The original combination of catastrophes had taken place five years ago-five revolutions of this planet, HC12549d by the charts, and nameless otherwise. Six-plus revolutions of Earth, but who was counting-anymore?

If the men back home knew, they might say it was a heroic fight, an epic of the Galactic Corps; five men against a hostile world, holding their bitter own for five (or six-plus) years. And now they were dying, the battle lost after all. Three were in final coma, a fourth had his yellow-tinged eyeballs still open, and a fifth was yet on his feet.

But it was no question of heroism at all. It had been five men fighting off boredom and despair and maintaining their metallic bubble of livability only for the most unheroic reason that there was nothing else to do while life remained.

Ifany of them felt stimulated by the battle, he never mentioned it. After the first year they stopped talking of rescue, and after the second a moratorium descended on the word “Earth.”

But one word remained always present. If unspoken it had to be found in their thoughts: “ammonia.”

It had come first while the landing was being scratched out, against all odds, on limping motors and in a battered space can.

You allow for bad breaks, of course; you expect a certain number-but one at a time. A stellar flare fries out the hypercircuits-that can be repaired, given time. A meteorite disaligns the feeder valves-they can be straightened, given time. A trajectory is miscalculated under tension and a momentarily unbearable acceleration tears out the Jump-antennae and dulls the senses of every man on board-but antennae can be replaced and senses will recover, given time.

The chances are one in countless many that all threewill happen at once; and still less that they will all happen during a particularly tricky landing when the one necessary currency for the correction of all errors, time, is the one thing that is most lacking.

The Cruiser John hit that one chance in countless many, and it made a final landing, for it would never lift off a planetary surface again.

That it had landed essentially intact was itself a near miracle. The five were given life

for some years at least. Beyond that, only the blundering arrival of another ship could help, but no one expected that. They had had their life's share of coincidences, they knew, and all had been bad.

That was that. And the key word was “ammonia.” With the surface spiraling upward, and death (mercifully quick) facing them at considerably better than even odds, Chou somehow had time to note the absorption spectrograph, which was registering raggedly.

“Ammonia,” he cried out. The others heard but there was no time to pay attention. There was only the wrenching fight against a quick death for the sake of a slow one.

When they landed finally, on sandy ground with sparse bluish (bluish?) vegetation; reedy grass; stunted treelike objects with blue bark and no leaves; no sign of animal life; and with a greenish (greenish?) cloud-streaked sky above-the word came back to haunt them.

“Ammonia?” said Petersen heavily. Chou said, “Four per cent.”

“Impossible,” said Petersen. But it wasn't. The books didn't say impossible. What the Galactic Corps had discovered was that a planet of a certain mass and volume and a certain temperature was an ocean planet and had one of two atmospheres: nitrogen/ oxygen or nitrogen/ carbon dioxide. In the former case, life was advanced; in the latter, it was primitive.

No one checked beyond mass, volume, and temperature any longer. One took the atmosphere (one or the other of them) for granted. But the books didn't say it had to be so; just that it always was so. Other atmospheres were thermodynamically possible, but extremely unlikely, so they weren't found in actual practice.

Until now. The men of the Cruiser John had found one and were bathed for the rest of such life as they could eke out by a nitrogen/carbon dioxide/ammonia atmosphere.

The men converted their ship into an underground bubble of Earth-type surroundings. They could not lift off the surface, nor could they drive a communicating beam through hyperspace, but all else was salvageable. To make up for inefficiencies in the cycling system, they could even tap the planet's own water and air supply, within limits; provided, of course, they subtracted the ammonia.

They organized exploring parties since their suits were in excellent condition and it passed the time. The planet was harmless; no animal life; sparse plant life everywhere. Blue, always blue; ammoniated chlorophyll; ammoniated protein.

They set up laboratories, analyzed the plant components, studied microscopic sections,

compiled vast volumes of findings. They tried growing native plants in ammonia-free atmosphere and failed. They made themselves into geologists and studied the planet's crust; astronomers, and studied the spectrum of the planet's sun.

Barrere would say sometimes, “Eventually, the Corps will reach this planet again and we'll leave a legacy of knowledge for them. It's a unique planet after all. There might not be another Earth-type with ammonia in all the Milky Way.”

“Great,” said Sandropoulos bitterly. “What luck for us.”

Sandropoulos worked out the thermodynamics of the situation. “ A metastable system,” he said. “The ammonia disappears steadily through geochemical oxidation that forms nitrogen; the plants utilize nitrogen and re-form ammonia, adapting themselves to the presence of ammonia. If the rate of plant formation of ammonia dropped two per cent, a declining spiral would set in. Plant life would wither, reducing the ammonia still further, and so on.”

“You mean if we killed enough plant life,” said Vlassov, “we could wipe out the ammonia.”

“If we had air sleds and wide-angle blasters, and a year to work in, we might,” said Sandropoulos, “but we haven't and there's a better way. If we could get our own plants going, the formation of oxygen through photosynthesis would increase the rate of ammonia oxidation. Even a small localized rise would lower the ammonia in the region, stimulate Earth-plant growth further and inhibit the native growth, drop the ammonia further, and so on.”

They became gardeners through all the growing season. That was, after all, routine for the Galactic Corps. Life on Earth-type planets was usually of the water/protein type, but variation was infinite and other-world food was rarely nourishing and even more rarely palatable. One had to try Earth plants of different sorts. It often happened (not always, but often) that some types of Earth plants would overrun and drown out the native flora. With the native flora held down, other Earth plants could take root.

Dozens of planets had been converted into new Earths in this fashion. In the process Earthly plants developed hundreds of hardy varieties that flourished under extreme conditions. -All the better with which to seed the next planet.

The ammonia would kill any Earth plant, but the seeds at the disposal of the Cruiser John were not true Earth plants but otherworld mutations of these plants. They fought hard but not well enough. Some varieties grew in a feeble, sickly manner and then died.

At that they did better than did microscopic life. The planet's bacterioids were far

more flourishing than was the planet's straggly blue plant life. The native micro-organisms drowned out any attempt at competition from Earth samples. The attempt to seed the alien soil with Earthtype bacterial flora in order to aid the Earth plants failed.

Vlassov shook his head. “It wouldn't do anyway. If our bacteria survived, it would only be by adapting to the presence of ammonia.”

Sandropoulos said, “Bacteria won't help us. We need the plants; they carry the oxygen-manufacturing systems.”

“We could make some ourselves,” said Petersen. “We could electrolyze water.”

“How long will our equipment last? If we could only get our plants going, it would be like electrolyzing water forever, little by little, but year after year, till the planet gave up.”

Barrere said, “Let's treat the soil then. It's rotten with ammonium salts. We'll bake the salts out and replace the ammonia-free soil.”

“And what about the atmosphere?” asked Chou. “In ammonia-free soil, they may catch hold despite the atmosphere. They almost make it as is.”

They worked like longshoremen, but with no real end in view. None really thought it would work, and there was no future for themselves, personally, even if it did work. But working passed the days.

The next growing season, they had their ammonia-free soil, but Earth plants still grew only feebly. They even placed domes over several shoots and pumped ammonia-free air within. It helped slightly but not enough. They adjusted the chemical composition of the soil in every possible fashion. There was no reward.

The feeble shoots produced their tiny whiffs of oxygen, but not enough to topple the ammonia atmosphere off its narrow base.

“One more push,” said Sandropoulos, “one more. We're rocking it; we're rocking it; but we can't knock it over.”

Their tools and equipment blunted and wore out with time and the future closed in steadily. Each month there was less room for maneuver.

When the end came at last it was with almost gratifying suddenness. There was no name to place on the weakness and vertigo. No one actually suspected direct ammonia poisoning. Still, they were living off the algal growths of what had once been

ship-hydroponics for years, and the growths were themselves aberrant with possible ammonia contamination.

It could have been the workings of some native microorganism which might finally have learned to feed off them. It might even have been an Earthly microorganism, mutated under the conditions of a strange world.

So three died at last, and did so, circumstances be praised, painlessly. They were glad to go, and leave the useless fight.

Chou said in a voiceless whisper, “It's foolish to lose so badly.”

Petersen, alone of the five to be on his feet (was he immune, whatever it was?) turned a grieving face toward his only living companion. “Don't die,” he said, “don't leave me alone.”

Chou tried to smile. “I have no choice. -But you can follow us old-friend. Why fight? The tools are gone and there is no way of winning now, if there ever was.”

Even now, Petersen fought off final despair by concentrating on the fight against the atmosphere. But his mind was weary, his heart worn-out, and when Chou died the next hour he was left with four corpses to work with.

He stared at the bodies, counting over the memories, stretching them back (now that he was alone and dared wail) to Earth itself, which he had last seen on a visit nearly eleven years before.

He would have to bury the bodies. He would break off the bluish branches of the native leafless trees and build crosses of them. He would hang the space helmet of each man on top and prop the oxygen cylinders below. Empty cylinders to symbolize the lost fight.

A foolish sentiment for men who could no longer care, and for future eyes that might never see.

But he was doing it for himself, to show respect for his friends, and respect for himself, too, for he was not the kind of man to leave his friends untended in death while he himself could stand.

Besides-

Besides? He sat in weary thought for some moments. While he was still alive he would fight with such tools as were left. He would bury his friends.

He buried each in a spot of ammonia-free soil they had so laboriously built up: buried them without shroud and without clothing; leaving them naked in the hostile ground for the slow decomposition that would come with their own micro-organisms before those, too, died with the inevitable invasion of the native bacterioids.

Petersen placed each cross, with its helmet and oxygen cylinders, propped each with rocks, then turned away, grim and sad-eyed, to return to the buried ship that he now inhabited alone.

He worked each day and eventually the symptoms came for him, too. He struggled into his spacesuit and came to the surface for what he knew would be one last time.

He fell to his knees on the garden plots. The Earth plants were green. They had lived longer than ever before. They looked healthy, even vigorous.

They had patched the soil, babied the atmosphere, and now Petersen had used the last tool, the only one remaining at his disposal, and he had given them fertilizer as well

Out of the slowly corrupting flesh of the Earthmen came the nutrients that supplied the final push. Out of the Earth plants came the oxygen that would beat back the ammonia and push the planet out of the unaccountable niche into which it had stuck.

If Earthmen ever came again (when? a million years hence?) they would find a nitrogen/oxygen atmosphere and a limited flora strangely reminiscent of Earth's.

The crosses would rot and decay; the metal, rust and decompose. The bones might fossilize and remain to give a hint as to what happened. Their own records, sealed away, might be found.

But none of that mattered. If nothing at all was ever found, the planet itself, the whole planet, would be their monument.

And Petersen lay down to die amid their victory.