

SURVIVAL SHIP

by Judith Merrill

Half a million people actually made the round trip to Space Station One that day to watch the take-off in per-son. And back on Earth a hundred million video screens flashed the picture of Captain Melnick's gloved hand waving a dramatic farewell at the port, while the other hand slowly pressed down the lever that would fire the ship out beyond the orbit of the artificial satellite, past the Moon and the planets, into unknown space.

From Station One, Earth, and Moon, a hundred million winged wishes added their power to the surge of the jets, as a rising spiral of fire inside the greatest rocket tower ever built marked the departure of the thrice-blessed ship, Survival. In the great churches, from pole to pole, services were held all day, speeding the giant vessel on its way, calling on the aid of the Lord for the Twenty and Four who manned the ship.

At mountain-top telescopes a dozen cameras faith-fully transmitted the messages of great unblinking glass eyes. Small home sets and massive pulpit screens alike looked to the sky to follow the flare dimming in the distance, to watch the man-made star falling away.

Inside the great ship Melnick's hand left the firing lever, then began adjusting the chin rest and the ear-phones of the acceleration couch. The indicator dash-board, designed for prone eye level, leaped into focus.

Securing the couch straps with the swift competence of habit, the captain intently watched the sweep of the big second hand around the take-off timer, aware at the same time that green lights were beginning to glow at the other end of the board. The indicator reached the first red mark. "The show's over, everybody. We're in business!" The mike built into the chin rest carried the captain's taut voice all over the ship. "Report, all stations!"

"Number one, all secure!" Melnick mentally ticked off the first green light, glowing to prove the astro-gator's couch was in use.

"Number two, all secure!"

"Number three . . ." "Four . . ." "Five." The rhythmic sing-song of pinpoint timing in take-off was second nature by now to the whole crew. One after another, the green lights glowed for safety, punctuating the litany, and the gong from the timer put a period neatly in place after the final "All secure!"

"Eight seconds to black out," the captain's voice warned. "Seven . . . six ... stand by." The first wave of acceleration shock reeled into twenty-four helmet-sheathed heads on twenty-four individually designed head rests. "Five—" It's got to work, Melnick was thinking, fighting off unconsciousness with fierce in-tensity. "Four—" It's got to . . . got to . . . "Three—" got to . . . got to . . . "two—" got to . . .

At the space station, a half-million watchers were slowly cleared from the giant take-off platform. They filed in long orderly lines down the ramps to the in-terior, and waited there for the smaller Earth rockets that would take them home. Waiting, they were at once elated and disappointed. They had seen no more than could be seen at the same place on any other day. The entire rocket area had been fenced off, with a double cordon of guards to make sure that too-curious visitors stayed out of range. Official explanations mentioned the new engine, the new fuel, the danger of escaping gases—but nobody believed it. Every one of the half-million visitors knew what the mystery was: the crew, and nothing else. Giant video screens all over the plat-form gave the crowd details and closeups, the same they would have seen had they stayed comfortably at home. They saw the captain's gloved hand, at the last, but not the captain's face.

There was muttering and complaining, but there was something else too. Each man, woman, and child who went to the station that day would be able to say, years later, "I was there when the Survival took off. You never saw anything so big in your life."

Because it wasn't just another planet hop. It wasn't just like the hundreds of other take-offs. It was the Survival, the greatest spaceship ever engineered. People didn't think of the Survival in terms of miles-per-second; they said, "Sirius in fifteen years!"

From Sunday supplements to dignified periodicals, nearly every medium of communication on Earth had carried the story. Brightly colored graphs made visibly simple the natural balance of forces in which plants and animals could maintain a permanently fresh atmosphere as well as a self-perpetuating food supply. Lecture demonstrations and videocasts showed how centrifugal force would replace gravity.

For months before take-off, the press and video followed the preparations with daily intimate accounts. The world over, people knew the nicknames of pigs, calves, chickens, and crew members—and even the proper botanical name of the latest minor masterpiece of the biochemists, a hybrid plant whose root, stems, leaves, buds, blossoms, and fruit were all edible, nourishing, and delicious, and which had the added advantage of being the thirstiest CO₂ drinker ever found.

The public knew the nicknames of the crew, and the proper name of the plant. But they never found out, not even the half million who went to the field to see for themselves, the real identity of the Twenty and Four who comprised the crew. They knew that thousands had applied; that it was necessary to be single, under twenty-five, and a graduate engineer in order to get as far as the physical exam; that the crew was mixed in sex, with the object of filling the specially equipped nursery and raising a second generation for the return trip, if, as was hoped, a lengthy stay on Sirius's planet proved possible. They knew, for that matter, all the small characteristics and personal idiosyncrasies of the crew members—what they ate, how they dressed, their favorite games, theaters, music, books, cigarettes, preachers, and political parties. There were only two things the public didn't know, and couldn't find out: the real names of the mysterious Twenty and Four, and the reason why those names were kept secret.

There were as many rumors as there were newsmen or radio reporters, of course. Hundreds of explanations were offered at one time or another. But still nobody knew—nobody except the half hundred Very Important Persons who had planned the project, and the Twenty and Four themselves.

And now, as the pinpoint of light faded out of the screens of televisions all over Earth, the linear and rotary acceleration of the great ship began to adjust to the needs of the human body.

"Gravity" in the living quarters gradually approached Earth-normal. Tortured bodies relaxed in the acceleration couches, where the straps had held them securely positioned through the initial stage, so as to keep the blood and guts where they belonged, and to prevent the stomach from following its natural tendency to emerge through the backbone. Finally, stunned brain cells awoke to the recognition that danger signals were no longer coming through from shocked, excited tissues.

Captain Melnick was the first to awake. The row of lights on the board still glowed green. Fumbling a little with the straps, Melnick watched tensely to see if the indicator lights were functioning properly, sighing with relief as the one at the head of the board went dead, operated automatically by the removal of body weight from the couch.

It was right—it was essential—for the captain to wake up first. If any of the men had showed superior recuperative powers, it could be bad. Melnick thought wearily of the years and years

ahead during which this artificial dominance had to be maintained in defiance of all Earth conditioning. But of course it would not be that bad, really. The crew had been picked for ability to conform to the unusual circumstances; they were all without strong family ties or prejudices. Habit would establish the new castes soon enough, but the beginning was crucial. Survival was more than a matter of plant-animal balance and automatic gravity.

While the captain watched, another light went out, and then another. Officers, both of them. Good. Three more lights died out together. Then men were beginning to awaken, and it was reassuring to know that their own couch panels would show them that the officers had revived first. In any case, there was no more time for worrying. There were things to be done.

A detail was sent off immediately to attend to the animals, release them from the confinement of the specially prepared acceleration pens, and check them for any possible damage incurred in spite of pre-cautions. The proportions of human, animal, and plant life had been worked out carefully beforehand for maximum efficiency and for comfort. Now that the trip had started, the miniature world had to maintain its status quo or perish.

As soon as enough of the crew were awake, Lieutenant Johnson, the third officer, took a group of eight out to make an inspection of the hydroponic tanks that lined the hull. Nobody expected much trouble here. Being at the outermost part of the ship, the plants were exposed to high "gravity." The outward pull exerted on them by rotation should have held their roots in place, even through the tearing backward thrust of the acceleration. But there was certain to be a large amount of minor damage, to stems and leaves and buds, and whatever there was would need immediate repair. In the ship's economy the plants had the most vital function of all—absorbing carbon dioxide from dead air already used by humans and animals, and deriving from it the nourishment that enabled their chlorophyll systems to release fresh oxygen for re-use in breathing.

There was a vast area to inspect. Row upon row of tanks marched solidly from stem to stern of the giant ship, all around the inner circumference of the hull. Johnson split the group of eight into four teams, each with a biochemist in charge to locate and make notes of the extent of the damage, and an unclassified man as helper, to do the actual dirty work, crawling out along the catwalks to mend each broken stalk.

Other squads were assigned to check the engines and control mechanisms, and the last two women to awake got stuck with the booby prize—first shift in the galley. Melnick squashed their immediate protests with a stern reminder that they had hardly earned the right to complain; but privately the captain was pleased at the way it had worked out. This first meal on board was going to have to be something of an occasion. A bit of ceremony always helped; and above all, social procedures would have to be established immediately. A speech was indicated—a speech Melnick did not want to have to make in the presence of all twenty-four crew members. As it worked out, the Four would almost certainly be kept busy longer than the others. If these women had not happened to wake up last . . .

The buzzing of the intercom broke into the captain's speculations. "Lieutenant Johnson reporting, sir." Behind the proper, crisp manner, the young lieutenant's voice was frightened. Johnson was third in command, supervising the inspection of the tanks.

"Having trouble down there?" Melnick was deliberately informal, knowing the men could hear over the intercom, and anxious to set up an immediate feeling of unity among the officers.

"One of the men complaining, sir." The young lieutenant sounded more confident already.

"There seems to be some objection to the division of work."

Melnick thought it over quickly and decided against any more public discussion on the intercom.

"Stand by. I'll be right down."

All over the ship airducts and companionways led from the inner-level living quarters "down" to the outer level of tanks; Melnick took the steps three at a time and reached the trouble zone within seconds after the conversation ended.

"Who's the troublemaker here?"

"Kennedy—on assignment with Petty Officer Giorgio for plant maintenance."

"You have a complaint?" Melnick asked the swarthy, dungareed man whose face bore a look of sullen dissatisfaction.

"Yeah." The man's voice was deliberately insolent. The others had never heard him speak that way before, and he seemed to gain confidence from the shocked surprise they displayed. "I thought I was supposed to be a pampered darling this trip. How come I do all the dirty work here, and Georgie gets to keep so clean?"

His humor was too heavy to be effective. "Captain's orders, that's why," Melnick snapped.

"Everybody has to work double time till things are squared away. If you don't like the job here, I can fix you up fine in the brig. Don't worry about your soft quarters. You'll get 'em later and plenty of 'em. It's going to be a long trip, and don't forget it." The captain pointed significantly to the chronometer built into the overhead. "But it's not much longer to dinner. You'd better get back to work if you want to hit the chow while it's hot. Mess call in thirty minutes."

Melnick took a chance and turned abruptly away, terminating the interview. It worked. Sullen but defeated, Kennedy hoisted himself back up on the catwalk, and then began crawling out to the spot Giorgio pointed out. Not daring to express their relief, lieutenant and captain exchanged one swift look of triumph before Melnick walked wordlessly off.

In the big control room that would be mess hall, social hall, and general meeting place for all of them for fifteen years to come—or twice that time if Sirius's planet turned out to be uninhabitable—the captain waited for the crew members to finish their checkup assignments. Slowly they gathered in the lounge, ignoring the upholstered benches around the sides and the waiting table in the center, standing instead in small awkward groups. An undercurrent of excitement ran through them all, evoking deadly silences and erupting in bursts of too-noisy conversation, destroying the joint attempt at an illusion of nonchalance. They all knew—or hoped they knew—what the subject of the captain's first speech would be, and behind the facade of bronzed faces and trimly muscled bodies they were all curious, even a little afraid.

Finally there were twenty of them in the room, and the captain rose and rapped for order.

"I suppose," Melnick began, "you will all want to know our present position and the results of the checkup." Nineteen heads turned as one, startled and disappointed at the opening.

"However," the captain continued, smiling at the change of expressions the single word brought,

"I imagine you're all as hungry and—er—impatient as I am, so I shall put off the more routine portions of my report until our other comrades have joined us. There is only one matter which should properly be discussed immediately."

Everyone in the room was acutely conscious of the Four. They had all known, of course, how it would be. But on Earth there had always been other, ordinary men around to make them less aware of it. Now the general effort to maintain an air of artificial ease and disinterest was entirely abandoned as the captain plunged into the subject most on everyone's mind.

"Our ship is called the Survival. You all know why. Back on Earth, people think they know why too; they think it's because of our plants and artificial gravity, and the hundreds of other engineering miracles that keep us going. Of course, they also know that our crew is mixed, and that our population is therefore"—the captain paused, letting an anticipatory titter circle the

room—"is therefore by no means fixed. What they don't know, naturally, is the division of sexes in the crew.

"You're all aware of the reason for the secrecy. You know that our organization is in direct opposition to the ethical principles on which the peace was established after World War IV. And you know how the planners of this trip had to struggle with the authorities to get this project approved. When consent was granted, finally, it was only because the highest prelates clearly understood that the conditions of our small universe were in every way different from those on Earth—and that the division proposed was necessary for survival."

The captain paused, waiting for the last words to sink in, and studying the attitudes of the group. Even now, after a year's conditioning to counteract earthly mores, there were some present who listened to this public discussion of dangerous and intimate matters with flushed faces and embarrassed smiles.

"You all realize, of course, that this consent was based, finally, on the basic principle itself." Automatically, out of long habit unbroken by that year's intensive training, the captain made the sign of the olive branch. "Survival of the race is the first duty of every ethical man and woman." The command was intoned meaningfully, almost pontifically, and brought its reward as confusion cleared from some of the flushed faces. "What we are doing, our way of life now, has the full approval of the authorities. We must never forget that.

"On Earth, survival of the race is best served by the increasing strength of family ties. It was not thought wise to endanger those ties by letting the general public become aware of our—unorthodox—system here on board. A general understanding, on Earth, of the true meaning of the phrase, 'the Twenty and the Four,' could only have aroused a furor of discussion and argument that would, in the end, have impeded survival both there and here.

"The knowledge that there are twenty of one sex on board, and only four of the other—that children will be born outside of normal family groups, and raised jointly—I need not tell you how disastrous that would have been." Melnick paused, raising a hand to dispel the muttering in the room.

"I wanted to let you know, before the Four arrive, that I have made some plans which I hope will carry us through the initial period in which difficulties might well arise. Later, when the groups of six—five of us, and one of them in each—have been assigned their permanent quarters, I think it will be possible, in fact necessary, to allow a greater amount of autonomy within those groups. But for the time being, I have arranged a—shall we call it a dating schedule?" Again the captain paused, waiting for tension to relieve itself in laughter. "I have arranged dates for all of you with each of them during convenient free periods over the next month. Perhaps at the end of that time we will be able to choose groups; perhaps it will take longer. Maternity schedules, of course, will not be started until I am certain that the grouping is satisfactory to all. For the time being, remember this:

"We are not only more numerous than they, but we are stronger and, in our social placement here, more fortunate. We must become accustomed to the fact that they are our responsibility. It is because we are hardier, longer-lived, less susceptible to pain and illness, better able to withstand, mentally, the difficulties of a life of monotony, that we are placed as we are—and not alone because we are the bearers of children."

Over the sober silence of the crew, the captain's voice rang out. "Lieutenant Johnson," Melnick called to the golden-haired, sun-tanned woman near the door, "will you call the men in from the tank rooms now? They can finish their work after dinner."