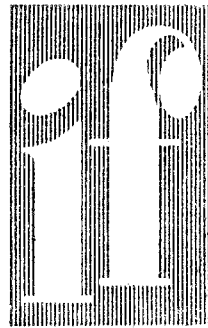




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WORLDS of SCIENCE FICTION

SEPTEMBER 1953

All Stories New and Complete

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Rarely, if ever, has science fiction plumbed so deeply and with such sensitivity the depths of human thoughts and emotions as in this case. For here, Earthmen's vote has a direct effect upon the future of a planet, their own culture and the universe itself.

A CASE OF CONSCIENCE

By James Blish

Illustrated by Ed Emsh

THE STONE door slammed. It was Cleaver's trade-mark: there had never been a door too heavy, complex, or cleverly tracked to prevent him from closing it with a sound like a clap of doom. And no planet in the universe could possess an air sufficiently thick and curtained with damp to muffle that sound. Not even Lithia.

Ruiz-Sanchez continued to read. It would take Cleaver's impatient fingers quite a while to free him from his jungle suit, and in the meantime the problem remained. It was a century-old problem, first propounded in 1939, but the Church had never cracked it. And it was diabolically complex (that adverb was official, precisely chosen and literally intended). Even the

novel which proposed the case was on the Index, and Father Ramon Ruiz-Sanchez, S. J., had access to it only by virtue of his Order.

He turned the page, scarcely hearing the stamping and muttering in the hall. On and on the text ran, becoming more tangled, more evil, more insoluble with every word:

"... and Magravius knows from spies that Anita has formerly committed double sacrilege with Michael, *vulgo* Cerularius, a perpetual curate, who wishes to seduce Eugenius. Magravius threatens to have Anita molested by Sulla, an orthodox savage (and leader of a band of twelve mercenaries, the Sullivani), who desires to procure Felicia for Gregorius, Leo, Viteilius

and Macdugalius, four excavators, if she will not yield to him and also deceive Honuphrius by rendering conjugal duty when demanded. Anita, who claims to have discovered incestuous temptations from Jeremias and Eugenius—

There now, he was lost again. He backtracked resignedly. Jeremias and Eugenius were—? Oh, yes, the "brotherly lovers" at the beginning of the case, consanguineous to the lowest degree with both Felicia and Honuphrius—the latter the apparent prime villain and the husband of Anita. It was Magravius, who seemed to admire Honuphrius, who had been urged by the slave Marius to solicit Anita, seemingly under the urging of Honuphrius himself. This, however, had come to Anita through her tirewoman Fortissa, who was or at one time had been the common-law wife of Mauritius himself and had borne him children—so that the whole story had to be weighed with the utmost caution. And that entire initial confession of Honuphrius had come out under torture—voluntarily consented to, to be sure, but still torture. The Fortissa-Mauritius relationship was even more dubious, really only a supposition of Father Ware's, though certainly a plausible one considering the public repentance of Sulla after the death of Canicula, who was—yes, that was correct, Mauritius' second wife. No, his first wife; he had never been legally married to Fortissa. It was Magravius' desire for Felicia after the death of Gillia that had confused him there.

"Ramon, give me a hand, will you?" Cleaver shouted suddenly.

"I'm stuck and—and I don't feel well."

The Jesuit biologist arose in alarm. Such an admission from Cleaver was unprecedented.

THE PHYSICIST was sitting on a pouf of woven rushes, stuffed with a sphagnum-like moss, which was bulging at the equator under his weight. He was half-way out of his glass-fiber jungle suit, and his face was white and beaded with sweat, although his helmet was already off. His uncertain fingers tore at a jammed zipper.

"Paul! Why didn't you say you were ill in the first place? Here, let go of that; you're only making things worse. What happened?"

"Don't know exactly," Cleaver said, breathing heavily but relinquishing the zipper. Ruiz-Sanchez knelt beside him and began to work it carefully back onto its tracks. "Went a ways into the jungle to see if I could spot more pegmatite lies; it's been in the back of my mind that a pilot-plant for turning out tritium might locate here eventually—ought to be able to produce on a prodigious scale."

"God forbid," Ruiz-Sanchez said under his breath.

"Hm? Anyhow, I didn't see anything. Few lizards, hoppers, the usual thing. Then I ran up against a plant that looked a little like a pineapple, and one of the spines jabbed right through my suit and nicked me. Didn't seem serious, but—"

"But we don't have the suits for nothing. Let's look at it. Here, put up your feet and we'll haul those boots off. Where did you get

—oh. Well, it's angry-looking, I'll give it that. Any other symptoms?"

"My mouth feels raw," Cleaver complained.

"Open up," the Jesuit commanded. When Cleaver complied, it became evident that his complaint had been the understatement of the year. The mucosa inside his mouth was nearly covered with ugly and undoubtedly painful ulcers, their edges as sharply defined as if cut with a cookie-punch.

Ruiz-Sanchez made no comment, however, and deliberately changed his expression to one of carefully calculated dismissal. If the physicist needed to minimize his ailments, it was all right with Ruiz-Sanchez. An alien planet is not a good place to strip a man of his inner defenses. "Come into the lab," he said. "You've got some inflammation in there."

Cleaver arose, a little unsteadily, and followed the Jesuit into the laboratory. There Ruiz-Sanchez took smears from several of the ulcers onto microscope slides and Gram-stained them. He filled the time consumed by the staining process with the ritual of aiming the microscope's substage mirror out the window at a brilliant white cloud. When the timer's alarm went off, he rinsed and flame-dried the first slide and slipped it under the clips.

As he had half feared, he saw few of the mixed bacilli and spirochetes which would have indicated a case of ordinary, Earthly, Vincent's angina—which the clinical picture certainly suggested. Cleaver's oral flora were normal, though on the increase because of all the

exposed tissue.

"I'm going to give you a shot," Ruiz-Sanchez said gently. "And then I think you'd better go to bed."

"The hell with that," Cleaver said. "I've got nine times as much work to do as I can hope to clean up, without any additional handicaps."

"Illness is never convenient," Ruiz-Sanchez agreed. "But why worry about losing a day or so, since you're in over your head anyhow?"

"What have I got?" Cleaver asked suspiciously.

"You haven't got anything," Ruiz-Sanchez said, almost regretfully. "That is, you aren't infected. But your 'pineapple' did you a bad turn. Most plants of that family on Lithia bear thorns or leaves coated with polysaccharides that are poisonous to us. The particular glucoside you got today was evidently squill, or something closely related to it. It produces symptoms like those of trench-mouth, but a lot harder to clear up."

"How long will that take?" Cleaver said. He was still balking, but he was on the defensive now.

"Several days at least—until you've built up an immunity. The shot I'm going to give you is a gamma globulin specific against squill, and it ought to moderate the symptoms until you've developed a high antibody titer of your own. But in the process you're going to run quite a fever, Paul; and I'll have to keep you well stuffed with anti-pyretics, because even a little fever is dangerous in this climate."

"I know it," Cleaver said, mollified. "The more I learn about this

place, the less disposed I am to vote 'aye' when the time comes. Well, bring on your shot—and your aspirin. I suppose I ought to be glad it isn't a bacterial infection, or the Snakes would be jabbing me full of antibiotics."

"Small chance of that," Ruiz-Sanchez said. "I don't doubt that the Lithians have at least a hundred different antibiotics we'll be able to use eventually, but—there, that's all there is to it; you can relax now—but we'll have to study their pharmacology from the ground up, first. All right, Paul, hit the hammock. In about ten minutes you're going to wish you were born dead, that I promise you."

CLEAVER grinned. His sweaty face under its thatch of dirty blond hair was craggy and powerful even in illness. He stood up and deliberately rolled down his sleeve. "Not much doubt about how you'll vote, either," he said. "You like this planet, don't you, Ramon? It's a biologist's paradise, as far as I can see."

"I do like it," the priest said, smiling back. He followed Cleaver into the small room which served them both as sleeping quarters. Except for the window, it strongly resembled the inside of a jug. The walls were curving and continuous, and were made of some ceramic material which never beaded or felt wet, but never seemed to be quite dry, either. The hammocks were slung from hooks which projected smoothly from the walls. "But don't forget that Lithia's my first extra-

solar planet. I think I'd find any new, habitable world fascinating. The infinite mutability of life-forms, and the cunning inherent in each of them . . . It's all amazing and very delightful."

Cleaver sprawled heavily in his hammock. After a decent interval, Ruiz-Sanchez took the liberty of heaving up after him the foot he seemed to have forgotten. Cleaver didn't notice. The reaction was setting in.

"Read me no tracts, Father," Cleaver said. Then: "I didn't mean that. I'm sorry . . . But for a physicist, this place is hell . . . You'd better get me that aspirin. I'm cold."

"Surely." Ruiz-Sanchez went quickly back into the lab, made up a salicylate-barbiturate paste in one of the Lithians' superb mortars, and pressed it into a set of pills. He wished he could stamp each pill "Bayer" before it dried—if Cleaver's personal cure-all was aspirin, it would be just as well to let him think he was taking aspirin—but he had no dies for the purpose. He took two of the pills back to Cleaver with a mug and a carafe of Berkeley-filtered water.

The big man was already asleep; Ruiz-Sanchez woke him. Cleaver would sleep longer and awake farther along the road to recovery if he were done that small unkindness now. As it was, he hardly noticed when the pills were put down him, and soon resumed his heavy, troubled breathing.

That done, Ruiz-Sanchez returned to the front room of the house, sat down, and began to inspect the jungle suit. The tear which the plant spine had made

was not difficult to find, and would be easy to repair. It would be much harder to repair Cleaver's notion that their defenses were invulnerable, and that plants could be blundered against with impunity. Ruiz-Sanchez wondered if one or both of the other members of the Commission still shared that notion.

Cleaver had called the thing which had brought him low a "pineapple." Any biologist could have told Cleaver that even on Earth the pineapple is a prolific and dangerous weed, edible only by a happy and irrelevant accident. In Hawaii, as Ruiz-Sanchez remembered, the tropical forest was quite impassible to anyone not wearing heavy boots and tough trousers. The close-packed, irrepressible pineapples outside of the plantations could tear unprotected legs to ribbons.

The Jesuit turned the suit over. The zipper that Cleaver had jammed was made of a plastic into the molecule of which had been incorporated radicals from various Terrestrial anti-fungal substances, chiefly thiolutin. The fungi of Lithia respected these, all right, but the elaborate molecule of the plastic itself had a tendency, under Lithian humidities and heats, to undergo polymerization more or less spontaneously. That was what had happened here. One of the teeth of the zipper had changed into something resembling a piece of popcorn.

IT GREW slowly dark as Ruiz-Sanchez worked. There was a muted puff of sound, and the room was illuminated with small, soft

yellow flames from recesses in every wall. The burning substance was natural gas, of which Lithia had an inexhaustible and constantly renewed supply. The flames were lit by adsorption against a catalyst, as soon as the gas came on. A lime mantle, which worked on a rack and pinion of heatproof glass, could be moved into the flame to provide a brighter light; but the priest liked the yellow light the Lithians themselves preferred, and used the lime-light only in the laboratory.

For some things, of course, the Earthmen had to have electricity, for which they had been forced to supply their own generators. The Lithians had a far more advanced science of electrostatics than Earth had, but of electrodynamics they knew comparatively little. They had discovered magnetism only a few years before, since natural magnets were unknown on the planet. They had first observed the phenomenon, not in iron, of which they had next to none, but in liquid oxygen—a difficult substance from which to make generator coil cores!

The results in terms of Lithian civilization were peculiar, to an Earthman. The tall, reptilian people had built several huge electrostatic generators and scores of little ones, but had nothing even vaguely resembling telephones. They knew a great deal on the practical level about electrolysis, but carrying a current over a long distance—say one kilometer—was regarded by them as impossible. They had no electric motors as an Earthman would understand the term, but made fast intercontinental flights in jet aircraft powered by *static* elec-

tricity. Cleaver said he understood this feat, but Ruiz-Sanchez certainly did not.

They had a completely marvelous radio network, which among other things provided a "live" navigational grid for the whole planet, zeroed on (and here perhaps was the epitome of the Lithian genius for paradox) a tree. Yet they had never produced a commercial vacuum tube and their atomic theory was not much more sophisticated than Democritus' had been!

These paradoxes, of course, could be explained in part by the things that Lithia lacked. Like any large rotating mass, Lithia had a magnetic field of its own, but a planet which almost entirely lacks iron provides its people with no easy way to discover magnetism. Radioactivity, at least until the Earthmen had arrived, had been entirely unknown on the surface of Lithia, which explained the hazy atomic theory. Like the Greeks, the Lithians had discovered that friction between silk and glass produces one kind of charge, and between silk and amber another. They had gone on from there to Widmanstetten generators, electrochemistry, and the static jet—but without suitable metals they were unable to make batteries or do more than begin to study electricity in motion.

In the fields where they had been given fair clues, they had made enormous progress. Despite the constant cloudiness and endemic drizzle, their descriptive astronomy was excellent, thanks to the fortunate presence of a small moon which had drawn their attention outward early. This in turn made for basic

advances in optics. Their chemistry took full advantage of both the seas and the jungles. From the one they took such vital and diversified products as agar, iodine, salt, trace metals, and foods of many kinds. The other provided nearly everything else that they needed: resins, rubbers, woods of all degrees of hardness, edible and essential oils, vegetable "butters," rope and other fibers, fruits and nuts, tannins, dyes, drugs, cork, paper. Indeed, the sole forest product which they did *not* take was game, and the reason for this oversight was hard to find. It seemed to the Jesuit to be religious—yet the Lithians had no religion, and they certainly ate many of the creatures of the sea without qualms of conscience.

HE DROPPED the jungle suit into his lap with a sigh, though the popcorned tooth still was not completely trimmed back into shape. Outside, in the humid darkness, Lithia was in full concert. It was a vital, somehow fresh, new-sounding drone, covering most of the sound spectrum audible to an Earthman. It came from the myriad insects of Lithia. Many of these had wiry, ululating songs, almost like birds, in addition to the scrapes and chirrups and wing-buzzes of the insects of Earth.

Had Eden sounded like that, before evil had come into the world? Ruiz-Sanchez wondered. Certainly his native Peru sang no such song. Qualms of conscience—these were, in the long run, his essential business, rather than the taxonomical jungles of biology, which had al-

ready become tangled into near-hopelessness on Earth before space-flight had come along to add whole new volumes of puzzles. It was only interesting that the Lithians were bipedal reptiles with marsupial-like pouches and pteropsid circulatory systems. But it was vital that they had qualms of conscience—if they did.

He and the other three men were on Lithia to decide whether or not Lithia would be suitable as a port of call for Earth, without risk of damage to either Earthmen or Lithians. The other three men were primarily scientists, but Ruiz-Sanchez' own recommendation would in the long run depend upon conscience, not upon taxonomy.

He looked down at the still-imperfect suit with a troubled face until he heard Cleaver moan. Then he arose and left the room to the softly hissing flames.

II

FROM THE OVAL front window of the house to which Cleaver and Ruiz-Sanchez had been assigned, the land slanted away with insidious gentleness toward the ill-defined south edge of Lower Bay, a part of the Gulf of Sfath. Most of the area was salt marsh, as was the sea-side nearly everywhere on Lithia. When the tide was in, the flats were covered to a depth of a meter or so almost half the way to the house. When it was out, as it was tonight, the jungle symphony was augmented by the agonized barking of a score of species of lungfish. Occasionally,

when the small moon was unoccluded and the light from the city was unusually bright, one could see the leaping shadow of some amphibian, or the sinuously advancing sigmoid track of the Lithian crocodile, in pursuit of some prey faster than itself but which it would nonetheless capture in its own geological good time.

Still farther—and usually invisible even in daytime because of the pervasive mists—was the opposite shore of Lower Bay, beginning with tidal flats again, and then more jungle, which ran unbroken thereafter for hundreds of kilometers to the equatorial sea.

Behind the house, visible from the sleeping room, was the rest of the city, Xoredeshch Sfath, capitol of the great southern continent. Like all the cities the Lithians built, its most striking characteristic to an Earthman was that it hardly seemed to be there at all. The Lithian houses were low, and made of the earth which had been dug from their foundations, so that they tended to fade into the soil even to a trained observer.

Most of the older buildings were rectangular, put together without mortar of rammed-earth blocks. Over the course of decades the blocks continued to pack and settle themselves until it became easier to abandon an unwanted building than to tear it down. One of the first setbacks the Earthmen had suffered on Lithia had come through an ill-advised offer to raze one such structure with TDX, a gravity-polarized explosive unknown to the Lithians. The warehouse in question was large, thick-

walled, and three Lithian centuries old. The explosion created an uproar which greatly distressed the Lithians, but when it was over, the storehouse still stood, unshaken.

Newer structures were more conspicuous when the sun was out, for just during the past half century the Lithians had begun to apply their enormous knowledge of ceramics to house construction. The new houses assumed thousands of fantastic, quasi-biological shapes, not quite amorphous but not quite resembling any form in experience either. Each one was unique and to the choice of its owner, yet all markedly shared the character of the community and the earth from which it sprang. These houses, too, would have blended well with the background of soil and jungle, except that most of them were glazed and so shone blindingly for brief moments on sunny days when the light and the angle of the observer was just right. These shifting coruscations, seen from the air, had been the Earthmen's first intimation that there was intelligent life in the ubiquitous Lithian jungle.

Ruiz-Sanchez looked out the sleeping-room window at the city for at least the ten thousandth time on his way to Cleaver's hammock. Xoredeshch Sfath was alive to him; it never looked the same twice. He found it singularly beautiful.

He checked Cleaver's pulse and respiration. Both were fast, even for Lithia, where a high carbon dioxide partial pressure raised the pH of the blood of Earthmen to an abnormal level and stimulated the breathing reflex. The priest judged, however, that Cleaver was in little

danger as long as his actual oxygen utilization was not increased. At the moment he was certainly sleeping deeply—if not very restfully—and it would do no harm to leave him alone for a little while.

Of course, if a wild allosaur should blunder into the city . . . But that was about as likely as the blundering of an untended elephant into the heart of New Delhi. It could happen, but almost never did. And no other dangerous Lithian animal could break into the house if it were sealed.

RUIZ-SANCHEZ checked the carafe of fresh water in the niche beside the hammock, went into the hall, and donned boots, macintosh and waterproof hat. The night sounds of Lithia burst in upon him as he opened the stone door, along with a gust of sea air and the characteristic halogen odor most people call "salty." There was a thin drizzle falling, making haloes around the lights of Xoredeshch Sfath. Far out, on the water, another light moved. That was probably the coastal side-wheeler to Yllith, the enormous island which stood athwart the Upper Bay, barring the Gulf of Sfath as a whole from the equatorial sea.

Outside, Ruiz-Sanchez turned the wheel which extended bolts on every margin of the door. Drawing from his macintosh a piece of soft chalk, he marked on the sheltered tablet designed for such uses the Lithian symbols which meant "Illness is here." That would be sufficient. Anybody who chose to could open the door simply by turning

the wheel, but the Lithians were overridingly social beings, who respected their own conventions as they would respect natural law.

That done, Ruiz-Sanchez set out for the center of the city and the Message Tree. The asphalt streets shone in the yellow lights cast from windows, and in the white light of the mantled, wide-spaced street lanterns. Occasionally he passed the eight-foot, kangaroo-like shape of a Lithian, and the two exchanged glances of frank curiosity, but there were not many Lithians abroad now. They kept to their houses at night, doing Ruiz-Sanchez knew not what. He could see them frequently, alone or by twos or threes, moving behind the oval windows of the houses he passed. Sometimes they seemed to be talking.

What about?

It was a nice question. The Lithians had no crime, no newspapers, no household communications systems, no arts that could be differentiated clearly from their crafts, no political parties, no public amusements, no nations, no games, no religions, no sports, no celebrations. Surely they didn't spend every waking minute of their lives exchanging knowledge, discussing philosophy or history? Or did they? Perhaps, Ruiz-Sanchez thought suddenly, they simply went inert once they were inside their jugs, like so many pickles! But even as the thought came, the priest passed another house, and saw their silhouettes moving to and fro . . .

A puff of wind scattered cool droplets in his face. Automatically, he quickened his step. If the night were to turn out especially windy,

there would doubtless be many voices coming and going in the Message Tree. It loomed ahead of him now, a sequoia-like giant, standing at the mouth of the valley of the River Sfath—the valley which led in great serpentine folds into the heart of the continent, where Gleshchetk Sfath, or Blood Lake in English, poured out its massive torrents.

As the winds came and went along the valley, the tree nodded and swayed. With every movement, the tree's root system, which underlay the entire city, tugged and distorted the buried crystalline cliff upon which the city had been founded, as long ago in Lithian prehistory as was the founding of Rome on Earth. At every such pressure, the buried cliff responded with a vast heart-pulse of radio waves—a pulse detectable not only all over Lithia, but far out in space as well.

These bursts, of course, were sheer noise. How the Lithians modified them to carry information—not only messages, but the amazing navigational grid, the planet-wide time-signal system, and much more—was something Ruiz-Sanchez never expected to learn, although Cleaver said it was all perfectly simple once you understood it. It had something to do with semi-conduction and solid-state physics, which—again according to Cleaver—the Lithians understood better than any Earthman.

Almost all knowledge, Ruiz-Sanchez reflected with amusement, fell into that category. It was either perfectly simple once you understood it, or else it fell apart into fiction. As a Jesuit—even here, 40

light-years from Rome—Ruiz-Sanchez knew something about knowledge that Cleaver would never learn: that all knowledge goes through *both* stages, the annunciation out of noise into fact and the disintegration back into noise again. The process involved was the making of increasingly finer distinctions. The outcome was an endless series of theoretical catastrophes. The residuum was faith.

THE HIGH, sharply vaulted chamber, like an egg stood on its large end, which had been burned out in the base of the Message Tree was droning with life as Ruiz-Sanchez entered it. It would have been difficult to imagine anything less like an Earthly telegraph office or other message center, however.

Around the circumference of the lower end of the egg there was a continual whirling of tall figures, Lithians entering and leaving through the many doorless entrances and changing places in the swirl of movement like so many electrons passing from orbit to orbit. Despite their numbers, their voices were pitched so low that Ruiz-Sanchez could hear blended in with their murmuring the sighing of the wind through the enormous branches far aloft.

The inner side of this band of moving figures was bounded by a high railing of black, polished wood, evidently cut from the phloëm of the tree itself. On the other side of this Encke's Division a thin circlet of Lithians took and passed out messages steadily and

without a moment's break, handling the total load faultlessly—if one were to judge by the way the outer band was kept in motion—and without apparent effort by memory alone. Occasionally one of these specialists would leave the circlet and go to one of the desks which were scattered over most of the rest of the sloping floor, increasingly thinly, like a Crêpe Ring, to confer there with the desk's occupant. Then he went back to the black rail, or, sometimes, he took the desk and its previous occupant went to the rail.

The bowl deepened, the desks thinned, and at the very center stood a single, aged Lithian, his hands clapped to the ear-whorls behind his heavy jaws, his eyes covered by their nictitating membrane, only his nasal fossae and heat-receptive postnasal pits uncovered. He spoke to no one, and no one consulted him—but the absolute stasis in which he stood was obviously the reason, the sole reason, for the torrents and countertorrents of people which poured along the outermost ring.

Ruiz-Sanchez stopped, astonished. He had never himself been to the Message Tree before—communicating with the other two earthmen on Lithia had been, until now, one of Cleaver's tasks—and the priest found that he had no idea what to do. The scene before him was more suggestive of a bourse than of a message center in any ordinary sense. It seemed unlikely that so many Lithians could have urgent personal messages to send each time the winds were active; yet it seemed equally uncharacter-

istic that the Lithians, with their stable, abundance-based economy, should have any equivalent of stock or commodity brokerage.

There seemed to be no choice, however, but to plunge in, try to reach the polished black rail, and ask one of those who stood on the other side to try and raise Agronski or Michelis again. At worst, he supposed, he could only be refused, or fail to get a hearing at all. He took a deep breath.

Simultaneously, his left elbow was caught in a firm four-fingered grip. Letting the stored breath out again in a snort of surprise, the priest looked around and up at the solicitously bent head of a Lithian. Under the long, trap-like mouth, the being's wattles were a delicate, curious aquamarine, in contrast to its vestigial comb, which was a permanent and silvery sapphire, shot through with veins of fuchsia.

"You are Ruiz-Sanchez," the Lithian said in his own language. The priest's name, unlike that of most of the other Earthmen, fell easily in that tongue. "I know you by your robe."

This was pure chance; any Earthman out in the rain in a macintosh would have been identified as Ruiz-Sanchez, because he was the only Earthman who seemed to the Lithians to wear the same garment indoors. "I am Chtexa, the metallist, who consulted with you earlier on medicine and on your mission and other matters. We have not seen you here before. Do you wish to talk with the Tree?"

"I do," Ruiz-Sanchez said gratefully. "It is so that I am new here.

Can you explain to me what to do?"

"Yes, but not to any profit," Chtexa said, tilting his head so that his completely inky pupils shone down into Ruiz-Sanchez' eyes. "One must have observed the ritual, which is very complex, until it is habit. We have grown up with it, but you I think lack the coordination to follow it on the first attempt. If I may bear your message instead . . ."

"I would be most indebted. It is for our colleagues Agronski and Michelis. They are at Xoredeshch Gton on the northeast continent, at about 32° East 32° North—"

"Yes, the second benchmark, at the outlet of the Lesser Lakes; the city of the potters. And you will say?"

"That they are to join us now, here, at Xoredeshch Sfath. And that our time on Lithia is almost up."

"That me regards. But I will bear it."

CHTEXA LEAPT into the whirling crowd, and Ruiz-Sanchez was left behind, considering again his thankfulness at the pains he had taken to learn the Lithian language. Several members of the Terrestrial commission had shown a regrettable lack of interest in that tongue: "Let 'em learn English," had been Cleaver's classic formulation. Ruiz-Sanchez was all the less likely to view this idea sympathetically considering that his own native language was Spanish and his preferred foreign language German.

Agronski had taken a slightly more sophisticated stand: it was not, he said, that Lithian was too difficult to pronounce—certainly it wasn't any harder than Arabic or Russian on the soft palate—but, after all, "it's hopeless to attempt to grasp the concepts that lie behind a really alien language in the time we have to spend here, isn't it?"

To both views, Michelis had said nothing; he had simply set out to learn to read the language first, and if he found his way from there into speaking it, he would not be surprised and neither would his confreres. That was Michelis' way of doing things, thorough and un-theoretical at the same time. As for the other two approaches, Ruiz-Sanchez thought privately that it was close to criminal to allow any contact-man for a new planet ever to leave Earth with such parochial notions. Of Cleaver's tendency to refer to the Lithians themselves as "the Snakes," Ruiz-Sanchez' opinion was such as to be admissible only to his remote confessor.

And in view of what lay before him now in this egg-shaped hollow, what was Ruiz-Sanchez to think of Cleaver's conduct as communications officer for the group? Surely he could never have transmitted or received a single message through the Tree, as he had claimed to have done. Probably he had never been nearer to the Tree than the priest had been.

Of course, it went without saying that he had been in contact with Agronski and Michelis by *some* method, but that method evidently had been a private transmitter con-

cealed in his luggage. . . Yet, physicist though he most definitely was not, Ruiz-Sanchez rejected that solution on the spot; he had some idea of the practical difficulties of ham radio on a world like Lithia, swamped as it was on all wavelengths by the tremendous pulses which the Tree wrung from the buried crystalline cliff. The problem was beginning to make him feel decidedly uncomfortable.

Then Chtexa was back, recognizable not so much by any physical detail—for his wattles were now the same ambiguous royal purple as those of most of the other Lithians in the crowd—as by the fact that he was obviously bearing down upon the Earthman.

"I have sent your message," he said at once. "It is recorded at Xoredeshch Gton. But the other Earthmen are not there. They have not been in the city for some days."

That was impossible. Cleaver had said he had spoken to Agronski only a day ago. "Are you sure?" Ruiz-Sanchez said cautiously.

"It admits of no uncertainty. The house which we gave them stands empty. The many things which they had with them are gone." The tall shape raised its small hands in a gesture which might have been solicitous. "I think this is an ill word. I dislike to bring it you. The words which you brought me when we first met were full of good."

"Thank you. Don't worry," Ruiz-Sanchez said distractedly. "No man could hold the bearer responsible for the word, surely."

"Whom else would he hold responsible for it? At least that is our custom," Chtexa said. "And un-

der it, you have lost by our exchange. Your words on iron have been shown to contain great good. I would take pleasure in showing you how we have used them, especially so since I have brought you in return an ill message. If you would share my house tonight, without prejudice to your work . . ."

Sternly Ruiz-Sanchez stifled his sudden excitement. Here was the first chance, at long last, to see something of the private life of Lithia! And through that, perhaps, gain some inkling of the moral life, the rôle in which God had cast the Lithians in the ancient drama of good and evil in the past and in the times to come. Until that was known, the Lithians in their Eden were only spuriously good: all reason, all organic thinking machines, ULTIMACs with tails and without souls.

But there was the hard fact that he had left behind a sick man. There was not much chance that Cleaver would awaken before morning; he had been given nearly 15 mg. of sedative per kilogram of

body weight. But if his burly frame should somehow throw it off, driven perhaps by some anaphylactic crisis impossible to rule out this early, he would need prompt attention. At the very least, he would want badly for the sound of a human voice on this planet which he hated and which had struck him down.

Still, the danger to Cleaver was not great. He most certainly did not require a minute-by-minute vigil. There was, after all, such a thing as an excess of devotion, a form of pride among the pious which the Church had long found peculiarly difficult to stifle. At its worst, it produced a St. Simon Stylites, who though undoubtedly acceptable to God had for centuries been very bad public relations for the Church. And had Cleaver really earned the kind of devotion Ruiz-Sanchez had been proposing, up to now, to tender him as a creature of God? And with a whole planet at stake, a whole people—

A lifetime of meditation over just such problems of conscience had made Ruiz-Sanchez, like any



other gifted member of his Order, quick to find his way through all but the most complex ethical labyrinths to a decision. An unsympathetic observer might almost have called him "agile."

"Thank you," he said, a little shakily. "I will share your house very gladly."

III

CLEAVER? Cleaver! Wake up, you big slob. Where the hell have you been?"

Cleaver groaned and tried to turn over. At his first motion, the world began to rock gently, sickeningly. His mouth was filled with burning pitch.

"Cleaver, turn out. It's me—Agronski. Where's the Father? What's wrong? Why didn't we hear from you? *Look out*, you'll—"

The warning came too late and Cleaver could not have understood it anyhow; he had been profoundly asleep and had no notion of his situation in space or time. At his convulsive twist away from the nagging voice, the hammock rotated on its hooks and dumped him.

He struck the floor stunningly, taking the main blow across his right shoulder, though he hardly felt it as yet. His feet, not yet part of him at all, still remained afloat far aloft, twisted in the hammock webbing.

"Good lord!" There was a brief chain of footsteps, like chestnuts dropping on a roof, and then an overstated crash. "Cleaver, are you sick? Here, lie still a minute and let me get your feet free. Mike—Mike,

can't you turn the gas up in this jug? Something's wrong back here."

After a moment, yellow light began to pour from the glistening walls. Cleaver dragged an arm across his eyes, but it did him no good; it tired too quickly. Agronski's mild face, plump and anxious, floated directly above him like a captive balloon. He could not see Michelis anywhere, and at the moment he was just as glad. Agronski's presence was hard enough to understand.

"How . . . the hell . . ." he said.

At the words, his lips split painfully at both corners. He realized for the first time that they had become gummed together, somehow, while he was asleep. He had no idea how long he had been out of the picture.

Agronski seemed to understand the aborted question. "We came in from the Lakes in the 'copter," he said. "We didn't like the silence down here and we figured that we'd better come in under our own power, instead of registering in on the regular jetliner and tipping the Lithians off—just in case there'd been any dirty work afloat."

"Stop jawing him," Michelis said, appearing suddenly, magically in the doorway. "He's got a bug, that's obvious. I don't like to feel pleased about misery, but I'm glad it's that instead of the Lithians."

The rangy, long-jawed chemist helped Agronski lift Cleaver to his feet. Tentatively, despite the pain, Cleaver got his mouth open again. Nothing came out but a hoarse croak.

"Shut up," Michelis said, not unkindly. "Let's get him back into

the hammock. Where's the Father? He's the only one capable of dealing with sickness here."

"I'll bet he's dead," Agronski burst out suddenly, his face glistening with alarm. "He'd be here if he could. It must be catching, Mike."

"I didn't bring my mitt," Michelis said drily. "Cleaver, lie still or I'll have to clobber you. Agronski, you seem to have dumped his water carafe; better go get him some more, he needs it. And see if the Father left anything in the lab that looks like medicine."

Agronski went out, and, maddeningly, so did Michelis—at least out of Cleaver's field of vision. Setting his every muscle against the pain, Cleaver pulled his lips apart once more.

"Mike."

Instantly, Michelis was there. He had a pad of cotton between two fingers, wet with some solution, with which he gently cleaned Cleaver's lips and chin.

"Easy. Agronski's getting you a drink. We'll let you talk in a little while, Paul. Don't rush it."

Cleaver relaxed a little. He could trust Michelis. Nevertheless, the vivid and absurd insult of having to be swabbed like a baby was more than he could bear; he felt tears of helpless rage swelling on either side of his nose. With two deft, non-committal swipes, Michelis removed them.

Agronski came back, holding out one hand tentatively, palm up. "I found these," he said. "There's more in the lab, and the Father's pillpress is still out. So's his mortar and pestle, though they've been cleaned."

"All right, let's have 'em," Michelis said. "Anything else?"

"No. There's a syringe cooking in the sterilizer, if that means anything."

Michelis swore briefly and to the point. "It means that there's a pertinent antitoxin in the shop someplace," he added. "But unless Ramon left notes, we'll not have a prayer of figuring out which one it is."

As he spoke, he lifted Cleaver's head and tipped the pills into his mouth. The water which followed was cold at the first contact, but a split second later it was liquid fire. Cleaver choked, and at that precise moment Michelis pinched his nostrils shut. The pills went down.

"There's no sign of the Father?" Michelis said.

"Not a one, Mike. Everything's in good order, and his gear's still here. Both jungle suits are in the locker."

"Maybe he went visiting," Michelis said thoughtfully. "He must have gotten to know quite a few of the Lithians by now."

"With a sick man on his hands? That's not like him, Mike. Not unless there was some kind of emergency. Or maybe he went on a routine errand, expected to be back in just a few moments, and—"

"And was set upon by trolls for forgetting to stamp his foot three times before crossing the bridge."

"All right, laugh."

"I'm not laughing, believe me."

"Mike . . ."

Michelis took a step back and looked down at Cleaver, his face floating as if detached through a haze of tears. He said: "All right,

Paul. Tell us what it is. We're listening."

But it was too late. The doubled barbiturate dose had gotten to Cleaver first. He could only shake his head, and with the motion Michelis seemed to go reeling away into a whirlpool of fuzzy rainbows.

CURIOSLY, he did not quite go to sleep. He had had nearly a normal night's sleep, and he had started out the enormously long day a powerful and healthy man. The conversation of the two Earthmen and an obsessive consciousness of his need to speak to them before Ruiz-Sanchez returned helped to keep him, if not totally awake, at least not far below a state of light trance—and the presence in his system of 30 grains of acetylsalicylic acid had seriously raised his oxygen consumption, bringing with it not only dizziness but a precarious, emotionally untethered alertness. That the fuel which was being burned to maintain it was largely the protein substrate of his own cells he did not know, and it could not have alarmed him had he known it.

The voices continued to reach him, and to convey a little meaning. With them were mixed fleeting, fragmentary dreams, so slightly removed from the surface of his waking life as to seem peculiarly real, yet at the same time peculiarly pointless and depressing. In the semi-conscious intervals there came plans, a whole succession of them, all simple and grandiose at once, for taking command of the expedition, for communicating with the authorities on Earth, for bringing forward

secret papers proving that Lithia was uninhabitable, for digging a tunnel under Mexico to Peru, for detonating Lithia in one single mighty fusion of all its light-weight atoms into an atom of cleaverium, the element whose cardinal number was aleph-null. . .

AGRONSKI: Mike, come here and look at this; you read Lithian. There's a mark on the front door, on the message tablet.

(Footsteps.)

MICHELIS: It says "Sickness inside." The strokes aren't casual or deft enough to be the work of the natives. Ideographs are hard to write rapidly. Ramon must have written it there.

AGRONSKI: I wish I knew where he went afterwards.

(Footsteps. Door shutting, not loudly. Footsteps. Hassock creaking.)

AGRONSKI: Well, we'd better be thinking about getting up a report. Unless this damn 20-hour day has me thrown completely off, our time's just about up. Are you still set on opening up the planet?

MICHELIS: Yes. I've seen nothing to convince me that there's anything on Lithia that's dangerous to us. Except maybe Cleaver in there, and I'm not prepared to say that the Father would have left him if he were in any serious danger. And I don't see how Earthmen could harm this society: it's too stable emotionally, economically, in every other way.

(*Danger, danger*, said somebody in Cleaver's dream. *It will explode. It's all a popish plot.* Then he was marginally awake again and conscious of how his mouth hurt.)

AGRONSKI: Why do you suppose these two jokers never called us after we went north?

MICHELIS: I don't have any answer. I won't even guess until I talk to Ramon. Or until Paul's able to sit up and take notice.

AGRONSKI: I don't like it, Mike. It smells bad to me. This town's right at the heart of the communications system of the planet. And yet—no messages, Cleaver sick, the Father not here. . . There's a hell of a lot we don't know about Lithia.

MICHELIS: There's a hell of a lot we don't know about central Brazil.

AGRONSKI: Nothing essential, Mike. What we know about the periphery gives us all the clues we need about the interior—even to those fish that eat people, the what are they, the pirhanas. That's not true on Lithia. We don't know whether our peripheral clues about Lithia are germane or just incidental. Something enormous could be hidden under the surface without our being able to detect it.

MICHELIS: Agronski, stop sounding like a Sunday supplement. You underestimate your own intelligence. What kind of enormous secret could that be? That the Lithians eat people? That they're cattle for unknown gods that live in the jungle? That they're actually mind-wrenching, soul-twisting, heart-stopping, bowel-moving intelligences in disguise? The moment you state any such proposition, you'll deflate it yourself. I wouldn't even need to take the trouble of examining it, or discussing how we might meet it if it were true.

AGRONSKI: All right, all right. I'll reserve judgment for the time being, anyhow. If everything turns out to be all right here, with the Father and Cleaver I mean, I'll probably go along with you. I don't have any reason I could defend for voting against the planet, I admit.

MICHELIS: Good for you. I'm sure Ramon is for opening it up, so that should make it unanimous. I can't see why Cleaver would object.

(Cleaver was testifying before a packed court convened in the UN General Assembly chambers in New York, with one finger pointed dramatically, but less in triumph than in sorrow, at Ramon Ruiz-Sanchez, S. J. At the sound of his name the dream collapsed and he realized that the room had grown a little lighter. Dawn—or the dripping, wool-grey travesty of it which prevailed on Lithia—was on its way. He wondered what he had just said to the court. It had been conclusive, damning, good enough to be used when he awoke; but he could not remember a word of it. All that remained of it was a sensation, almost the taste of the words, but with nothing of their substance.)

AGRONSKI: It's getting light. I suppose we'd better knock off.

MICHELIS: Did you stake down the 'copter? The winds here are higher than they are up north, I seem to remember.

AGRONSKI: Yes. And covered it with the tarp. Nothing left to do but sling our hammocks—

MICHELIS: Shh. What's that? (Footsteps. Faint ones, but Cleaver knew them. He forced his eyes to open a little, but there was

nothing to see but the ceiling. Its even color, and its smooth, ever-changing slope into a dome of nothingness, drew him almost immediately upward into the mists of trance once more.)

AGRONSKI: Somebody's coming. It's the Father, Mike—look out here. He seems to be all right. Dragging his feet a bit, but who wouldn't after being out helling all night?

MICHELIS: Maybe you'd better meet him at the door. It'd probably be better than our springing out at him after he gets inside. After all he doesn't expect us. I'll get to unpacking the hammocks.

AGRONSKI: Sure, Mike.

(Footsteps, going away from Cleaver. A grating sound of stone on stone: the door-wheel being turned.)

AGRONSKI: Welcome home, Father! We got in just a little while ago and—what's wrong? Are you ill? Is there something that—Mike! Mike!

(Somebody was running. Cleaver willed his neck muscles to lift his head, but they refused to obey. Instead, the back of his head seemed to force itself deeper into the stiff pillow of the hammock. After a momentary and endless agony he cried out.)

CLEAVER: Mike!

AGRONSKI: Mike!

(With a gasp, Cleaver lost the long battle at last. He was asleep.)

IV

AS THE DOOR of Chtexa's house closed behind him, Ruiz-Sanchez looked about the gently-

glowing foyer with a feeling of almost unbearable anticipation, although he could hardly have said what it was that he hoped to see. Actually, it looked exactly like his own quarters, which was all he could in justice have expected—all the furniture at "home" was Lithian except the lab equipment.

"We have cut up several of the metal meteors from our museums, and hammered them as you suggested," Chtexa said behind him, while he struggled out of his raincoat and boots. "They show very definite, very strong magnetism, just as you predicted. We now have the whole planet alerted to pick up meteorites and send them to our electrical laboratory here, regardless of where found. The staff of the observatory is attempting to predict possible falls. Unhappily, meteors are rare here. Our astronomers say that we have never had a 'shower' such as you describe as frequent on your native planet."

"No; I should have thought of that," Ruiz-Sanchez said, following the Lithian into the front room. This, too, was quite ordinary, and empty except for the two of them. "In our system we have a sort of giant grinding wheel—a whole ring of little planets, many thousands of them, distributed around an orbit where we had expected to find only one normal-sized world. Collisions between these bodies are incessant, and our plague of meteors is the result. Here I suppose you have only the usual few strays from comets."

"It is hard to understand how so unstable an arrangement could have come about," Chtexa said, sitting down and pointing out another

hassock to his guest. "Have you an explanation?"

"Not a good one," Ruiz-Sanchez said. "Some of us think that there was a respectable planet in that orbit ages ago, which exploded somehow. A similar accident happened to a satellite in our system—at least one of our planets has a similar ring. Others think that at the formation of our solar system the raw materials of what might have been a planet just never succeeded in coalescing. Both ideas have many flaws, but each satisfies certain objections to the other, so perhaps there is some truth in both."

Chtexa's eyes filmed with the mildly disquieting "inner blink" characteristic of Lithians at their most thoughtful. "There would seem to be no way to test either answer," he said at length. "By our logic, lack of such tests makes the original question meaningless."

"That rule of logic has many adherents on Earth. My colleague Dr. Cleaver would certainly agree with it." Ruiz-Sanchez smiled suddenly. He had labored long and hard to master the Lithian language, and to have understood and recognized so completely abstract a point as the one just made by Chtexa was a bigger victory than any quantitative gains in vocabulary alone could ever have been. "But I can see that we are going to have difficulties in collecting these meteorites. Have you offered incentives?"

"Oh, certainly. Everyone understands the importance of the program. We are all eager to advance it."

This was not quite what the priest had meant by his question.

He searched his memory for some Lithian equivalent of "reward," but found nothing but the word he had already used, "incentive." He realized that he knew no word for "greed," either. Evidently offering Lithians a hundred dollars a meteorite would simply baffle them. Instead he said, "Since the potential meteor-fall is so small, you're not likely to get anything like the supply of metal that you need for a real study, no matter how thoroughly you cooperate on it. You need a supplementary iron-finding program: some way of concentrating the traces of the metal you have on the planet. Our smelting methods would be useless to you, since you have no ore-beds. Hmm. What about the iron-fixing bacteria?"

"Are there such?" Chtexa said, cocking his head dubiously.

"I don't know. Ask your bacteriologists. If you have any bacteria here that belong to the genus we call *Leptothrix*, one of them should be an iron-fixing species. In all the millions of years that this planet has had life on it, that mutation must have occurred, and probably very early."

"But why have we never seen it before? We have done perhaps more research in bacteriology than we have in any other field."

"Because," Ruiz-Sanchez said earnestly, "you didn't know what to look for, and because such a species would be as rare as iron itself. On Earth, because we have iron in abundance, our *Leptothrix ochracea* has found plenty of opportunity to grow. We find their fossil sheathes by uncountable millions in our great ore-beds. It used to be

thought, as a matter of fact, that the bacteria *produced* the ore-beds, but I've never believed that. While they do obtain their energy by oxidizing ferrous iron, such salts in solution change spontaneously to ferric salts if the oxidation-reduction potential and the pH of the water are right—and those are conditions that are affected by ordinary decay bacteria. On our planet the bacteria grew in the ore-beds because the iron was there, not the other way around. In your case, you just don't have the iron to make them numerous, but I'm sure there must be a few."

"We will start a soil-sampling program at once," Chtexa said, his wattles flaring a subdued orchid. "Our antibiotics research centers screen soil samples by the thousands every month, in search of new microflora of therapeutic importance. If these iron-fixing bacteria exist, we are certain to find them eventually."

"They must exist," Ruiz-Sanchez repeated. "Do you have a bacterium that is a sulfur-concentrating obligate anaerobe?"

"Yes—yes, certainly!"

"There you are," the Jesuit said, leaning back contentedly and clasping his hands across one knee. "You have plenty of sulfur and so you have the bacterium. Please let me know when you find the iron-fixing species. I'd like to make a subculture and take it home with me when I leave. There are two Earthmen whose noses I'd like to rub in it."

The Lithian stiffened and thrust his head forward a little, as if baffled. Ruiz-Sanchez said hastily, "Pardon me. I was translating lit-

erally an aggressive idiom of my own tongue. It was not meant to describe an actual plan of action."

"I think I understand," Chtexa said. Ruiz-Sanchez wondered if he did. In the rich storehouse of the Lithian language he had yet to discover any metaphors, either living or dead. Neither did the Lithians have any poetry or other creative arts. "You are of course welcome to any of the results of this program which you would honor us by accepting. One problem in the social sciences which has long puzzled us is just how one may adequately honor the innovator. When we consider how new ideas change our lives, we despair of giving in kind, and it is helpful when the innovator himself has wishes which society can gratify."

Ruiz-Sanchez was at first not quite sure he had understood the proposition. After he had gone over it once more in his mind, he was not sure that he could bring himself to like it, although it was admirable enough. From an Earthman it would have sounded intolerably pompous, but it was evident that Chtexa meant it.

It was probably just as well that the Commission's report on Lithia was about to fall due. Ruiz-Sanchez had begun to think that he could absorb only a little more of this kind of calm sanity. And all of it—a disquieting thought from somewhere near his heart reminded him—all of it derived from reason, none from precept, none from faith. The Lithians did not know God. They did things rightly, and thought righteously, because it was reasonable and efficient and natural

to do and to think that way. They seemed to need nothing else.

Or could it be that they thought and acted as they did because, not being born of man, and never in effect having left the Garden in which they lived, they did not share the terrible burden of original sin? The fact that Lithia had never once had a glacial epoch, that its climate had been left unchanged for 700 million years, was a geological fact that an alert theologian could scarcely afford to ignore. Could it be that, free from the burden, they were also free from the curse of Adam?

And if they were—could men bear to live among them?

I HAVE SOME questions to ask you, Chtexa," the priest said after a moment. "You owe me no debt whatsoever, but we four Earthmen have a hard decision to make shortly. You know what it is. And I don't believe that we know enough yet about your planet to make that decision properly."

"Then of course you must ask questions," Chtexa said immediately. "I will answer, wherever I can."

"Well then—do your people die? I see you have the word, but perhaps it isn't the same as our word in meaning."

"It means to stop changing and to go back to existing," Chtexa said. "A machine exists, but only a living thing, like a tree, progresses along a line of changing equilibriums. When that progress stops, the entity is dead."

"And that happens to you?"

"It always happens. Even the great trees, like the Message Tree, die sooner or later. Is that not true on Earth?"

"Yes," Ruiz-Sanchez said, "yes, it is. For reasons it would take me a long time to explain, it occurred to me that you might have escaped this evil."

"It is not evil as we look at it," Chtexa said. "Lithia lives because of death. The death of leaves supplies our oil and gas. The death of some creatures is always necessary for the life of others. Bacteria must die, and viruses be prevented from living, if illness is to be cured. We ourselves must die simply to make room for others, at least until we can slow the rate at which our people arrive in the world—a thing impossible to us at present."

"But desirable, in your eyes?"

"Surely desirable," Chtexa said. "Our world is rich, but not inexhaustible. And other planets, you have taught us, have peoples of their own. Thus we cannot hope to spread to other planets when we have over-populated this one."

"No real thing is ever inexhaustible," Ruiz-Sanchez said abruptly, frowning at the iridescent floor. "That we have found to be true over many thousands of years of our history."

"But inexhaustible in what way?" said Chtexa. "I grant you that any small object, any stone, any drop of water, any bit of soil can be explored without end. The amount of information which can be gotten from it is quite literally infinite. But a given soil can be exhausted of nitrates. It is difficult, but with bad cultivation it can be done. Or

take iron, about which we have already been talking. Our planet's supply of iron has limits which we already know, at least approximately. To allow our economy to develop a demand for iron which exceeds the total known supply of Lithia—and exceeds it beyond any possibility of supplementation by meteors or by import—would be folly. This is not a question of information. It is a question of whether or not the information can be used. If it cannot, then limitless information is of no help."

"You could certainly get along without more iron if you had to," Ruiz-Sanchez admitted. "Your wooden machinery is precise enough to satisfy any engineer. Most of them, I think, don't remember that we used to have something similar: I've a sample in my own home. It's a kind of timer called a cuckoo clock, nearly two of our centuries old, made entirely of wood, and still nearly 100% accurate. For that matter, long after we began to build sea-going vessels of metal, we continued to use *lignum vitae* for ships' bearings."

"Wood is an excellent material for most uses," Chtexa agreed. "Its only deficiency, compared to ceramic materials or perhaps metal, is that it is variable. One must know it well to be able to assess its qualities from one tree to the next. And of course complicated parts can always be grown inside suitable ceramic molds; the growth pressure inside the mold rises so high that the resulting part is very dense. Larger parts can be ground direct from the plank with soft

sandstone and polished with slate. It is a gratifying material to work, we find."

Ruiz-Sanchez felt, for some reason, a little ashamed. It was a magnified version of the same shame he had always felt at home toward that old Black Forest cuckoo clock. The electric clocks elsewhere in his villa back home all should have been capable of performing silently, accurately and in less space—but the considerations which had gone into the making of them had been commercial as well as purely technical. As a result, most of them operated with a thin, asthmatic whir, or groaned softly but dismally at irregular hours. All of them were "streamlined," oversized and ugly. None of them kept good time, and several of them, since they were powered by constant-speed motors operating very simple gear-boxes, could not be adjusted, but had been sent out from the factory with built-in, ineluctable inaccuracies.

The wooden cuckoo clock, meanwhile, ticked evenly away. A quail emerged from one of two wooden doors every quarter of an hour and let you know about it, and on the hour first the quail came out, then the cuckoo, and there was a soft bell that rang just ahead of the cuckoo's call. It was accurate to a minute a week, all for the price of running up the three weights which drove it, each night before bedtime.

The maker had been dead before Ruiz-Sanchez had been born. In contrast, the priest would probably buy and jettison at least a dozen cheap electric clocks in the course

of one lifetime, as their makers had intended he should.

"I'M SURE it is," he said humbly. "I have one more question, if I may. It is really part of the same question: I have asked if you die; now I should like to ask how you are born. I see many adults on your streets and sometimes in your houses—though I gather you yourself are alone—but never any children. Can you explain this to me? Or if the subject is not allowed to be discussed . . ."

"But why should it not be? There can never be any closed subjects," Chtexa said. "You know, of course, that our mates have abdominal pouches where the eggs are carried. It was a lucky mutation for us, for there are a number of nest-robbing species on this planet."

"Yes, we have a few animals with a somewhat similar arrangement on Earth, although they are live-bearers."

"Our eggs are laid into these pouches once a year," Chtexa said. "It is then that the women leave their own houses and seek out the male of their choice to fertilize the eggs. I am alone because, thus far, I am no woman's first choice this season. In contrast you may see men's houses at this time of year which shelter three or four women who favor him."

"I see," Ruiz-Sanchez said carefully. "And how is the choice determined? Is it by emotion, or by reason alone?"

"The two are in the long run the same," Chtexa said. "Our ancestors

did not leave our genetic needs to chance. Emotion with us no longer runs counter to our eugenic knowledge. It cannot, since it was itself modified to follow that knowledge by selective breeding for such behaviour.

"At the end of the season, then, comes Migration Day. At that time all the eggs are fertilized, and ready to hatch. On that day—you will not be here to see it, I am afraid, for your announced date of departure precedes it by a short time—our whole nation goes to the seashores. There, with the men to protect them from predators, the women wade out to swimming depth, and the children are born."

"In the sea?" Ruiz-Sanchez said faintly.

"Yes, in the sea. Then we all return, and resume our other affairs until the next mating season."

"But—but what happens to the children?"

"Why, they take care of themselves, if they can. Of course many perish, particularly to our voracious brother the great fish-lizard, whom for that reason we kill when we can. But a majority return when the time comes."

"Return? Chtexa, I don't understand. Why don't they drown when they are born? And if they return, why have we never seen one?"

"But you have," Chtexa said. "And you have heard them often. Here, come with me." He arose and led the way out into the foyer. Ruiz-Sanchez followed, his head whirling with conjecture.

Chtexa opened the door. The night, the priest saw with a subdued shock, was on the wane; there

was the faintest of pearly glimmers on the cloudy sky to the east. The multifarious humming and singing of the jungle continued unabated. There was a high, hissing whistle, and the shadow of a pterodon drifted over the city toward the sea. From the mudflats came a hoarse barking.

"There," Chtexa said softly. "Did you hear it?"

The stranded creature, or another of his kind—it was impossible to tell which—croaked protestingly again.

"It is hard for them at first," Chtexa said. "But actually the worst of their dangers are over. They have come ashore."

"Chtexa," Ruiz-Sanchez said. "Your children—the lungfish?"

"Yes," Chtexa said. "Those are our children."

V

IN THE LAST analysis it was the incessant barking of the lungfish which caused Ruiz-Sanchez to faint when Agronski opened the door for him. The late hour, and the dual strains of Cleaver's illness and the subsequent discovery of Cleaver's direct lying, contributed. So did the increasing sense of guilt toward Cleaver which the priest had felt while walking home under the gradually-brightening, weeping sky; and so, of course, did the shock of discovering that Agronski and Michelis had arrived sometime during the night while he had been neglecting his charge.

But primarily it was the diminishing, gasping clamor of the chil-

dren of Lithia, battering at his every mental citadel, all the way from Chtexa's house to his own.

The sudden fugue only lasted a few moments. He fought his way back to consciousness to find that Agronski and Michelis had propped him up on a stool in the lab and were trying to remove his macintosh without unbalancing him or awakening him—as difficult a problem in topology as removing a man's vest without taking off his jacket. Warily, the priest pulled his own arm out of a macintosh sleeve and looked up at Michelis.

"Good morning, Mike. Please excuse my bad manners."

"Don't be an idiot," Michelis said evenly. "You don't have to talk now, anyhow. I've already spent much of tonight trying to keep Cleaver quiet until he's better. Don't put me through it again, Ramon, please."

"I won't. I'm not ill; I'm just very tired and a little overwrought."

"What's the matter with Cleaver?" Agronski demanded. Michelis made as if to shoo him off.

"No, no, Mike, I'm all right, I assure you. As for Paul, he got a dose of glucoside poisoning when a plant-spine stabbed him this afternoon. No, it's yesterday afternoon now. How has he been since you arrived?"

"He's sick," Michelis said. "Since you weren't here, we didn't know what to do. We settled for two of the pills you'd left out."

"You did?" Ruiz-Sanchez slid his feet heavily to the floor and tried to stand up. "As you say, you couldn't have known what else to do, but I think I'd better look in on him—"

"Sit down, please, Ramon." Michelis spoke gently, but his tone showed that he meant the request to be honored. Obscurely glad to be forced to yield to the big man's well-meant implacability, the priest let himself be propped back on the stool. His boots fell off his feet to the floor.

"Mike, who's the Father here?" he said tiredly. "Still, I'm sure you've done a good job. He's in no apparent danger?"

"Well, he seems very sick. But he had energy enough to keep himself half awake most of the night. He only passed out a short while ago."

"Good. Let him stay out. Tomorrow we'll probably have to begin intravenous feeding, though. In this atmosphere one doesn't give a salicylate overdose without penalties." He sighed. "Can we put off further questions?"

"If there's nothing else wrong here, of course we can."

"Oh," Ruiz-Sanchez said, "there's a great deal wrong, I'm afraid."

"I knew it," Agronski said. "I knew damn well there was. I told you so, Mike, didn't I?"

"Is it urgent?"

"No, Mike—there's no danger to us, of that I'm positive. It's nothing that won't keep until we've all had a rest. You two look as though you need one as badly as I."

"We're tired," Michelis agreed.

"But why didn't you ever call us?" Agronski burst in aggrievedly. "You had us scared half to death, Father. If there's really something wrong here, you should have—"

"There's no immediate danger," Ruiz-Sanchez repeated patiently.

"As for why we didn't call you, I don't understand that any more than you do. Up to tonight, I thought we were in regular contact with you both. That was Paul's job and he seemed to be carrying it out. I didn't discover that he wasn't doing it until after he became ill."

"Then obviously we'll have to wait," Michelis said. "Let's hit the hammock, in God's name. Flying that 'copter through twenty-five hundred miles of fog-bank wasn't exactly restful, either; I'll be glad to turn in . . . But, Ramon—"

"Yes, Mike?"

"I have to say that I don't like this any better than Agronski does. Tomorrow we've got to clear it up, and get our Commission business done. We've only a day or so to make our decision before the ship comes and takes us off for good, and by that time we *must* know everything there is to know, and just what we're going to tell the Earth about it."

"Yes," Ruiz-Sanchez said. "Just as you say, Mike—in God's name."

THE PERUVIAN priest-biologist awoke before the others: actually, he had undergone far less purely physical strain than had the other three. It was just beginning to be cloudy dusk when he rolled out of his hammock and padded over to look at Cleaver.

The physicist was in coma. His face was dirty grey and looked oddly shrunken. It was high time that the neglect and inadvertent abuse to which he had been subjected was rectified. Happily, his pulse

and respiration were close to normal now.

Ruiz-Sanchez went quietly into the lab and made up a fructose IV feeding. At the same time he reconstituted a can of powdered egg into a sort of soufflé, setting it in a covered crucible to bake at the back of the little oven; that was for the rest of them.

In the sleeping chamber, the priest set up his IV stand. Cleaver did not stir when the needle entered the big vein just above the inside of his elbow. Ruiz-Sanchez taped the tubing in place, checked the drip from the inverted bottle, and went back into the lab.

There he sat, on the stool before the microscope, in a sort of suspension of feeling while the new night drew on. He was still poisoned-tired, but at least now he could stay awake without constantly fighting himself. The slowly-rising soufflé in the oven went *plup-plup*, *plup-plup*, and after a while a thin tendril of aroma suggested that it was beginning to brown on top, or at least thinking about it.

Outside, it abruptly rained buckets. Just as abruptly, it stopped.

"Is that breakfast I smell, Ramon?"

"Yes, Mike, in the oven. In a few minutes now."

"Right."

Michelis went away again. On the back of the workbench, Ruiz-Sanchez saw the dark blue book with the gold stamping which he had brought with him all the way from Earth. Almost automatically he pulled it to him and opened it to page 573. It would at least give him something to think about with

which he was not personally involved.

He had quitted the text last with Anita, who "would yield to the lewdness of Honuphrius to appease the savagery of Sulla and the mercenariness of the twelve Sullivani, and (as Gilbert first suggested), to save the virginity of Felicia for Magravius"—now hold a moment, how could Felicia be considered still a virgin at this point? Ah: ". . . when converted by Michael after the death of Gillia"; that covered it, since Felicia had been guilty only of simple infidelities in the first place. ". . . but she fears that, by allowing his marital rights, she may cause reprehensible conduct between Eugenius and Jeremias. Michael, who has formerly debauched Anita, dispenses her from yielding to Honuphrius"—yes, that figured, since Michael also had had designs on Eugenius. "Anita is disturbed, but Michael comminates that he will reserve her case tomorrow for the ordinary Guglielmus even if she should practise a pious fraud during affriktion which, from experience, she knows (according to Wadding) to be leading to nullity."

Well. This was all very well. It even seemed to be shaping up, for the first time. Still, Ruiz-Sanchez reflected, he would not like to have known the family hidden behind the conventional Latin aliases, or to have been the confessor to any one of them. Now then:

"Fortissa, however, is encouraged by Gregorius, Leo, Viteilius, and Macdugalius, reunitedly, to warn Anita by describing the strong chastisements of Honuphrius and the depravities (*turpissimas*) of

Canicula, the deceased wife of Mauritius, with Sulla, the simoniac, who is abnegand and repents."

Yes, it added up, when one tried to view it without outrage either at the persons involved—and there was every assurance that these were fictitious—or at the author, who for all his mighty intellect, the greatest perhaps of the preceding century among novelists, had still to be pitied as much as the meanest victim of the Evil One. To view it, as it were, in a sort of grey twilight of emotion, wherein everything, even the barnacle-like commentaries which the text had accumulated, could be seen in the same light.

"Is it done, Father?"

"Smells like it, Agronski. Take it out and help yourself, why don't you?"

"Thanks. Can I bring Cleaver—"

"No, he's getting an IV."

Unless his impression that he understood the problem at last was once more going to turn out to be an illusion, he was now ready for the basic question, the stumper that had deeply disturbed both the Order and the Church for so many years now. He reread it carefully. It asked:

"Has he hegemony and shall she submit?"

To his astonishment, he saw as if for the first time that it was two questions, despite the omission of a comma between the two. And so it demanded two answers. Did Honuphrius have hegemony? Yes, he did, for Michael, the only member of the whole complex who had been gifted from the beginning with the power of grace, had been egregiously com-

promised. Therefore, Honuphrius regardless of whether his sins were all to be laid at his door or were real only in rumor could not be divested of his privileges by anyone. But should Anita submit? No, she should not. Michael had forfeited his right to dispense or to reserve her in any way, and so she could not be guided by the curate or by anyone else in the long run but her own conscience—which in view of the grave accusations against Honuphrius could lead her to no recourse but to deny him. As for Sulla's repentance, and Felicia's conversion, they meant nothing, since the defection of Michael had deprived both of them, and everyone else, of spiritual guidance.

The answer, then, had been obvious all the time. It was: Yes, and No.

HE CLOSED the book and looked up across the bench, feeling neither more nor less dazed than he had before, but with a small stirring of elation deep inside him which he could not suppress. As he looked out of the window into the dripping darkness, a familiar, sculpturesque head and shoulders moved into the truncated tetrahedron of yellow light being cast out through the fine glass into the rain.

It was Chtexa, moving away from the house.

Suddenly Ruiz-Sanchez realized that nobody had bothered to rub away the sickness ideograms on the door-tablet. If Chtexa had come here on some errand, he had been turned back unnecessarily. The

priest leaned forward, snatched up an empty slide-box, and rapped with a corner of it against the inside of the window.

Chtexa turned and looked in through the steaming curtains of rain, his eyes completely filmed. Ruiz-Sanchez beckoned to him, and got stiffly off the stool to open the door. In the oven his share of breakfast dried slowly and began to burn.

The rapping had summoned forth Agronski and Michelis as well. Chtexa looked down at the three of them with easy gravity, while drops of water ran like oil down the minute, prismatic scales of his supple skin.

"I did not know that there was sickness here," the Lithian said. "I called because your brother Ruiz-Sanchez left my house this morning without the gift I had hoped to give him. I will leave if I am invading your privacy in any way."

"You are not," Ruiz-Sanchez assured him. "And the sickness is only a poisoning, not communicable and we think not likely to end badly for our colleague. These are my friends from the north, Agronski and Michelis."

"I am happy to see them. The message was not in vain, then?"

"What message is this?" Michelis said, in his pure but hesitant Lithian.

"I sent a message, as your colleague Ruiz-Sanchez asked me to do, last night. I was told by Xoredeshch Gton that you had already departed."

"As we had," Michelis said. "Ramon, what's this? I thought you told us that sending messages was

Paul's job. And you certainly implied that you didn't know how to do it after Paul took sick."

"I didn't. I don't. I asked Chtexa to send it for me."

Michelis looked up at the Lithian. "What did the message say?" he asked.

"That you were to join them now, here, in Xoredeshch Sfath. And that your time on our world was almost up."

"What does that mean?" Agronski said. He had been trying to follow the conversation, but he was not much of a linguist, and evidently the few words he had been able to pick up had served only to inflame his ready fears. "Mike, translate, please."

Michelis did so, briefly. Then he said: "Ramon, was that really all you had to say to us, especially after what you had found out? We knew that departure time was coming, too, after all. We can keep a calendar as well as you, I hope."

"I know that, Mike. But I had no idea what previous messages you'd received, if indeed you'd received any. For all I knew, Cleaver might have been in touch with you some other way, privately. I thought at first of a transmitter in his personal luggage, but later it occurred to me that he might have been sending dispatches over the regular jetliners. Or he might have told you that we were going to stay on beyond the official time. He might have told you I was dead. He might have told you anything. I had to be sure you'd arrive here *regardless* of what he had or had not said.

"And when I got to the local

message center, I had to revise my message again, because I found that I couldn't communicate with you directly, or send anything at all detailed. Everything that goes out from Xoredeshch Sfath by radio goes out through the Tree, and until you've seen it you haven't any idea what an Earthman is up against there in sending even the simplest message."

"Is that true?" Michelis asked Chtexa.

"True?" Chtexa repeated. "It is accurate, yes."

"Well, then," Ruiz-Sanchez said, a little nettled, "you can see why, when Chtexa appeared providentially, recognized me, and offered to act as an intermediary, I had to give him only the gist of what I had to say. I couldn't hope to explain all the details to him, and I couldn't hope that any of those details would get to you undistorted after passing through at least two Lithian intermediaries. All I could do was yell at the top of my voice for you two to get down here on the proper date—and hope that you heard me."

"This is a time of trouble, which is like a sickness in the house," Chtexa said. "I must not remain. I will wish to be left alone when I am troubled, and I cannot ask that, if I now force my presence on others who are troubled. I will bring my gift at a better time."

HE DUCKED OUT through the door, without any formal gesture of farewell, but nevertheless leaving behind an overwhelming impression of graciousness. Ruiz-

Sanchez watched him go helplessly, and a little forlornly. The Lithians always seemed to understand the essences of situations; they were never, like even the most cocksure of Earthmen, beset by the least apparent doubt.

And why should they be? They were backed—if Ruiz-Sanchez was right—by the second-best Authority in the universe, and backed directly, without intermediaries or conflicting interpretations. The very fact that they were never tormented by indecision identified them as creatures of that Authority. Only the children of God had been given free choice, and hence were often doubtful.

Nevertheless, Ruiz-Sanchez would have delayed Chtexa's departure had he been able. In a short-term argument it is helpful to have pure reason on your side—even though such an ally could be depended upon to stab you to the heart if you depended upon him too long.

"Let's go inside and thrash this thing out," Michelis said, shutting the door and turning back toward the front room. "It's a good thing we got some sleep, but we have so little time left now that it's going to be touch and go to have a formal decision ready when the ship comes."

"We can't go ahead yet," Agronski objected, although, along with Ruiz-Sanchez, he followed Michelis obediently enough. "How can we do anything sensible without having heard what Cleaver has to say? Every man's voice counts on a job of this sort."

"That's very true," Michelis said.

"And I don't like the present situation any better than you do—I've already said that. But I don't see that we have any choice. What do you think, Ramon?"

"I'd like to hold out for waiting," Ruiz-Sanchez said frankly. "Anything I may say now is, to put it realistically, somewhat compromised with you two. And don't tell me that you have every confidence in my integrity, because we had every confidence in Cleaver's, too. Right now, trying to maintain both confidences just cancels out both."

"You have a nasty way, Ramon, of saying aloud what everybody else is thinking," Michelis said, grinning bleakly. "What alternatives do you see, then?"

"None," Ruiz-Sanchez admitted. "Time is against us, as you said. We'll just have to go ahead without Cleaver."

"No, you won't." The voice, from the doorway to the sleeping chamber, was at once both uncertain and much harshened by weakness.

The others sprang up. Cleaver, clad only in his shorts, stood in the doorway, clinging to both sides of it. On one forearm Ruiz-Sanchez could see the marks where the adhesive tape which had held the IV tubing had been ripped off.

VI

PPAUL, you must be crazy," Michelis said, almost angrily. "Get back into your hammock before you make things twice as bad for yourself. You're a sick man, can't you realize that?"

"Not as sick as I look," Cleaver said, with a ghastly grin. "Actually I feel pretty fair. My mouth is almost all cleared up and I don't think I've got any fever. And I'll be damned if this Commission is going to proceed an inch without me. It isn't empowered to do it, and I'll appeal any decision—any decision, I hope you guys are listening—that it makes without me."

The other two turned helplessly to Ruiz-Sanchez.

"How about it, Ramon?" Michelis said, frowning. "Is it safe for him to be up like this?"

Ruiz-Sanchez was already at the physicist's side, peering into his mouth. The ulcers were indeed almost gone, with granulation tissue forming nicely over the few that still remained. Cleaver's eyes were still slightly suffused, indicating that the toxemia was not completely defeated, but except for these two signs the effect of the accidental squill inoculation was no longer visible. It was true that Cleaver looked awful, but that was inevitable in a man recently quite sick, and in one who had been burning his own body proteins for fuel to boot.

"If he wants to kill himself, I guess he's got a right to do so, at least by indirection," Ruiz-Sanchez said. "Paul, the first thing you'll have to do is get off your feet, and get into a robe, and get a blanket around your legs. Then you'll have to eat something; I'll fix it for you. You've staged a wonderful recovery, but you're a sitting duck for a real infection if you abuse yourself during convalescence."

"I'll compromise," Cleaver said

immediately. "I don't want to be a hero, I just want to be heard. Give me a hand over to that hassock. I still don't walk very straight."

It took the better part of half an hour to get Cleaver settled to Ruiz-Sanchez' satisfaction. The physicist seemed in a wry way to be enjoying every minute of it. At last he had a mug of *gchteht*, the local equivalent of tea, in his hand, and Michelis said:

"All right, Paul, you've gone out of your way to put yourself on the spot. Evidently that's where you want to be. So let's have the answer: Why didn't you communicate with us?"

"I didn't want to."

"Now wait a minute," Agronski said. "Paul, don't break your neck to say the first damn thing that comes into your head. Your judgment may not be well yet, even if your talking apparatus is. Wasn't your silence just a matter of your being unable to work the local message system—the Tree or whatever it is?"

"No, it wasn't," Cleaver insisted. "Thanks, Agronski, but I don't need to be shepherded down the safe and easy road, or have any alibis set up for me. I know exactly what I did that was ticklish, and I know that it's going to be impossible to set up consistent alibis for it now. My chances for keeping anything under my hat depended on my staying in complete control of everything I did. Naturally those chances went out the window when I got stuck by that damned pineapple. I realized that last night, when I fought like a demon to get through to you before the Father

could get back, and found that I couldn't make it."

"You seem to take it calmly enough now," Michelis observed.

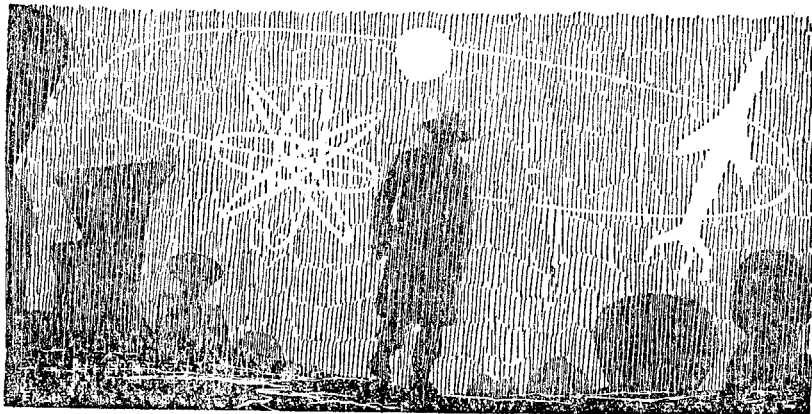
"Well, I'm feeling a little washed out. But I'm a realist. And I also know, Mike, that I had damned good reasons for what I did. I'm counting on the chance that you'll agree with me wholeheartedly when I tell you why I did it."

"All right," Michelis said, "begin."

CLEAVER sat back, folding his hands quietly in the lap of his robe. He was obviously still enjoying the situation. He said:

"First of all, I didn't call you because I didn't want to, as I said. I could have mastered the problem of the Tree easily enough by doing what the Father did—that is, by getting a Snake to ferry my messages. Of course I don't speak Snake, but the Father does, so all I had to do was to take him into my confidence. Barring that, I could have mastered the Tree itself. I already know all the technical principles involved. Mike, you should see that Tree, it's the biggest single junction transistor anywhere in this galaxy, and I'll bet that it's the biggest one anywhere.

"But I wanted a gap to spring up between our party and yours. I wanted both of you to be completely in the dark about what was going on, down here on this continent. I wanted you to imagine the worst, and blame it on the Snakes, too, if that could be managed. After you got here—if you did—I



was going to be able to show you that I hadn't sent any messages because the Snakes wouldn't let me. I've got more plants to that effect squirreled away around here than I'll bother to list now; there'd be no point in it, since it's all come to nothing. But I'm sure it would have looked conclusive, regardless of anything the Father would have been able to offer to the contrary.

"It was just a damned shame, from my point of view, that I had to run up against a pineapple at the last minute. It gave the Father a chance to find out something about what was up. I'll swear that if that hadn't happened, he wouldn't have smelt anything until you actually got here—and then it would have been too late."

"I probably wouldn't have, that's true," Ruiz-Sanchez said, watching Cleaver steadily. "But your running up against that 'pineapple' was no accident. If you'd been observing Lithia as you were sent here to do, instead of spending all your time building up a fictitious Lithia

for purposes of your own, you'd have known enough about the planet to have been more careful about 'pineapples.' You'd also have spoken at least as much Lithian as Agronski by this time."

"That," Cleaver said, "is probably true, and again it doesn't make any difference to me. I observed the one fact about Lithia that overrides all other facts, and that is going to turn out to be sufficient. Unlike you, Father, I have no respect for petty niceties in extreme situations, and I'm not the kind of man who thinks anyone learns anything from analysis after the fact."

"Let's not get to bickering," Michelis said. "You've told us your story without any visible decoration, and it's evident that you have a reason for confessing. You expect us to excuse you, or at least not to blame you too heavily, when you tell us what that reason is. Let's hear it."

"It's this," Cleaver said, and for the first time he seemed to become

a little more animated. He leaned forward, the glowing gaslight bringing the bones of his face into sharp contrast with the sagging hollows of his cheeks, and pointed a not-quite-steady finger at Michelis.

"Do you know, Mike, what it is that we're sitting on here? Do you know, just to begin with, how much rutile there is here?"

"Of course I know. If we decide to vote for opening the planet up, our titanium problem will be solved for a century, maybe even longer. I'm saying as much in my personal report. But we figured that that would be true even before we first landed here, as soon as we got accurate figures on the mass of the planet."

"And what about the pegmatite?" Cleaver demanded softly.

"What about it?" Michelis said, looking puzzled. "I suppose it's abundant; I really didn't bother to look. Titanium's important to us, but I don't quite see why lithium should be; the days when the metal was used as a rocket fuel are fifty years behind us."

"And yet the stuff's still worth about \$20,000 an English tonne back home, Mike, and that's exactly the same price it was drawing in the 1960's, allowing for currency changes since then. Doesn't that mean anything to you?"

"I'm more interested in what it means to you," Michelis said. "None of us can make a nickel out of this trip, even if we find the planet solid platinum inside—which is hardly likely. And if price is the only consideration, surely the fact that lithium is common here will break the market for it?"

What's it good for, after all, on a large scale?"

"It's good for bombs," Cleaver said. "Fusion bombs. And, of course, controlled fusion power, if we ever lick that problem."

RUIZ-SANCHEZ suddenly felt sick and tired all over again. It was exactly what he had feared had been on Cleaver's mind, and he had not wanted to find himself right.

"Cleaver," he said, "I've changed my mind. I would have caught you out, even if you had never blundered against your 'pineapple.' That same day you mentioned to me that you were looking for pegmatite when you had your accident, and that you thought Lithia might be a good place for tritium production on a large scale. Evidently you thought that I wouldn't know what you were talking about. If you hadn't hit the 'pineapple,' you would have given yourself away to me before now by talk like that; your estimate of me was based on as little observation as is your estimate of Lithia."

"It's easy," Cleaver observed indulgently, "to say 'I knew it all the time.'"

"Of course it's easy, when the other man is helping you," Ruiz-Sanchez said. "But I think that your view of Lithia as a cornucopia of potential hydrogen bombs is only the beginning of what you have in mind. I don't believe that it's even your real objective. What you would like most is to see Lithia removed from the universe as far as you're concerned. You hate the

place, it's injured you, you'd like to think that it really doesn't exist. Hence the emphasis on Lithia as a source of tritium, to the exclusion of every other fact about the planet; for if that emphasis wins out, Lithia will be placed under security seal. Isn't that right?"

"Of course it's right, except for the phony mind-reading," Cleaver said contemptuously. "When even a priest can see it, it's got to be obvious. Mike, this is the most tremendous opportunity that man's ever had. This planet is made to order to be converted, root and branch, into a thermonuclear laboratory and production center. It has indefinitely large supplies of the most important raw materials. What's even more important, it has no nuclear knowledge of its own for us to worry about. All the clue materials, the radioactive elements and so on which you need to work out real knowledge of the atom, we'll have to import; the Snakes don't know a thing about them. Furthermore, the instruments involved, the counters and particle-accelerators and so on, all depend on materials like iron that the Snakes don't have, and on principles they don't know, like magnetism to begin with, and quantum theory. We'll be able to stock our plant here with an immense reservoir of cheap labor which doesn't know and—if we take proper precautions—never will have a prayer of learning enough to snitch classified techniques.

"All we need to do is to turn in a triple-E Unfavorable on the planet to shut off for a whole century any use of Lithia as a way sta-

tion or any other kind of general base. At the same time, we can report separately to the UN Review Committee exactly what we do have in Lithia: a triple-A arsenal for the whole of Earth, for the whole commonwealth of planets we control!"

"Against whom?" Ruiz-Sanchez said.

"What do you mean?"

"Against whom are you stocking this arsenal? Why do we need a whole planet devoted to making tritium bombs?"

"The UN itself can use weapons," Cleaver said drily. "The time isn't very far gone since there were still a few restive nations on Earth, and it could come around again. Don't forget also that thermonuclear weapons only last a few years—they can't be stockpiled indefinitely, like fission bombs. The half-life of tritium is very short. I suppose you wouldn't know anything about that. But take my word for it, the UN's police would be glad to know that they could have access to a virtually inexhaustible stock of tritium bombs, and to hell with the shelf-life problem!"

"Besides, if you've thought about it at all, you know as well as I do that this endless consolidation of peaceful planets can't go on forever. Sooner or later—well, what happens if the next planet we touch on is a place like Earth? If it is, its inhabitants may fight, and fight like a planetful of madmen, to stay out of our frame of influence. Or what happens if the next planet we hit is an outpost for a whole federation, maybe bigger than ours? When that day comes—

and it will, it's in the cards—we'll be damned glad if we're able to plaster the enemy from pole to pole with fusion bombs, and clean up the matter with as little loss of life as possible."

"On our side," Ruiz-Sanchez added.

"Is there any other side?"

"By golly, it makes sense to me," Agronski said. "Mike, what do you think?"

"I'm not sure yet," Michelis said. "Paul, I still don't understand why you thought it necessary to go through all the cloak-and-dagger maneuvers. You tell your story fairly enough now, and it has its merits, but you also admit you were going to trick the three of us into going along with you, if you could. Why? Couldn't you trust the force of your argument alone?"

"No," Cleaver said bluntly. "I've never been on a Commission like this before, where there was no single, definite chairman, where there was deliberately an even number of members so that a split opinion couldn't be settled if it occurred—and where the voice of a man whose head is full of peck-sniffian, irrelevant moral distinctions and two-thousand-year-old metaphysics carries exactly the same weight as the voice of a scientist."

"That's mighty loaded language," Michelis said.

"I know it. If it comes to that, I'll say here or anywhere that I think the Father is a hell of a fine biologist, and that that makes him a scientist like the rest of us—insofar as biology's a science.

"But I remember once visting the labs at Notre Dame, where they have a complete little world of germ-free animals and plants and have pulled I don't know how many physiological miracles out of the hat. I wondered then how one goes about being as good a scientist as that, and a Churchman at the same time. I wondered in which compartment in their brains they filed their religion, and in which their science. I'm still wondering.

"I didn't propose to take chances on the compartments getting interconnected on Lithia. I had every intention of cutting the Father down to a point where his voice would be nearly ignored by the rest of you. That's why I undertook the cloak-and-dagger stuff. Maybe it was stupid of me—I suppose that it takes training to be a successful agent-provocateur and that I should have realized it. But I'm not sorry I tried. *I'm only sorry I failed.*"

VII

THERE WAS a short, painful silence.

"Is that it, then?" Michelis said.

"That's it, Mike. Oh—one more thing. My vote, if anybody is in doubt about it, is to keep the planet closed. Take it from there."

"Ramon," Michelis said, "do you want to speak next? You're certainly entitled to it—the air's a mite murky at the moment."

"No, Mike; let's hear from you."

"I'm not ready to speak yet either, unless the majority wants

me to. Agronski, how about you?"

"Sure," Agronski said. "Speaking as a geologist, and also as an ordinary slob that doesn't follow rarified reasoning very well, I'm on Cleaver's side. I don't see anything either for or against the planet on any other grounds but Cleaver's. It's a fair planet as planets go, very quiet, not very rich in anything else we need, not subject to any kind of trouble that I've been able to detect. It'd make a good way station, but so would lots of other worlds hereabouts. It'd also make a good arsenal, the way Cleaver defined the term. In every other category it's as dull as ditch-water, and it's got plenty of that. The only other thing it can have to offer is titanium, which isn't quite as scarce back home these days as Mike seems to think, and gem-stones, particularly the semi-precious ones, which we can make at home without traveling 40 light-years. I'd say, either set up a way station here and forget about the planet otherwise, or else handle the place as Cleaver suggested."

"But which?" Ruiz-Sanchez asked.

"Well, which is more important, Father? Aren't way stations a dime a dozen? Planets that can be used as thermonuclear labs, on the other hand, are rare—Lithia is the first one that can be used that way, at least in my experience. Why use a planet for a routine purpose if it can be used for a unique purpose? Why not apply Occam's Razor—the law of parsimony? It works in all other scientific problems. It's my bet that it's the best tool to use on this one."

"You vote to close the planet, then," Michelis said.

"Sure. That's what I was saying, wasn't it?"

"I wanted to be certain," Michelis said. "Ramon, I guess it's up to us. Shall I speak first?"

"Of course, Mike."

"Then," Michelis said evenly, and without changing in the slightest his accustomed tone of grave impartiality, "I'll say that I think both of these gentlemen are fools, and calamitous fools at that because they're supposed to be scientists. Paul, your maneuvers to set up a phony situation are perfectly beneath contempt, and I shan't mention them again. I shan't even bother to record them, so you needn't feel that you have to mend any fences as far as I'm concerned. I'm looking solely at the purpose those maneuvers were supposed to serve, just as you asked me to do."

Cleaver's obvious self-satisfaction began to dim a little around the edges. He said, "Go ahead," and wound the blanket a little bit tighter around his legs.

LITHIA is not even the beginning of an arsenal," Michelis said. "Every piece of evidence you offered to prove that it might be is either a half-truth or the purest trash. Cheap labor, for instance: with what will you pay the Lithians? They have no money, and they can't be rewarded with goods. They have everything they need, and they like the way they're living right now—God knows they're not even slightly jealous of the achievements we think make Earth great."

He looked around the gently rounded room, shining softly in the gaslight. "I don't seem to see anyplace in here where a vacuum-cleaner would find much use. How will you pay the Lithians to work in your thermonuclear plants?"

"With knowledge," Cleaver said gruffly. "There's a lot they'd like to know."

"But what knowledge? The things they'd like to know are specifically the things you can't tell them if they're to be valuable to you as a labor force. Are you going to teach them quantum theory? You can't; that would be dangerous. Are you going to teach them electrodynamics? Again, that would enable them to learn other things you think dangerous. Are you going to teach them how to get titanium from ore, or how to accumulate enough iron to enable them to leave their present Stone Age? Of course you aren't. As a matter of fact, we haven't a thing to offer them in that sense. They just won't work for us under those terms."

"Offer them other terms," Cleaver said shortly. "If necessary, tell them what they're going to do, like it or lump it. It'd be easy enough to introduce a money system on this planet: you give a Snake a piece of paper that says it's worth a dollar, and if he asks you just what makes it worth a dollar—well, the answer is, We say it is."

"And we put a machine-pistol to his belly to emphasize the point," Ruiz-Sanchez interjected.

"Do we make machine-pistols for

nothing? I never figured out what else they were good for. Either you point them at someone or you throw them away."

"Item: slavery," Michelis said. "That disposes, I think, of the argument for cheap labor. I won't vote for slavery. Ramon won't. Agronski?"

"No," Agronski said uneasily. "But it's a minor point."

"The hell it is. It's the reason why we're here. We're supposed to think of the welfare of the Lithians as well as of ourselves—otherwise this Commission procedure would be a waste of time, of thought, of money. If we want cheap labor, we can enslave any planet."

Agronski was silent.

"Speak up," Michelis said stonily. "Is that true, or isn't it?"

Agronski said, "I guess it is."

"Cleaver?"

"Slavery's a swearword," Cleaver said sullenly. "You're deliberately clouding the issue."

"Say that again."

"Oh, hell. All right, Mike, I know you wouldn't. But you're wrong."

"I'll admit that the instant that you can demonstrate it to me," Michelis said. He got up abruptly from his hassock, walked over to the sloping windowsill, and sat down again, looking out into the rain-stippled darkness. He seemed to be more deeply troubled than Ruiz-Sanchez had ever before thought possible for him.

IN THE meantime," he resumed, "I'll go on with my own demonstration. Now what's to

be said about this theory of automatic security that you've pro- pounded, Paul? You think that the Lithians can't learn the techniques they would need to be able to understand secret information and pass it on, and so they won't have to be screened. There again, you're wrong, as you'd have known if you'd bothered to study the Lithians even perfunctorily. The Lithians are highly intelligent, and they already have many of the clues they need. I've given them a hand toward pinning down magnetism, and they absorbed the material like magic and put it to work with enormous ingenuity."

"So did I," Ruiz-Sanchez said. "And I've suggested to them a technique for accumulating iron that should prove to be pretty powerful. I had only to suggest it, and they were already halfway down to the bottom of it and traveling fast. They can make the most of the smallest of clues."

"If I were the UN I'd regard both actions as the plainest kind of treason," Cleaver said harshly. "Since that may be exactly the way Earth will regard them, I think it'd be just as well if you told the folks at home that the Snakes found out both items by themselves."

"I don't plan to do any falsifying of the report," Michelis said, "but thanks anyhow—I appreciate the intent behind what you say, if not the ethics. I'm not through, however. So far as the actual, practical objective that you want to achieve is concerned, Paul, I think it's just as useless as it is impossible. The fact that you have here a

planet that's especially rich in lithium doesn't mean that you're sitting on a bonanza, no matter what price per tonne the metal is commanding back home. The fact of the matter is that you can't ship lithium home.

"Its density is so low that you couldn't send away more than a tonne of it per shipload; by the time you got it to Earth the shipping charges on it would more than outweigh the price you'd get for it on arrival. As you ought to know, there's lots of lithium on Earth's own moon, too, and it isn't economical to fly it back to Earth even over that short distance. No more would it be economical to ship from Earth to Lithia all the heavy equipment that would be needed to make use of lithium here. By the time you got your cyclotron and the rest of your needs to Lithia, you'd have cost the UN so much money that no amount of locally available pegmatite could compensate for it."

"Just extracting the metal would cost a fair sum," Agronski said, frowning slightly. "Lithium would burn like gasoline in this atmosphere."

Michelis looked from Agronski to Cleaver and back again. "Of course it would," he said. "The whole plan's just a chimera. It seems to me, also, that we have a lot to learn from the Lithians, as well as they from us. Their social system works like the most perfect of our physical mechanisms, and it does so without any apparent repression of the individual. It's a thoroughly liberal society, that nevertheless never even begins to tip

over toward the other side, toward the kind of Ghandiism that keeps a people tied to the momma-and-poppa-farm and the roving-brigand economy. It's in balance, and not precarious balance, either, but perfect chemical equilibrium.

"The notion of using Lithia as a tritium bomb plant is easily the strangest anachronism I've ever encountered—it's as crude as proposing to equip a spaceship with canvas sails. Right here on Lithia is the real secret, the secret that's going to make bombs of all kinds, and all the rest of the anti-social armamentarium, as useless, unnecessary, obsolete as the Iron Boot!

"And on top of all that—no, please, I'm not quite finished, Paul—on top of all that, the Lithians are centuries ahead of us in some purely technical matters, just as we're ahead of them in others. You should see what they can do with ceramics, with semi-conductors, with static electricity, with mixed disciplines like histochemistry, immunochemistry, biophysics, teratology, electrogenetics, limnology, and half a hundred more. If you'd been looking, you *would* have seen.

"We have much more to do, it seems to me, than just vote to open the planet. That's a passive move. We have to realize that being able to use Lithia is only the beginning. The fact of the matter is that we actively *need* Lithia. We should say so in our recommendation."

HE UNFOLDED himself from the windowsill and stood up, looking down on them all, but most

especially at Ruiz-Sanchez. The priest smiled at him, but as much in anguish as in admiration, and then had to look back at his shoes.

"Well, Agronski?" Cleaver said, spitting the words out like bullets on which he had been clenching his teeth during an amputation without anesthetics. "What do you say now? Do you like the pretty picture?"

"Sure, I like it," Agronski said, slowly but forthrightly. It was a virtue in him, as well as it was often a source of exasperation, that he always said exactly what he was thinking, the moment he was asked to do so. "Mike makes sense; I wouldn't expect him not to, if you see what I mean. Also he's got another advantage: he told us what he thought *without* trying first to trick us into his way of thinking."

"Oh, don't be a thumphead," Cleaver exclaimed. "Are we scientists or Boy Rangers? Any rational man up against a majority of dogooders would have taken the same precautions that I did."

"Maybe," Agronski said. "I don't know. They still smell to me like a confession of weakness somewhere in the argument. I don't like to be finessed. And I don't much like to be called a thumphead, either. But before you call me any more names, I'm going to say that I think you're more right than Mike is. I don't like your methods, but your aim seems sensible to me. Mike's shot some of your major arguments full of holes, that I'll admit; but as far as I'm concerned, you're still leading—by a nose."

He paused, breathing heavily and glaring at the physicist. Then he said:

"But *don't push*, Paul. I don't like being pushed."

Michelis remained standing for a moment longer. Then he shrugged, walked back to his hassock, and sat down, locking his hands between his knees.

"I did my best, Ramon," he said. "But so far it looks like a draw. See what you can do."

Ruiz-Sanchez took a deep breath. What he was about to do would without any doubt hurt him for the rest of his life, regardless of the goodness of his reasons, or the way time had of turning any knife. The decision had already cost him many hours of concentrated, agonized doubt. But he believed that it had to be done.

"I disagree with all of you," he said. "I believe that Lithia should be reported triple-E Unfavorable, as Cleaver does. But I think it should also be given a special classification: X-1."

"X-1—but that's a quarantine label," Michelis said. "As a matter of fact—"

"Yes, Mike. I vote to seal Lithia off from *all* contact with the human race. Not only now, or for the next century, but forever."

VIII

THE WORDS did not produce the consternation that he had been dreading—or, perhaps, had been hoping for, somewhere in the back of his mind. Evidently they were all too tired for that. They took his announcement with a kind of stunned emptiness, as though it were so far out of the expected or-

der of events as to be quite meaningless. It was hard to say whether Cleaver or Michelis had been hit the harder. All that could be seen for certain was that Agronski recovered first, and was now ostentatiously cleaning his ears, as if he were ready to listen again when Ruiz-Sanchez changed his mind.

"Well," Cleaver began. And then again, shaking his head amazedly, like an old man, "Well . . ."

"Tell us why, Ramon," Michelis said, clenching and unclenching his fists. His voice was quite flat, but Ruiz-Sanchez thought he could feel the pain under it.

"Of course. But I warn you, I'm going to be very roundabout. What I have to say seems to me to be of the utmost importance, and I don't want to see it rejected out of hand as just the product of my peculiar training and prejudices—interesting perhaps as a study in aberration, but not germane to the problem. The evidence for my view of Lithia is overwhelming. It overwhelmed me quite against my natural hopes and inclinations. I want you to hear that evidence."

"He wants us also to understand," Cleaver said, recovering a little of his natural impatience, "That his reasons are religious and won't hold water if he states them right out."

"Hush," Michelis said. "Listen."

"Thank you, Mike. All right, here we go. This planet is what I think is called in English a 'set-up.' Let me describe it for you briefly as I see it, or rather as I've come to see it.

"Lithia is a paradise. It resembles most closely the Earth in its pre-

Adamic period just before the coming of the great glaciers. The resemblance ends just there, because on Lithia the glaciers never came, and life continued to be spent in the paradise, as it was not allowed to do on Earth. We find a completely mixed forest, with plants which fall from one end of the creative spectrum to the other living side by side in perfect amity. To a great extent that's also true of the animals. The lion doesn't lie down with the lamb here because Lithia has neither animal, but as an analogy the phrase is apt. Parasitism occurs far less often on Lithia than it does on Earth, and there are very few carnivores of any sort. Almost all the surviving land animals eat plants only, and by a neat arrangement which is typically Lithian, the plants are admirably set up to attack animals rather than each other.

"It's an unusual ecology, and one of the strangest things about it is its rationality, its extreme, almost single-minded insistence on one-for-one relationships. In one respect it looks almost as though someone had arranged the whole planet to demonstrate the theory of sets.

"In this paradise we have a dominant creature, the Lithian, the man of Lithia. This creature is rational. It conforms as if naturally and without constraint or guidance to the highest ethical code we have evolved on Earth. It needs no laws to enforce this code; somehow, everyone obeys it as a matter of course, although it has never even been written down. There are no criminals, no deviants, no aberrations of any kind. The people are

not standardized—our own very bad and partial answer to the ethical dilemma—but instead are highly individual. Yet somehow no antisocial act of any kind is ever committed.

"Mike, let me stop here and ask: What does this suggest to you?"

"Why, just what I've said before that it suggested," Michelis said. "An enormously superior social science, evidently founded in a precise psychological science."

"Very well, I'll go on. I felt as you did at first. Then I came to ask myself: How does it happen that the Lithians not only have no deviants—think of that, *no* deviants—but it just happens, by the uttermost of all coincidences, that the code by which they live so perfectly is point for point the code we strive to obey. Consider, please, the imponderables involved in such a coincidence. Even on Earth we never have found a society which evolved independently *exactly* the same precepts as the Christian precepts. Oh, there were some duplications, enough to encourage the Twentieth Century's partiality toward synthetic religions like Theosophism and Hollywood Vedanta, but no ethical system on Earth that grew up independently of Christianity agreed with it point for point.

"And yet here, 40 light-years from Earth, what do we find? A Christian people, lacking nothing but the specific proper names and the symbolic appurtenances of Christianity. I don't know how you three react to this, but I found it extraordinary and indeed completely impossible—mathematically impossible—under any assumption

but one. I'll get to that assumption in a moment."

"You can't get there too soon for me," Cleaver said morosely. "How a man can stand 40 light-years from home in deep space and talk such parochial nonsense is beyond my comprehension."

"Parochial?" Ruiz-Sanchez said, more angrily than he had intended. "Do you mean that what we think true on Earth is automatically made suspect just by the fact of its removal into deep space? I beg to remind you, Cleaver, that quantum mechanics seems to hold good on Lithia, and that you see nothing parochial about behaving as if it did. If I believe in Peru that God created the universe, I see nothing parochial about believing it on Lithia."

"A while back I thought I had been provided an escape hatch, incidentally. Chtexa told me that the Lithians would like to modify the growth of their population, and he implied that they would welcome some form of birth control. But, as it turned out, birth control in the sense that my Church interdicts it is impossible to Lithia, and what Chtexa had in mind was obviously some form of conception control, a proposition to which my Church has already given its qualified assent. So there I was, even on this small point forced again to realize that we had found on Lithia the most colossal rebuke to our aspirations that we had ever encountered: A people that seemed to live with ease the kind of life which we associate with saints alone.

"Bear in mind that a Muslim

who visited Lithia would find no such thing. Neither would a Taoist. Neither would a Zoroastrian, presuming that there were still such, or a classical Greek. But for the four of us—and I include you, Cleaver, for despite your tricks and your agnosticism you still subscribe to the Christian ethical doctrines enough to be put on the defensive when you flout them—what we have here on Lithia is a coincidence which beggars description. It is more than an astronomical coincidence—that tired old phrase for numbers that don't seem very large any more—it is a transfinite coincidence. It would take Cantor himself to do justice to the odds against it."

"Wait a minute," Agronski said. "Holy smoke. Mike, I don't know any anthropology, I'm lost here. I was with the Father up to the part about the mixed forest, but I don't have any standards to judge the rest. Is it so, what he says?"

"Yes, I think it's so," Michelis said slowly. "But there could be differences of opinion as to what it means, if anything. Ramon, go on."

I'VE SCARCELY begun. I'm still describing the planet, and more particularly the Lithians. The Lithians take a lot of explaining; what I've said about them thus far states only the most obvious fact. I could go on to point out many more equally obvious facts: that they have no nations and no national rivalries (and if you'll look at the map of Lithia you'll see every reason why they should have developed such rivalries), that they have emotions and passions but are

never moved by them to irrational acts, that they have only one language, that they exist in complete harmony with everything, large and small, that they find in their world. In short, they're a people that couldn't exist, and yet does.

"Mike, I'd go beyond your view to say that the Lithians are the most perfect example of how human beings *ought* to behave that we're ever likely to find, for the very simple reason that they behave now the way human beings once did before a series of things happened of which we have record. I'd go even farther beyond it, far enough to say that as an example the Lithians are useless to us, because until the coming of the Kingdom of God no substantial number of human beings will ever be able to imitate Lithian conduct. Human beings seem to have built-in imperfections that the Lithians lack, so that after thousands of years of trying we are farther away than ever from our original emblems of conduct, while the Lithians have never departed from theirs.

"And don't allow yourselves to forget for an instant that these emblems of conduct are the same on both planets. That couldn't ever have happened, either. But it did.

"I'm now going to describe another interesting fact about Lithian civilization. It is a fact, whatever you may think of its merits as evidence. It is this: that your Lithian is a creature of logic. Unlike Earthmen of all stripes, he has no gods, no myths, no legends. He has no belief in the supernatural, or, as we're calling it in our barbarous jargon these days, the 'paranormal.' He

has no traditions. He has no tabus. He has no faiths, blind or otherwise. He is as rational as a machine. Indeed, the only way in which we can distinguish the Lithian from an organic computer is his possession and use of a moral code.

"And that, I beg you to observe, is completely irrational. It is based upon a set of axioms, of propositions which were 'given' from the beginning—though your Lithian will not allow that there was ever any Giver. The Lithian, for instance Chtexa, believes in the sanctity of the individual. Why? Not by reason, surely, for there is no way to reason to that proposition. It is an axiom. Chtexa believes in juridical defense, in the equality of all before the code. Why? It's possible to behave reasonably *from* the proposition but not to reason one's way to it.

"If you assume that the responsibility to the code varies with age, or with the nature of one's work, or with what family you happen to belong to, logical behavior can follow from one of those assumptions, but there again one can't arrive at the principle by reason alone. One begins with belief: 'I think that all people ought to be equal before the law.' That is a statement of faith, nothing more. Yet Lithian civilization is so set up as to suggest that one can arrive at such basic axioms of Christianity, and of Western civilization on Earth as a whole, by reason alone, in the plain face of the fact that one cannot."

"Those are axioms," Cleaver growled. "You don't arrive at them by faith, either. You don't arrive at them at all. They're self-evident."

"Like the axiom that only one parallel can be drawn to a given line? Go on, Cleaver, you're a physicist; kick a stone for me and tell me it's self-evident that the thing is solid."

"It's peculiar," Michelis said in a low voice, "that Lithian culture should be so axiom-ridden without the Lithians being aware of it. I hadn't formulated it in quite this way before, Ramon, but I've been disturbed myself at the bottomless assumptions that lie behind Lithian reasoning. Look at what they've done in solid-state physics, for instance. It's a structure of the purest kind of reason, and yet when you get down to its fundamental assumptions you discover the axiom that matter is real. How can they know that? How did logic lead them to it? If I say that the atom is just a hole-inside-a-hole-through-a-hole, where can reason intervene?"

"But it works," Cleaver said.

"So does our solid-state physics—but we work on opposite axioms," Michelis said. "That's not the issue. I don't myself see how this immense structure of reason which the Lithians have evolved can stand for an instant. It doesn't seem to rest on anything."

"I'm going to tell you," Ruiz-Sanchez said. "You won't believe me, but I'm going to tell you anyhow, because I have to. *It stands because it's being propped up.* That's the simple answer and the whole answer. But first I want to add one more fact about the Lithians.

"They have complete physical recapitulation outside the body."

"What does that mean?" Agronski said.

"Do you know how a human child grows inside its mother's body? It is a one-celled animal to begin with, and then a simple metazoan resembling the freshwater hydra or the simplest jellyfish. Then, very rapidly, it goes through many other animal forms, including the fish, the amphibian, the reptile, the lower mammal, and finally becomes enough like a man to be born. This process biologists call recapitulation.

"They assume that the embryo is passing through the various stages of evolution which brought life from the single-celled organism to man, on a contracted time scale. There is a point, for instance, in the development of the fetus when it has gills. It has a tail almost to the very end of its time in the womb, and sometimes still has it when it is born. Its circulatory system at one point is reptilian, and if it fails to pass successfully through that stage, it is born as a 'blue baby' with patent ductus arteriosus, the tetralogy of Fallot, or a similar heart defect. And so on."

"I see," Agronski said. "I've encountered the idea before, of course, but I didn't recognize the term."

"Well, the Lithians, too, go through this series of metamorphoses as they grow up, but they go through it *outside* the bodies of their mothers. This whole planet is one huge womb. The Lithian female lays her eggs in her abdominal pouch, and then goes to the sea to give birth to her children. What she bears is not a reptile, but

a fish. The fish lives in the sea a while, and then develops rudimentary lungs and comes ashore. Stranded by the tides on the flats, the lungfish develops rudimentary legs and squirms in the mud, becoming an amphibian and learning to endure the rigors of living away from the sea. Gradually their limbs become stronger, and better set on their bodies, and they become the big froglike things we sometimes see leaping in the moonlight, trying to get away from the crocodiles.

"Many of them do get away. They carry their habit of leaping with them into the jungle, and there they change once again to become the small, kangaroo-like reptiles we've all seen, at one time or another, fleeing from us among the trees. Eventually, they emerge, fully grown, from the jungles and take their places among the folk of the cities as young Lithians, ready for education. But they have already learned every trick of every environment that their world has to offer except those of their own civilization."

MICHELIS locked his hands together again and looked up at Ruiz-Sanchez. "But that's a discovery beyond price!" he said with quiet excitement. "Ramon, that alone is worth our trip to Lithia. I can't imagine why it would lead you to ask that the planet be closed! Surely your Church can't object to it in any way—after all, your theorists did accept recapitulation in the human embryo, and also the geological record that showed the same process in action over longer spans

of time."

"Not," Ruiz-Sanchez said, "in the way that you think we did. The Church accepted the facts, as it always accepts facts. But—as you yourself suggested not ten minutes ago—facts have a way of pointing in several different directions at once. The Church is as hostile to the doctrine of evolution—particularly in respect to man—as it ever was, and with good reason."

"Or with obdurate stupidity," Cleaver said.

"All right, Paul, look at it very simply with the original premises of the Bible in mind. If we assume just for the sake of argument that God created man, did He create him perfect? I should suppose that He did. Is a man perfect without a navel? I don't know, but I'd be inclined to say that he isn't. Yet the first man—Adam, again for the sake of argument—wasn't born of woman, and so didn't really *need* to have a navel. Nevertheless he would have been imperfect without it, and I'll bet that he had one."

"What does that prove?"

"That the geological record, and recapitulation too, do not prove the doctrine of evolution. Given *my* initial axiom, which is that God created everything from scratch, it's perfectly logical that He should have given Adam a navel, Earth a geological record, and the embryo the process of recapitulation. None of these indicate a real past; all are there because the creations involved would have been imperfect otherwise."

"Wow," Cleaver said. "And I used to think that Milne relativity was abstruse."

"Oh, any coherent system of thought becomes abstruse if it's examined long enough. I don't see why my belief in a God you can't accept is any more rarefied than Mike's vision of the atom as a hole-inside-a-hole-through-a-hole. I expect that in the long run, when we get right down to the fundamental particles of the universe, we'll find that there's nothing there at all—just no-things moving no-place through no-time. On the day that that happens, I'll have God and you will not—otherwise there'll be no difference between us.

"But in the meantime, what we have here on Lithia is very clear indeed. We have—and now I'm prepared to be blunt—a planet and a people propped up by the Ultimate Enemy. It is a gigantic trap prepared for all of us. We can do nothing with it but reject it, nothing but say to it, *Retro me, Sathanas*. If we compromise with it in any way, we are damned."

"Why, Father?" Michelis said quietly.

"Look at the premises, Mike. One: Reason is always a sufficient guide. Two: The self-evident is always the real. Three: Good works are an end in themselves. Four: Faith is irrelevant to right action. Five: Right action can exist without love. Six: Peace need not pass understanding. Seven: Ethics can exist without evil alternatives. Eight: Morals can exist without conscience. Nine—but do I really need to go on? We have heard all these propositions before, and we know Who proposes them.

"And we have seen these demonstrations before—the demonstra-

tion, for instance, in the rocks which was supposed to show how the horse evolved from Eohippus, but which somehow never managed to convince the whole of mankind. Then the discovery of intra-uterine recapitulation, which was to have clinched the case for the so-called descent of man—and yet, somehow, failed again to produce general agreement. These were both very subtle arguments, but the Church is not easily swayed; it is founded on a rock.

"Now we have, on Lithia, a new demonstration, both the subtlest and at the same time the crudest of all. It will sway many people who could have been swayed in no other way, and who lack the intelligence or the background to understand that it is a rigged demonstration. It seems to show us evolution in action on an inarguable scale. It is supposed to settle the question once and for all, to rule God out of the picture, to snap the chains that have held Peter's rock together all these many centuries. Henceforth there is to be no more question; there is to be no more God, but only phenomenology—and, of course, behind the scenes, within the hole that's inside the hole that's through a hole, the Great Nothing itself, the thing that has never learned any word but *No*: It has many other names, but we know the name that counts. That's left us.

"Paul, Mike, Agronski, I have nothing more to say than this: We are all of us standing on the brink of Hell. By the grace of God, we may still turn back. We must turn

back—for I at least think that this is our last chance."

IX

THE VOTE was cast, and that was that. The Commission was tied, and the question would be thrown open again in higher echelons on Earth, which would mean tying Lithia up for years to come. The planet was now, in effect, on the Index.

The ship arrived the next day. The crew was not much surprised to find that the two opposing factions of the Commission were hardly speaking to each other. It often happened that way.

The four Commission members cleaned up the house the Lithians had given them in almost complete silence. Ruiz-Sanchez packed the blue book with the gold stamping without being able to look at it except out of the corner of his eye, but even obliquely he could not help seeing its title:

FINNEGANS WAKE

James Joyce

He felt as though he himself had been collated, bound and stamped, a tortured human text for future generations of Jesuits to explicate and argue.

He had rendered the verdict he had found it necessary for him to render. But he knew that it was not a final verdict, even for himself, and certainly not for the UN, let alone the Church. Instead, the verdict itself would be the knotty question for members of his Order

yet unborn:

Did Father Ruiz-Sanchez correctly interpret the Divine case, and did his ruling, if so, follow from it?

"Let's go, Father. It'll be take-off time in a few minutes."

"All ready, Mike."

It was only a short journey to the clearing, where the mighty spindle of the ship stood ready to weave its way back through the geodesics of deep space to the sun that shone on Peru. The baggage went on board smoothly and without fuss. So did the specimens, the films, the special reports, the recordings, the sample cases, the vivariums, the aquariums, the type-cultures, the pressed plants, the tubes of soil, the chunks of ore, the Lithian manuscripts in their atmosphere of neon; everything was lifted decorously by the cranes and swung inside.

Agronski went up the cleats to the airlock first, with Michelis following him. Cleaver was stowing some last-minute bit of gear, something that seemed to require delicate, almost reverent care before the cranes could be allowed to take it in their indifferent grip. Ruiz-Sanchez took advantage of the slight delay to look around once more at the near margins of the forest.

At once, he saw Chtexa. The Lithian was standing at the entrance to the path the Earthmen themselves had taken away from the city to reach the ship. He was carrying something.

Cleaver swore under his breath and undid something he had just

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A CASE OF CONSCIENCE

(Continued from page 51)

done to do it in another way. Ruiz-Sanchez raised his hand. Immediately Chtexa walked toward the ship.

"I wish you a good journey," the Lithian said, "wherever you may go. I wish also that your road may lead back to this world at some future time. I have brought you the gift that I sought before to give you, if the moment is appropriate."

Cleaver had straightened up and was now glaring suspiciously at the Lithian. Since he did not understand the language, he was unable to find anything to which he could object; he simply stood and radiated unwelcomeness.

"Thank you," Ruiz-Sanchez said. This creature of Satan made him miserable, made him feel intolerably in the wrong. How could Chtexa know—?

THE LITHIAN was holding out to him a small vase, sealed at the top and provided with two gently looping handles. The gleaming porcelain of which it had been made still carried inside it, under the glaze, the fire which had formed it; it was iridescent, alive with long quivering festoons and plumes of rainbows, and the form as a whole would have made any potter of Greece abandon his trade in shame. It was so beautiful that one could imagine no use for it at all. Certainly one could not fill it with left-over beets and put it in the refrigerator. Besides, it would

take up too much space.

"This is my gift," Chtexa said. "It is the finest container yet to come from Xoredeshch Gton; the material of which it is made contains traces of every element to be found on Lithia, even including iron, and thus, as you see, it shows the colors of every shade of emotion and of thought. On Earth, it will tell Earthmen much of Lithia."

"We will be unable to analyze it," Ruiz-Sanchez said. "It is too perfect to destroy, too perfect even to open."

"Ah, but we wish you to open it," Chtexa said. "For it contains our other gift."

"Another gift?"
 "Yes, a more important one. A fertilized, living egg of our species. Take it with you. By the time you reach Earth, it will be ready to hatch, and to grow up with you in your strange and marvelous world. The container is the gift of all of us; but the child inside is my gift, for it is my child."

Ruiz-Sanchez took the vase in trembling hands, as though he expected it to explode. It shook with subdued flame in his grip.

"Goodbye," Chtexa said. He turned and walked away, back toward the entrance to the path. Cleaver watched him go, shading his eyes.

"Now what was that all about?" the physicist said. "The Snake couldn't have made a bigger thing of it if he'd been handing you his own head on a platter. And all the

time it was only a pot!"

Ruiz-Sanchez did not answer. He could not have spoken even to himself. He turned away and began to ascend the cleats, cradling the vase carefully under one elbow. While he was still climbing, a shadow passed rapidly over the hull—Cleaver's last crate, being borne aloft into the hold by a crane.

Then he was in the airlock, with the rising whine of the ship's generators around him. A long shaft of light from outside was cast ahead of him, picking out his shadow on the deck. After a moment, a second shadow overlaid his own: Cleaver's. Then the light dimmed and went out.

The airlock door slammed.

———— THE END ————

THE TROUBLE WITH BUBBLES

(Continued from page 65)

A Red Cross ship landed, its ports grating open. Dollies shuttled across to it, loading injured men.

Two relief workers appeared. They opened the door to Hull's car, getting in the back. "Drive us to town." They sank down, exhausted. "We got to get more help. Hurry it."

"Sure." Hull started the car again, gained speed.

"How did it happen?" Julia asked one of the grim-faced exhausted men, who dabbed automatically at the cuts on his face and neck.

"Earthquake."

"But why? Didn't they build it so—"

"Big quake." The man shook his head wearily. "Nobody expected. Total loss. Thousands of cars. Tens of thousands of people."

The other worker grunted. "An act of God."

Hull stiffened suddenly. His eyes flickered.

"What is it?" Julia asked him.

"Nothing."

"Are you sure? Is something wrong?"

Hull said nothing. He was deep in thought, his face a mask of startled, growing horror.

———— THE END ————