Ferdy will probably draw on me——"

"And he'll kill you," Jones said, flatly. "So I think I'll blow his brains out tomorrow morning on sight."

"And get killed yourself? No ... much better to use their own trap——"

"We *can't!* Fast as you are, you aren't in *his* class. He's a professional—probably one of the fastest guns in space."

"Yes, but ... I've got a ... I mean I think I can——"

Bernice, grinning openly now, stopped Deston's floundering. "It's high time you fellows told each other the truth. Bobby and I let our back hair down long ago—we were both tremendously surprised to know that both you boys are just as strongly psychic as we are. Perhaps even more so."

"Oh ... so *you* get hunches, too?" Jones demanded. "So you'll have plenty of warning?"

"All my life. The old alarm clock has never failed me yet. But the girls can't start packing pistols now."

"I wouldn't know how to shoot one if I did," Bernice laughed. "I'll throw things I'm very good at that."

"Huh?" Jones asked. He didn't know his new wife very well, either. "What can *you* throw straight enough to do any good?"

"Anything I can reach," she replied, confidently. "Baseballs, medicine balls, cannon balls, rocks, bricks, darts, discus, hammer, javelin—what-have-you. In a for-real battle I'd prefer ... chairs, I think. Flying chairs are really hard to cope with. Knives are too ... uh-uh, I'd much rather have you fellows do the actual executing. I'll start wearing a couple of knives in leg-sheaths, but I won't throw 'em or use 'em unless I absolutely have to. So who will I knock out with the first chair?"

"I'll answer that," Barbara said, quietly. "If it's Blaine against Babe, it'll be Lopresto against Herc. So you'll throw your chairs or whatever at that unspeakable oaf Newman."

"I'd rather brain him than anyone else I know, but that would leave that gigantic gorilla to ... why, he'd ... listen, you'll simply *have* to go armed."

"I always do." Barbara held out her hands. "Since they don't want to shoot us two—yet—these are all the weapons I'll need."

"Against a man-mountain like that? You're *that* good? Really?"

"Especially against a man-mountain like that. I'm that good. Really," and both Joneses began to realize what Deston already knew—just how deadly those harmless-seeming weapons could be.

Barbara went on: "We should have a signal, in case one of us gets warning first. Something that wouldn't mean anything to them ... musical, say ... Brahms. That's it. The very instant any one of us feels their intent to signal their attack he yells 'BRAHMS!' and we *all* beat them to the punch. O. K.?"

It was O. K., and the four—Adams was still hard at work in the lounge—went to bed.



And three days later, within an hour after the last flight-datum had been "put in the tank," the four intended victims allowed themselves to be inveigled into the lounge. Everything was peaceful; everyone was full of friendship and brotherly love. But suddenly "BRAHMS!" rang out, with four voices in absolute unison; followed a moment later by Lopresto's stentorian "NOW!"

It was a very good thing that Deston had had ample warning, for he was indeed competing out of his class. As it was, his bullet crashed through Blaine's head, while the gunman's went harmlessly into the carpet. The other pistol duel wasn't even close! Lopresto's hand barely touched his gun.

Bernice, even while shrieking the battle-cry, leaped to her feet, hurled her chair, and reached for another; but one chair was enough. That fiercely but accurately-spiced missile knocked the half-drawn pistol from Newman's hand and sent his body crashing to the floor, where Deston's second bullet made it certain that he would not recover consciousness.

Barbara's hand-to-hand engagement took about one second longer. Moose Mordan was big and strong; and, for such a big man, was fairly fast physically. If he had had time to get his muscles ready, he might have had a chance. His thought processes, however, were lamentably slow; and Barbara Warner Deston was almost as fast physically as she was mentally. Thus she reached him before he even began to realize that this pint-sized girl actually intended to hit him; and thus it was that his belly-muscles were still completely relaxed when her small but extremely hard left fist sank half-forearm-deep into his solar plexus.

With an agonized "*WHOOSH!*" he began to double up, but she scarcely allowed him to bend. Her right hand, fingers tightly bunched, was already boring savagely into a selected spot at the base of his neck. Then, left hand at his throat and right hand pulling hard at his belt, she put the totalized and concentrated power of her whole body behind the knee she drove into his groin.

That ended it. The big man could very well have been dying on his feet. To make sure, however—or to keep the girl from knowing that she had killed a man?—Deston and Jones each put a bullet through the falling head before it struck the rug.

Both girls flung themselves, sobbing, into their husband's arms.

The whole battle had lasted only a few seconds. Adams, although he had seen almost everything, had been concentrating so deeply that it took those few seconds for him actually to realize what was going on. He got up, felt of Newman's head, then looked casually at the three other bodies.

"Oh, I *killed* him, Carl!" Barbara sobbed, convulsively. "And the worst of it is, I really *meant* to! I *never* did anything like that before in my whole life!"

"You didn't kill him, Barbara," Adams said.

"Huh?" She raised her head from Deston's shoulder; the contrast between her streaming eyes and the relief dawning over her whole face was almost funny. "Why, I did the foulest things possible, and as hard as I possibly could. I'm *sure* I killed him."

"By no means, my dear. Judo techniques, however skillfully and powerfully applied, do not and can not kill instantly. Bullets through the brain do. I will photograph the cadavers, of course, and perform the customary post-mortem examinations for the record; but I know already what the findings will be. These

four men died instantly of gunshot wounds."

With the four gangsters gone, life aboardship settled down quickly into a routine. That routine, however, was in no sense dull. The officers had plenty to do; operating the whole ship and rebuilding the mechanisms that were operating on jury rigging or on straight "bread-board" hookups. And in their "spare" time they enjoyed themselves tremendously in becoming better and better acquainted with their wives. For Bernice and Jones, like Barbara and Deston, had for each other an infinite number of endless vistas of personality; the exploration of which was sheerest delight.

The girls—each of whom became joyously pregnant as soon as she could—kept house and helped their husbands whenever need or opportunity arose. Their biggest chore, however, was to see to it that Adams got sleep, food, and exercise. For, if left to his own devices, he would never have exercised at all, would have grabbed a bite now and then, and would have slept only when he could no longer stay awake.

"Uncle Andy, why don't you *use* that Big Brain of yours?" Barbara snapped at him one day. "For a man that's actually as smart as you are, I swear you've got the least sense of anybody I know!"

"But it's necessary, my dear child," Adams explained, unmoved. "This material is new. There are many extremely difficult problems involved, and I have less than a year to work on them. Less than *one year*; and it is a task for a team of specialists and all the resources of a research center."

To the officers, however, Adams went into more detail. "Considering the enormous amounts of supplies carried; the scope, quantity, and quality of the safety devices employed; it is improbable that we are the first survivors of a subspace catastrophe to set course for a planet."

After some argument, the officers agreed.

"While I cannot as yet detect it, classify it, or evaluate it, we are carrying an extremely heavy charge of an unknown nature; the residuum of a field of force which is possibly more or less analogous to the electromagnetic field. This residuum either is or is not dischargeable to an object of planetary mass; and I'm

virtually certain that it is. The discharge may be anything from an imperceptible flow up to one of such violence as to volatilize the craft carrying it. From the facts: One, that in the absence of that field the subspace radio will function normally; and Two, that no subspace-radio messages have ever been received from survivors; the conclusion seems inescapable that the discharge of this unknown field is in fact of extreme violence."

"Good God!" Deston exclaimed. "Oh ... *that* was what you meant by 'fantastic precautions,' back there?"

"Precisely."

"But what can we *do* about it?"

"I don't know. I ... simply ... do ... not ... know." Adams lost himself in thought for over a minute. "This is all so new ... I know so little ... and am working with such *pitifully* inadequate instrumentation—However, we have months of time yet, and if I am unable to arrive at a conclusion before arrival—I don't mean a rigorous analysis, of course, but merely a stop-gap, empirical, pragmatic solution—we will simply remain in orbit around that sun until I do."

IV.

The *Procyon* bored on through space, at one unchanging gravity of acceleration. It may not seem, at first glance, that one gravity would result in any very high velocity; but when it is maintained steadily for days and weeks and months, it builds up to a very respectable speed. Nor was there any question of power, for the *Procyon's* atomics did not drive the ship, but merely energized the "Chaytors"—the Chaytor Effect engines that tapped the energy of the expanding universe itself.

Thus, in less than six months, the *Procyon* had attained a velocity almost half that of light. At the estimated mid-point of the flight the spaceship, still at one gravity of drive, was turned end-for-end; so that for the ensuing five-and-a-fraction months she would be slowing down.

A few weeks after the turnover, Adams seemed to have more time. At least, he devoted more time to the expectant mothers, even to the point of supervising Deston and Jones in the construction of a weirdly-wired device by means of which he studied and photographed the unborn child each woman bore. He said nothing, however, until Barbara made him talk.

"Listen, you egregious clam," she said, firmly, "I know darn well I've been pregnant for at *least* seven months, and I ought to be twice this big. Our clock isn't *that* far off; Carl said that by wave lengths or something it's only about three per cent fast. And you've been pussyfooting and hem-hawing around all this time. Now, Uncle Andy, I want the *truth*. Are we in for a lot of trouble?"

"Trouble? Of course not. *Certainly* not. No trouble at all, my dear. Why, you've seen the pictures—here, look at them again ... see? Absolutely normal fetus—yours, too, Bernice. *Perfect!* No malformations of any kind."

"Yes, but for what *age?*" Bernice asked, pointedly. "Four months, say? I see, I was exposed to a course in embryology myself, once."

"But *that's* the interesting part of it!" Adams enthused. "Fascinating! And, indubitably, supremely important. In fact, it may point out the key datum underlying the solution of our entire problem. If this zeta field is causing this seemingly peculiar biological effect, that gives us a tremendously powerful new

tool, for certain time vectors in the generalized matrix become parameters. Thus, certain determinants, notably the all-important delta-prime-sub-mu, become manipulable by ... but you aren't *listening!*"

"I'm listening, pops, but nothing is coming through. But thanks much, anyway. I feel a lot better, knowing I'm not going to give birth to a monster. Or *are* you sure, really?"

"Of *course* I'm sure!" Adams snapped, testily, and Barbara led Deston aside.

"Have you got the *slightest* idea of what he was talking about?" she asked.

"Just the slightest, if any. Either that time is relative—no, that's so elementary he wouldn't mention it. Maybe he's figured out a *variable* time of some kind or other. Anyway, you girls' slowness in producing has given the old boy a big lift, and I'm mighty glad of it."

"But aren't you *worried*, sweetheart? Not even the least little bit?"

"Of course not," and Deston very evidently meant just that.

"I am. I can't help but be. Why aren't you?"

"Because Doc isn't, and he knows his stuff, believe me. He can't lie any better than a three-year-old, and he's *sure* that all four of you are just as safe as though you were in God's lefthand hip pocket."

"Oh—that's right. I never thought of it that way. So I *don't* have anything to worry about, do I?" She lifted her lips to be kissed; and the kiss was long and sweet.



Time flew past until, one day a couple of weeks short of arrival, Adams rushed up to Deston and Jones. "I have it!" he shouted, and began to spout a torrent of higher—very *much* higher—mathematics.

"Hold it, Doc!" Deston held up an expostulatory hand. "I read you zero and ten. Can't you delouse your signal? Whittle the stuff down to our size?"

"W-e-l-l-," the scientist looked hurt, but did consent to forego the high math. "The discharge *is* catastrophic; in energy equivalent something of the order of

magnitude of ten thousand discharges of lightning. And, unfortunately, I do *not* know what it is. It is virtually certain, however, that we will be able to dissipate it in successive decrements by the use of long, thin leads extending downward toward a high point of the planet."

"Wire, you mean? What kind?"

"The material is not important except in that it should have sufficient tensile strength to support as many miles as possible of its own length."

"We've got dozens of coils of hook-up wire," Deston said, "but not too many *miles* and it's soft stuff."

"*Graham* wire!" Jones snapped his finger.

"Of course," Deston agreed. "Hundreds of miles of it. Float the senser down on a Hotchkiss——"

"Tear-out." Jones objected.

"Bailey it—spidered out to twenty or so big, flat feet. That'll take metal, but we can cannibal the whole Middle without weakening the structure."

"Sure ... surges—backlash. Remote it."

"Check. Remote everything to Baby Two, and——"

"Would you mind delousing *your* signal?" Adams asked, caustically.

"Scuse, please, Doc. A guy does talk better in his own lingo, doesn't he? Well, *Graham* wire is one-point-three-millimeter-diameter, ultra-high-tensile steel wire. Used for re-wrapping the *Grahams*, you know."

"No, I don't know. What are *Grahams*?"

"Why, they're the intermediates between the *Chaytors* ... O. K., O. K., they're something like bottles, that have to stand terrifically high pressures."

"That's what I want to know. Such wire will do very nicely. Note now that our bodies must be grounded very thoroughly to the metal of the ship."

"You're so right. We'll wrap the girls in silver-mesh underwear up to the eyeballs, and run leads as big as my wrist to the frame."

The approach was made, and the fourth planet out from that strange sun was selected as a ground. That planet was not at all like Earth. It had very little water, very little atmosphere, and very little vegetation. It was twice as massive as Earth; its surface was rugged and jagged; one of its stupendous mountain ranges had sharp peaks more than forty thousand feet high.

"There's one thing more we must do," Adams said. "I have barely begun to study this zeta field, and this one may very well be unique—irreplaceable. We must, therefore, launch all the lifecraft—except Number Two, of course—into separate orbits around this sun, so that a properly-staffed and properly-equipped expedition can study it."

"Your proper expedition might get its pants burned off, too."

"There is always that possibility; but I will insist on being assigned to the project. This information, young man, is *necessary*."

"O. K., Doc," and it was done; and in a few days the *Procyon* hung motionless, a good five hundred miles high, directly above the highest, sharpest mountain peak they had been able to find.

The Bailey boom, with its spider-web-like network of grounding cables and with a large pulley at its end, extended two hundred feet straight out from the side of the ship. A twenty-five-mile coil of Graham wire was mounted on the remote-controlled Hotchkiss reel. The end of the wire was run out over the pulley; a fifteen-pound weight, to act both as a "senser" and to keep the wire from fouling, was attached; and a few hundred feet of wire were run out.

Then, in Lifecraft Two—as far away from the "business district" as they could get—the human bodies were grounded and Deston started the reel. The wire ran out—and ran—and ran—and ran. The full twenty-five miles were paid out, and still nothing happened. Then, very slowly, Deston let the big ship move straight downward. Until, finally, it happened.

There was a blast beside which the most terrific flash of lightning ever seen on Earth would have seemed like a firecracker. In what was almost a vacuum though she was, the whole immense mass of the *Procyon* was hurled upward like the cork out of a champagne bottle. And as for what it *felt* like—since the five who experienced it could never describe it, even to each other, it is obviously

indescribable by or to anyone else. As Bernice said long afterward, when she was being pressed by a newsman: "Just tell 'em it was the living end," and that is as good a description as any.

The girls were unwrapped from their silver-mesh cocoons and, after a minute or so of semihysterics, were as good as new. Then Deston stared into the 'scope and gulped. Without saying a word he waved a hand and the others looked. It seemed as though the entire tip of the mountain was gone; had become a seething, flaming volcano on a world that had known no volcanism for hundreds of thousands of years.

"And what," said Deston finally, "do you suppose happened to the other side of the ship?"

The boom, of course, was gone. So were all twenty of the grounding cables which, each the size of a man's arm, had fanned out in all directions to anchorages welded solidly to the vessel's skin and frame. The anchorages, too, were gone; and tons upon tons of high-alloy steel plating and structural members for many feet around where each anchorage had been. Steel had run like water; had been blown away in gusts of vapor.

"Shall I try the radio now, Doc?" Deston asked.

"By no means. This first blast would, of course, be the worst, but there will be several more, of decreasing violence."



There were. The second, while it volatilized the boom and its grounding network, merely fused portions of the anchorages. The third took only the boom itself; the fourth took only the dangling miles of wire. At the sixth trial nothing—apparently—happened; whereupon the wire was drawn in and a two-hundred-pound mass of steel was lowered until it was in firm and quiescent contact with the solid rock of the planet.

"Now you may try your radio," Adams said.

Deston flipped a switch and spoke, quietly but clearly, into a microphone. "*Procyon One* to Control Six. Flight Eight Four Nine. Subspace Radio Test Ninety-Five—I think. How do you read me, Control Six?"

The reply was highly unorthodox. It was a wild yell, followed by words not directed at Deston at all. "Captain Reamer! Captain French! Captain Holloway! ANYBODY! It's the *Procyon*! The *PROCYON*, that was lost a year ago! Unless some fool is playing a dumb joke."

"It's no joke—I hope." Another voice, crisp and authoritative, came in; growing louder as its source approached the distant pickup. "Or somebody will rot in jail for a hundred years."

"*Procyon One* to Control Six," Deston said again. His voice was not quite steady this time; both girls were crying openly and joyfully. "How do you read me, Frenchy old horse?"

"It *is Procyon One*—the Runt himself—Hi, Babe!" the new voice roared, then quieted to normal volume. "I read you eight and one. Survivors?"

"Five. Second Officer Jones, our wives, and Dr. Andrew Adams, a Fellow of the College of Advanced Study. He's solely responsible for our being here, so _____"

"Skip that for now. In a lifecraft? No, after this long, it must be the ship. Not navigable, of course?"

"Not in subspace, and only so-so in normal. The Chaytors are O. K., but the whole Top is spun out and the rest of her won't hold air—air, hell! She won't hold shipping crates! All the Wesleys are shot, and all the Q-converters. Half the Grahams are leaking like sieves, and——"

"Skip that, too. Just a sec—I'll cut in the downstairs recorder. Now start in at your last check and tell us what's happened since."

"It's a long story."

"Unwind it, Runt, I don't give a damn how long it is. Not a full-detailed report, just hit the high spots—but don't leave out anything really important."

"Wow!" Jones remarked, audibly. "Wottaman Frenchy! Like the ex-urbanite said to the gardener: 'I don't want you to work hard—just take big shovelfulls and lots of 'em per minute'."

"That's enough out of you, Herc my boy. You'll be next. Go ahead, Babe."

Deston went ahead, and spoke almost steadily for thirty minutes. He did not

mention the gangsters; nor any personal matters. Otherwise, his report was accurate and complete. He had no idea that everything he said was going out on an Earth-wide hookup; or that many other planets, monitoring constantly all subspace channels, were hooking on. When he was finally released Captain French said, with a chuckle:

"Off the air for a minute. You've no idea what an uproar this has stirred up already. They let them have all your stuff, but we aren't putting out a thing until some Brass gets out there and gets the real story——"

"That *is* the real story, damn it!"

"Oh, sure, and a very nice job, too, for an extemporaneous effort—if it was. Semantics says, though, that in a couple of spots it smells like slightly rancid cheese, and ... no-no, keep still! Too many planets listening in—*verbum sap*. Anyway, THE PRESS smells something, too, and they're screaming their lungs out, especially the sob-sisters. Now, Herc, on the air, you're orbiting the fourth planet of a sun. What sun? Where?"

"I don't know. Unlisted. We're in completely unexplored territory. Standard reference angles are as follows"—and Jones read off a long list of observations, not only of the brightest stars of the galaxy, but also of the standard reference points, such as S-Doradus, lying outside it. "When you get that stuff all plotted, you'll find a hell of a big confusion; but I *hope* there aren't enough stars in it but what you can find us sometime."

"Off the air—for good, I hope. Don't make me laugh, Buster, Your probable center will spear it. If there's ever more than one star in any confusion *you* set up, I'll eat all the extras. But there's a dozen Big Brains here, gnawing their nails off up to the wrist to talk to Adams all the rest of the night, so put him on and let's get back to sleep, huh? They're cutting this mike now."

"Just a minute!" Deston snapped. "What's your time?"

"Three, fourteen, thirty-seven. So go back to bed, you night-prowling owl."

"Of what day, month, and year?" Deston insisted.

"Friday, Sep——" French's voice was replaced by a much older one; very evidently that of a Fellow of the College.

After listening for a moment to the newcomer and Adams, Barbara took

Deston by the arm and led him away. "Just a little bit of *that* gibberish is a bountiful sufficiency, husband mine. So I think we'd better take Captain French's advice, don't you?"

Since there was only one star in Jones' "Confusion" (by the book, "Volume of Uncertainty") finding the *Procyon* was no problem at all. High Brass came in quantity and the entire story—except for one bit of biology—was told. Two huge subspace-going machine shops also came, and a thousand mechanics, who worked on the crippled liner for almost three weeks.

Then the *Procyon* started back for Earth under her own subspace drive, under the command of Captain Theodore Jones. His first, last, and only subspace command, of course, since he was now a married man. Deston had wanted to resign while still a First Officer, but his superiors would not accept his resignation until his promotion "for outstanding services" came through. Thus, Ex-Captain Carlyle Deston and his wife were dead-heading, not quite back to Earth, but to the transfer-point for the planet Newmars.

"Theodore Warner Deston is going to be born on Newmars, where he should be," Barbara had said, and Deston had agreed.

"But suppose she's Theodora?" Bernice had twitted her.

"Uh-uh," Barbara had said, calmly. "I just *know* he's Theodore."

"Uh-huh, I know." Bernice had nodded her spectacular head. "And we wanted a girl, so she is. Barbara Bernice Jones, her name is. A living doll."

Although both pregnancies were well advanced, neither was very near full term. Thus it was clear that both periods of gestation were going to be well over a year in length; but none of the five persons who knew it so much as mentioned the fact. To Adams it was only one tiny datum in an incredibly huge and complex mathematical structure. The parents did not want to be pilloried as crackpots, as publicity-seeking liars, or as being unable to count; and they knew that nobody would believe them if they told the truth; even—or especially?—no medical doctor. The more any doctor knew about gynecology and obstetrics, in fact, the less he would believe any such story as theirs.

Of what use is it to pit such puny and trivial things as *facts* against rock-ribbed, iron-bound, entrenched AUTHORITY?

The five, however, *knew*; and Deston and Jones had several long and highly unsatisfactory discussions; at first with Adams, and later between themselves. At the end of the last such discussion, a couple of hours out from the transfer point, Jones lit a cigarette savagely and rasped:

"Wherever you start or whatever your angle of approach, he *always* boils it down to this: 'Subjective time is measured by the number of learning events experienced.' I ask you, Babe, what does that mean? If anything?"

"It sounds like it ought to mean *something*, but I'll be damned if I know what." Deston gazed thoughtfully at the incandescent tip of his friend's cigarette. "However, if it makes the old boy happy and gives the College a toehold on subspace, what do we care?"

END OF THE PROJECT GUTENBERG EBOOK SUBSPACE SURVIVORS

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