

Stuck with It

I

THE LIGHT HURT his closed eyes, and he had a sensation of floating. At first, that was all his consciousness registered, and he could not turn his head to get more data. The pain in his eyes demanded some sort of action, however.

He raised an arm to shade his face and discovered that he really was floating. Then, in spite of the stiffness of his neck, he began to move his head from side to side and saw enough to tell where he was. The glare which hurt even through the visor of his airsuit was from Ranta's F5 sun; the water in which he was floating was that of the living room of Creak's home.

He was not quite horizontal; his feet seemed to be ballasted still, and were resting on some of the native's furniture a foot or so beneath the surface of the water.

Internally, his chest protested with stabs of pain at every breath he took; his limbs were sore, and his neck very stiff. He could not quite remember what had happened, but it must have been violent. Almost certainly, he decided as he made some more experimental motions, he must have a broken rib or two, though his arms and legs seemed whole.

His attempts to establish the latter fact caused his feet to slip from their support. They promptly sank, pulling him into the vertical position. For a moment he submerged completely, then drifted upward again and finally reached equilibrium, with the water line near his eyebrows.

Yes, it was Creak's house, all right. He was in the corner of the main room, which the occupants had cleared of some of its furniture to give him freedom of motion. The room itself was about three meters deep and twice as long and wide, the cleared volume representing less than a quarter of the total. The rest of the chamber was inaccessible to him, since the native furniture was a close imitation of the hopelessly tangled, springy vegetation of Ranta's tidal zones.

Looped among the strands of flexible wood, apparently as thoroughly intertwined as they, were two bright forms which would have reminded a terrestrial biologist of magnified Nereid worms. They were nearly four meters long and about a third of a meter in diameter. The lateral fringes of setae in their Earthly counterparts were replaced by more useful appendages—thirty-four pairs of them, as closely as Cunningham had been able to count. These seemed designed for climbing through the tangle of vegetation or furniture, though they could be used after a fashion for swimming.

The nearer of the orange-and-salmon-patterned forms had a meter or so of his head end projecting into the cleared space, and seemed to be eyeing the man with some anxiety. His voice, which had inspired the name Cunningham had given him, reached the man's ears clearly enough through the airsuit in spite of poor impedance matching between air and water.

"It's good to see you conscious, Cun'm," he said in Ranta. "We had no way of telling how badly you were injured, and for all I knew I might have damaged you even further bringing you home. Those rigid structures you call 'bones' make rational first aid a bit difficult."

"I don't think I'll die for a while yet," Cunningham replied carefully. "Thanks, Creak. My limb bones seem all right, though those in my body cage may not be. I can probably patch myself up when I get back to the ship. But what happened, anyway?"

The man was using a human language, since neither being could produce the sounds of the other. The six months Cunningham had so far spent on Ranta had been largely occupied in learning to understand, not speak, alien languages; Creak and his wife had learned only to understand Cunningham's, too.

"Cement failure again." Creak's rusty-hinge phonemes were clear enough to the man by now. "The dam let go, and washed both of us through the gap, the break. I was able to seize a rock very quickly, but you went quite a distance. You just aren't made for holding on to things, Cun'm."

"But if the dam is gone, the reservoir is going. Why did you bother with me? Shouldn't the city be

warned? Why are both of you still here? I realize that Nereis can't travel very well just now, but shouldn't she try to get to the city while there's still water in the aqueduct? She'll never make it all that way over dry land—even you will have trouble. You should have left me and done your job. Not that I'm complaining."

"It just isn't done." Creak dismissed the suggestion with no more words. "Besides, I may need you; there is much to be done in which you can perhaps help. Now that you are awake and more or less all right, I will go to the city. When you have gotten back to your ship and fixed your bones, will you please follow? If the aqueduct loses its water before I get there, I'll need your help."

"Right. Should I bring Nereis with me? With no water coming into your house, how long will it be habitable?"

"Until evaporation makes this water *too* salt—days, at least. There are many plants and much surface; it will remain breathable. She can decide for herself whether to fly with you; being out of water in your ship when her time comes would also be bad, though I suppose you could get her to the city quickly. In any case, we should have a meeting place. Let's see—there is a public gathering area about five hundred of your meters north of the apex of the only concave angle in the outer wall. I can't think of anything plainer to describe. I'll be there when I can. Either wait for me, or come back at intervals, as your own plans may demand. That should suffice. I'm going."

The Rantan snaked his way through the tangle of furniture and disappeared through a narrow opening in one wall. Listening carefully, Cunningham finally heard the splash which indicated that the native had reached the aqueduct—and that there was still water in it.

"All right, Nereis," he said. "I'll start back to the ship. I don't suppose you want to come with me over even that little bit of land, but do you want me to come back and pick you up before I follow Creak?"

The other native, identical with her husband to human eyes except for her deeper coloration, thought a moment. "Probably you should follow him as quickly as you can. I'll be all right here for a few days, as he said—and one doesn't suggest that someone is wrong until there is proof. You go ahead without me. Unless you think you'll need *my* help; you said you had some injury."

"Thanks, I can walk once I'm out of the room. But you might help me with the climb, if you will."

Nereis flowed out of her relaxation nook in the furniture, the springy material rising as her weight was removed.

The man took a couple of gentle arm strokes, which brought him to the wall. Ordinarily he could have heaved himself out of the water with no difficulty, but the broken ribs made a big difference. It took the help of Nereis, braced against the floor, to ease him to the top of the two-meter-thick outer wall of unshaped, cemented rocks and gravel. He stood up without too much difficulty once there was solid footing, and stood looking around briefly before starting to pick his way back to the *Nimepotea*. The dam lay only a few meters to the north; the break Creak had mentioned was not visible. He and the native had been underwater in the reservoir more than a quarter-kilometer to the west of the house when they had been caught by the released waters. Looking in that direction, he could see part of the stream still gushing, and wondered how he had survived at all in that turbulent, boulder-studded flood. Behind the dam, the reservoir was visibly lower, though it would presumably be some hours before it emptied.

He must have been unconscious for some time, he thought: it would have taken the native, himself almost helpless on dry land, a long time indeed to drag him up the dam wall from the site of the break to the house, which was on the inside edge of the reservoir.

East of Creak's house, extending south toward the city, was the aqueduct which had determined his selection of a first landing point on Ranta. Beyond it, some three hundred meters from where he stood, lay the black ovoid of his ship. He would first have to make his way along the walls of the house—preferably without falling in and getting tangled in the furniture—to the narrow drain that Creak had followed to the aqueduct, then turn upstream instead of down until he reached the dam, cross the dam gate of the aqueduct, and descend the outer face of the dam to make his way across the bare rock to his vessel.

Southward, some fifteen kilometers away, lay the city he had not yet visited. It looked rather like an old laby-rinth from this viewpoint, since the Rantans had no use for roofs and ceilings. It would be interesting to se, whether the divisions corresponded to homes, streets parks, and the like; but he had preferred to learn what he could about a new world from isolated individuals before exposing himself to crowds. Following his usual custom, Cunningham had made his first contact with natives who lived close enough to a large population center to be in touch with the main culture, yet far enough from it to minimize the chance of his meeting swarms of natives until he felt ready for them. This pol-icy involved assumptions about culture and technology which were sometimes wrong, but had not—so far—proven fatally so.

He splashed along the feeder that had taken Creak to the aqueduct and reached the more solid and heavy wall of the main channel.

The going was rough, since the Rantans did not ap-pear to believe in squaring or otherwise shaping their structural stone. They simply cemented together fragments of all sizes down to fine sand until they had something watertight. Some of the fragments felt a little loose underfoot, which did not help his peace of mind. Getting away with his life from one dam failure seemed to be asking enough of luck.

However, he traversed the thirty or forty meters to the dam without disaster, turned to his right, and made his way across the arch supporting the wooden valve. This, too, reflected Rantan workmanship. The reedlike growths of which it was made had undergone no shap-ing except for the removal of an outer bark and—though he was not sure about this—the cutting to some random length less than the largest dimension of the gate. Thousands of the strips were glued together both parallel and crossed at varying angles, making a pattern that strongly appealed to Cunningham's artistic taste.

Once across, he descended the gentle south slope of the dam and made his way quickly to the *Nimepotea*.

An hour later, still sore but with his ribs knitted and a good meal inside him, he lifted the machine from the lava and made his way south along the aqueduct, flying slowly enough to give himself every chance to see Creak. The native might, of course, have reached the city by now; Cunningham knew that his own swimming speed was superior to the Rantan's, but the latter might have been helped by current in the aqueduct. The sun was almost directly overhead, so it was necessary to fly a little to one side of the watercourse to avoid its hot, blinding reflection.

He looked at other things than the channel, of course. He had not flown since meeting Creak and Ner-eis, so he knew nothing of the planet save what the two natives had told him. They themselves had done little traveling, their work confining them to the reservoir and its neighborhood, the aqueduct, and sometimes the city. Cunningham had much to learn.

The aqueduct itself was not a continuous channel, but was divided into lower and lower sections, or locks. These did not contain gates—rather to the man's sur-prise—so that flow for the entire fifteen-plus kilometers started or stopped very quickly according to what was happening at the dam. To Cunningham, this would seem to trap water here and there along the channel, but he assumed that the builders had had their reasons for the design.

He approached the city without having sighted Creak, and paused to think before crossing the outer wall. He still felt uneasy about meeting crowds of aliens; there was really no way of telling how they would react. Creak and Nereis were understandable individuals, rational by human standards; but no race is composed of identical personalities, and a crowd is not the simple sum of the individuals composing it—there is too much person-to-person feedback.

The people in the city, or some of them, must by now know about him, however. Creak had made several trips to town in the past few months, and admitted that he had made no secret of Cunningham's presence. The fact that no crowds had gathered at the dam suggested something not quite human about Rantans, collectively.

They might not even have noticed his ship just now He was certainly visible from the city; but the natives, Creak had told him, practically never paid attention to anything out of water unless it was an immediate job to be done.

Cunningham had watched Creak and Nereis for hours before their first actual meeting, standing within a dozen meters of them at times while they were under-water. Creak had not seen him even when the native had emerged to do fresh stonework on the top of the dam; he had been using a lorgnette with one eye, and ignoring the out-of-focus images which his other eyes gave when out of water; though, indeed, his breathing suit for use out of water did not cover his head, since his breathing apparatus was located at the bases of limbs. Creak had simply bent to his work.

It had been Nereis, still underwater, who saw the grotesquely refracted human form approaching her husband and hurled herself from the water in between the two. This had been simple reflex; she had not been guard in any sense. As far as she and Creak appeared to know, there was no land life on Ranta.

So the city dwellers might not yet have noticed him unless— No, they would probably dismiss the shadow of the *Nimepotea* as that of a cloud. In any case, knowl-edge of him for six months should be adequate prepara-tion. He could understand the local language, even if the locals would not be able to understand him.

He landed alongside the aqueduct a few meters from the point where it joined the city wall. He had thought of going directly to the spot specified by Creak, but decided first to take a closer look at the city itself.

Going outside was simple enough; an airsuit sufficed. He had been maintaining his ship's atmosphere at local total pressure, a little over one and three-quarter bars, to avoid the nuisances of wearing rigid armor or of decompression on return. The local air was poisonous, however, since its oxygen partial pressure was nearly three times Earth's sea-level normal; but a diffusion se-lector took care of that without forcing him to worry about time limits.

Cunningham took no weapons, though he was not as-suming that all Rantans would prove as casually friendly as Creak and Nereis had been. He felt no fear of the beings out of water, and had no immediate inten-tion of submerging.

The aqueduct was almost five meters high, and a good deal steeper than the outer wall of Creak's house. However, the standard rough stonework gave plenty of hand- and toehold, and he reached the top with little trouble. A few bits of gravel came loose under his feet, but nothing large enough to cost him any support.

Water stood in this section of aqueduct, but it had stopped flowing. At the south end it was lapping at the edge of the city wall itself; at the north end of this lock, the bottom was exposed though not yet dry. He walked in this direction until he reached the barrier between this section and the next, noting without surprise that the latter also had water to full depth at the near end. There was some seepage through the cemented stone—the sort that Creak had always been trying to fix at the main dam.

Finally approaching the city wall, he saw that its wa-ter was only a few centimeters below that in the adjoining aqueduct section. He judged that there was some re-maining lifetime for the metropolis and its inhabitants, but was surprised that no workers were going out to sal-vage water along the aqueduct. Then he realized that their emergency plans might call for other measures first. After all, the dam would have to be repaired be-fore anything else was likely to do much good. No doubt Creak would be able to tell him about that.

In the meantime, the first compartment, or square, or whatever it was, should be worth looking over. Presumably it would have equipment for salting the incoming water, since the natives could not stand fresh water in their systems. A small compartment in Creak's house had served this purpose as it was explained to him. However, he saw nothing here of the racks for support-ing blocks of evaporated sea salt just below the surface, nor supplies of the blocks stored somewhere above the water, nor a crew to tend the setup. After all, salting the water for a whole city of some thirteen square kilo-meters would have to be a pretty continuous operation.

The compartment was some fifty meters square, however, and could have contained a great deal not vis-ible from where he stood on the wall; and there was much furniture—in this case, apparently, living vegeta-tion—within it. He walked around its whole perim-eter—in effect, entering the city for a time, though he saw no residents and observed no evidence that any of them saw him—but could learn little more.

The vegetation below him seemed to be of many varieties, but all consisting of twisted, tangled stems of indefinite length. The stems' diameters ranged from that of a human hair to that of a human leg. Colors tended to be brilliant, reds and yellows predominating. None of the vegetation had the green leaves so nearly universal on photosynthetic plants, and Cunningham wondered whether these things could really represent the base of the Rantan food pyramid.

If they did not, then how did the city feed itself, since there was nothing resembling farm tanks around it? Maybe the natives were still fed from the ocean—but in that case, why did they no longer live in the ocean?

Cunningham had asked his hosts about that long before but obtained no very satisfactory answer. Creak appeared to have strong emotional reactions to the question, regarding the bulk of his compatriots in terms which Cunningham had been unable to work into literal translation but that were certainly pejoratives—sinners, or fools, or something like that. Nereis appeared to feel less strongly about the matter, but had never had much chance to talk when her husband got going on the subject. Also, it seemed to be bad Rantan manners to contradict someone who had a strong opinion on any matter; the natives, if the two he had met were fair examples, seemed to possess to a limitless degree the human emotional need to be right. In any case, the reason why the city was on land was an open question and remained the sort of puzzle that retired human beings needed to keep them from their otherwise inevitable boredom. Cunningham was quite prepared to spend years on Ranta, as he had on other worlds.

Back at the aqueduct entrance, though now on its west side, Cunningham considered entering the water and examining the compartment from within. Vegetation was absent at the point where fresh water entered the city wall and first compartment, so, he figured, it should be possible to make his way to the center. There things might be different enough to be worth examining, without the danger of his getting trapped as he had been once or twice in Nereis' furniture before she and her husband had cleared some space for him.

It was not fear that stopped him, though decades of wandering in the *Nimepotea* and her predecessors had developed in Cunningham a level of prudence which many a less mature or experienced being would have called rank cowardice. Rather, he liked to follow a plan where possible, and the only trace of a plan he had so far developed included getting back in contact with Creak.

While considering the problem, he kicked idly at the stonework on which he was standing. So far from his immediate situation were his thoughts that several loose fragments of rock lay around him before they caught his attention. When they did, he froze motionless, remembering belatedly what had happened when he was climbing the wall.

Rantan cement, he had come to realize, was generally remarkable stuff—another of the mysteries now awaiting solution in his mental file. The water dwellers could hardly have fire or forges, and quite reasonably he had seen no sign of metal around Creak's home or in his tools. It seemed unlikely that the natives' chemical or physical knowledge could be very sophisticated, and the surprise and interest shown by Creak and Nereis when he had been making chemical studies of the local rocks and their own foodstuffs supported this idea. Nevertheless, their glue was able to hold rough, un-squared fragments of stone, and untooled strips of wood, with more force than Cunningham's muscles could overcome. This was true even when the glued area was no more than a square millimeter or two. On one of his early visits to Creak's home, Cunningham had become entangled in the furniture and been quite unable to break out, or even separate a single strand from its fellows.

But now stones were coming loose under his feet. He had strolled a few meters out along the aqueduct wall again while thinking, and perhaps having this stretch come apart under him would be less serious than having the city start doing so, but neither prospect pleased. Even here a good deal of water remained, and being washed out over Ranta's stony surface again . . .

No. Be careful, Cunningham! You came pretty close to being killed when the dam gave way a few hours ago. And didn't Creak say something like "Cement failure again" that time? Was the cement, or some other key feature of the local architecture, proving less reliable than its developers and users expected? If so, why were they only finding it out now, since the city must have been here a long time?

Could an Earthman's presence have anything to do with it? He would have to find out, tactfully, whether this had been going on for more than the six months he had been on the planet.

More immediately, was the pile of rock he was standing on now going to continue to support him? If it collapsed, what would the attitude of the natives be, supposing he was in a condition to care? A strong human tendency exists, shared by many other intelligent species, to react to disaster by looking for someone to blame. Creak's and Nereis' noticeable preference for being right about things suggested that Rantans might so react. All in all, getting off the defective stonework seemed a good idea.

Walking as carefully as he could, Cunningham made his way upstream along the lock. He felt a little easier when he reached the section where the bottom was exposed and there was no water pressure to compound the stress or wash him out among the boulders.

He would have crossed at this point, and climbed the opposite wall to get back to his ship, but the inner walls of the conduit were practically vertical. They were quite rough enough to furnish climbing holds, but the man had developed a certain uneasiness about putting his weight on single projecting stones. Instead, he went up the wall—now dry—between the last two locks and crossed this. It held him, rather to his surprise, and with much relief he made his way down the more gradual slope on the other side to the surface rock of the planet, climbed to and through *Nimepotea's* airlock, and lifted his vessel happily off the ground.

II

Hovering over the center of the city, he could see that it was far from deserted; though it was not easy to identify individual inhabitants even from a few meters up. Most of the spaces, even those whose primary function seemed to correspond to streets, were cluttered with plant life. The Rantans obviously preferred climbing through the stuff to swimming in clear water. But the plants formed a tangle through which nothing less skillful than a Rantan or a moray eel could have made its way. Sometimes the natives could be seen easily in contrast to the plants, but in other parts of the city they blended in so completely that Cunningham began to wonder whether the compartment he had first examined had really been deserted, after all.

He could not, of course, tell if the creatures were aware of real trouble. It was impossible to interpret everything he saw, even as he dropped lower, but Cunningham judged that schools were in session, meals were being prepared, with ordinary craftwork and business being conducted by the majority of the natives. At least some ordinary life-support work was going on, he saw. To the southeast of the city, partly within the notch where the wall bent inward to destroy the symmetry of its four-kilometer square, and just about at high-tide mark, he noticed a number of structures that were obviously intended for the production of salt by evaporation. The tide was now going out, and numerous breathing-suited Rantans—with lorgnettes—were closing flood gates to areas that had just filled with seawater. Others were scraping and bagging deposits of brownish material in areas where the water had evaporated. Further from the ocean, similar bags had been opened and were lying in the sun, presumably for more complete drying, under elevated tentlike sheets of the same transparent fabric Creak had used for his work-bag. In fact, most of the beings laboring outside the city walls dragged similar bags with them.

No one seemed to be working now in these upper drying spaces; this was the closest evidence Cunningham could see that city life had been at all disturbed. But naturally, if no water were coming in from the reservoir, no salt would be needed immediately. That was all he could infer from observation; for more knowledge, he would have to ask Creak.

The meeting place was now fairly easy to spot: a seventy-meter-square "room" with much of the central portion clear of vegetation, located above the corner which cut into the southeastern part of the city. As he approached this area and settled downward, Cunningham could see that there were a number of natives—perhaps a hundred—in the clear portion. How many might be in the vegetation near the edges, he had no way to tell. He could see no really clear place to land, but once the bottom of the hull entered the water the pilot eased down slowly enough to give those below every chance to get

out from under. The water was about five meters deep, and when the *Nimepotea* touched bottom her main airlock was a little more than a meter above the surface. Cunningham touched the override, which cut out the safety interlock, and opened both doors at once, taking up his position at the edge of the lock with a remote controller attached to his equipment belt.

The reaction to his arrival was obvious, if somewhat surprising. Wormlike beings practically boiled out of the water, moving away from him. He could not see below the surface anywhere near the sides of the enclosure; but he could guess that the exits were thoroughly jammed, for natives were climbing over the wall at every point, apparently frantic to get out. The man had just time to hope that no one was being hurt in the crush, and to wonder whether he should lift off before anything worse happened, when something totally unexpected occurred. Two more of the natives snaked up at his feet, slipped their head ends into the airlock to either side of him, coiled around his legs, and swept him outward.

His reactions were far too slow. He did operate the controller, but only just in time to close the lock behind him. He and his attackers struck the water with a splash that wet only the outer surface of the portal.

His suit was not ballasted, so it floated quite high in the extremely salt solution. The natives made a futile effort to submerge him, but even their body weights—their density was considerably greater than even the ocean water of their world—did not suffice. They gave up quickly and propelled him along the surface toward the wall.

Well before getting there, the natives found that a human body is very poorly designed for motion through Rantan living areas. The only reason they could move him at all was that he floated so high. His arms and legs, and occasionally his head, kept catching in loops of plant material—loops which to the captors were normal, regular sources of traction. The four digits at the ends of their half-tentacle, half-flipper limbs were opposed in two tonglike pairs, like those of the African chameleon, and thus gripped the stems and branches more surely than a human hand could ever have done. Grips were transferred from one limb to the next with a flowing coordination that caught Cunningham's attention even in his present situation.

The difference between Cunningham's habitual caution and ordinary fear was now obvious. Being dragged to an unknown goal by two beings who far outpowered and outweighed him physically, he could still carry on his earlier speculations about the evolution of Ranta's intelligent species and the factors which had operated to make intelligence a survival factor.

The planet's single moon was much smaller and less massive than Luna, but sufficiently closer to its primary to make up more than the difference as far as tide-raising power was concerned. Ranta's tides were nearly ten times as great as Earth's. There were no really large continents—or rather, as the *Nimepotea's* mass readers suggested, the continents that covered a large fraction of the planet were mostly submerged—and a remarkably large fraction of the world's area was intertidal zone. Cunningham had named the world from the enormous total length of shore and beach visible from space—he had still been thinking in Finnish after his months on Omituinen. The tidal areas were largely overgrown with the springy, tangled plants the natives seemed to like so much. This environment, so much of it alternately under and above water, would certainly be one where sensory acuity and rapid nervous response would be survival factors. Selection pressures might have been fiercer even than on Earth; there must have been some reason why intelligence had appeared so early—Boss 6673 was much younger than Sol.

The science of a water-dwelling species would tend to be more slanted in biological than in chemical or physical directions, and perhaps . . .

Opportunity knocked. They had reached a wall, which projected only a few centimeters from the water and was nearly two meters thick. The natives worked their way over it, pulling themselves along by the irregularities as Creak and Nereis had done on land. These two were equally uncomfortable and clumsy, and the man judged that their attention must be as fully preempted by the needs of the moment as were their limbs; only a few of the tonglike nippers were holding him.

He gave a sudden, violent wrench, getting his legs under him and tearing some of the holds loose. Then, as hard as he could, he straightened up. This broke the rest of the holds and lifted him from the

wall top. He had had no real opportunity to plan a jump, and he came unpleasantly close to landing back in the water. But by the narrowest of margins he had enough leeway to control a second leap. This put him solidly on the wall more than a meter from the nearer of his captors.

The latter made no serious effort to catch him. They could not duplicate his leaps or even his ordinary walk-ing pace out of water, and neither could get back into the water from where they were for several seconds.

Cunningham, watching alertly to either side for ones who might be in a better position to attack, headed along the wall toward the edge of the city as quickly as he dared. He was free for the moment, but he could see no obvious way to get back to the *Nimepotea*. The fact that he could swim faster in open water than the natives would hardly suffice; open water did not comprise the whole distance to be crossed. And he would not be safe on the walls, presumably, so his first priority was to reach relatively open country beyond them.

His path was far from straight, since the city com-partments varied widely in size, but most of the turns were at right angles. A few hundred meters brought him to the south wall a little to the east of the angle that Creak had used as a checkpoint. The outer slope was gradual, like that of the reservoir dam, but the resem-blance was not encouraging; Cunningham convinced himself, however, that it was improbable for his acci-dent of a few hours before to repeat itself so soon, so he made his way down with no difficulty.

The high-tide mark lay fairly near, and much of the rough lava was overlain by fine, black sand. In a sense he was still inside the city, since many structures of ce-mented stone—some of them quite large—were in sight. A large number of suited natives crawled and climbed among them—climbed, since many of the buildings were enveloped by scaffolding of the same general design as Creak's furniture.

None of the workers seemed to notice the man, and he wondered when some local genius would conceive the idea of spectacles attached over the eyes to replace the lorgnettes used to correct out-of-water refraction. Per-haps with so many limbs, the Rantans were not highly motivated to invent something which would free one more for work. It did not occur to him that lens-making was one of the most difficult and expensive processes the Rantans could handle, and one very mobile lens per worker was their best economic solution to the problem.

His own problems were more immediate. He had to find Creak, first of all; everything else, such as persuad-ing people to let him back to his ship, seemed to hinge on that. Unfortunately, he had just been chased away from the place where Creak was supposed to be. Com-municating with some other native who might conceiva-bly be able to find the dam-keeper was going to be complex, since no native but Creak himself and his wife could understand Cunningham—and Cunningham could not properly pronounce Creak's name in the native language. However, there seemed nothing better to do than try—with due precautions against panic and at-tack reactions.

These seemed to pose little problem on dry land, and the man approached one of the natives who was working alone at the foot of a building some fifty or sixty meters away. It was wearing a breathing suit, of course, and dragging a worksack similar to the one Creak habitually used. Like all the others, it seemed completely unaware of him, and remained so until Cunningham, gave a light tug on the cord of its worksack.

It turned its head end toward him, lorgnette in a forward hand, and looked over with apparent calmness; a least, it neither fled nor attacked.

Cunningham spoke loudly, since sound transmission through two suits would be poor, and uttered a few sen-tences of a human language. He did not expect to be understood, but hoped that the regularity of the sound pattern would be obvious, as it had been so long ago to Creak.

The creature answered audibly, and the man was able to understand fairly well, though there were occa-sional words he had never heard from Nereis or from Creak. "I'm afraid I can't understand you," the worker said. "I suppose you are the land creature which Creak has been telling about."

This was promising, though the man could not even approximate the sound of a Rantan affirmative, and nod-ding his head meant nothing to the native. If there was a corresponding gesture used here, he

had never been aware of it. All he could do was make an effort at the Rantan pronunciation of Creak's name, and no one was more aware than Cunningham what a dismal failure this was. However, the native was far from stupid.

"Creak tells us he has learned your language, so I suppose you are trying to find him. I'm not sure where he is just now. Usually he's at the reservoir, but some-times he comes to town. Then you can usually find him explaining to the largest crowd he can gather why we should have more workers out there on dam maintenance, and why the rest of the city should be building shelters below high-water mark against the time the dam finally fails for good. If he's in town now, I hadn't heard about it; but that doesn't prove anything. I've been out here since midday. Is it he that you want?"

Cunningham made another futile effort to transmit an affirmative, and the native once more displayed his brains.

"If you want to say 'yes,' wave an upper appendage; for 'no,' a lower one—lie down by all means; you may as well be comfortable—and if you don't understand all or some of what I say, wave both upper limbs. Creak said you had learned to understand our talk. All right?"

Cunningham waved an arm.

"Good. Is it really Creak you want to find?"

Arm.

"Is there need for haste?"

Cunningham hesitated, then kicked, startling the native with his ability to stand even briefly on one foot.

"All right. The best thing I can suggest is that you wait here, if you can, until two hours before sunset, when I finish work. Then I'll go into town with you and spread the word that you're looking for him. Probably he'll be preaching, and easy to find."

The man waved both arms.

"Sorry, I shouldn't have put so much together. Did you understand the general plan?"

Arm.

"The time?"

Arm.

"The part about his preaching?"

Both arms; Cunningham had never heard the word the native was using.

"Well, hasn't he ever told you how stupid people were ever to move out of the ocean?"

Kick. This wasn't exactly a falsehood, though Cunningham had grasped Creak's disapproval of the general situation.

"Don't complain. Creak disapproves of cities. That's why he and his wife took that job out in the desert, though how he ties that in with going back to Nature is more than anyone can guess. It's further from the ocean in every sense you can use. I suppose they're just down on everything artificial. I think he gloats every time part of the dam has to be recemented. If that hadn't been happening long before he took the job, people would suspect him of breaking it himself."

Cunningham saw no reason to try to express his relief at this statement. At least, no one would be blaming the alien . . .

He used the don't-understand signal again, and the native quickly narrowed it down to the man's curiosity, about why Creak didn't live in the ocean if he so disapproved of cities.

"No one can live in the ocean for long; it's too dangerous. Food is hard to find, there are animals and plants that can kill—a lot of them developed by us long ago for one purpose or another. Producing one usually caused troubles no one foresaw, and they had to make another to offset its effects, and then the new one caused trouble and something had to be done about that. Maybe we'll hit a balance sometime, but since we've moved into land-based cities no one's been trying very hard. Creak could tell you all this more eloquently than I; even he admits we can't go back tomorrow. Now, my friend, it takes a lot of time to converse this way—enjoyable as it is—and I have work to finish. So—"

Cunningham gave the affirmative gesture willingly; he had just acquired a lot to think about. It had never occurred to him that an essentially biological technology, which the Rantans seemed to have

developed, could result in industrial pollution as effectively and completely as a chemical-mechanical one. Once the point was made, it was obvious enough.

But this came nowhere near to explaining what had happened so recently, when he had landed at the meet-ing point. Could Creak be preaching Doomsday to the city's less-balanced citizens? Was the fellow a mono-maniac, or a zealot of some sort? This might be, judging from what Hinge (as Cunningham had mentally dubbed his new acquaintance) had been saying. Could the two natives who had attempted to capture him be local police, trying to remove the key figure from a potentially dangerous mob? Cunningham had seen cultures in which this was an everyday occurrence. Hinge seemed a calm and balanced individual—more so than the average member of a pre-space-travel culture who had just met his first off-worlder—but he was only one individual.

And what was Hinge's point about the glue failing? Why should that be a problem? There were all sorts of ways to fasten things together.

Cunningham brooded on these questions while Ran-ta's white sun moved slowly across the sky, a trifle more slowly than Sol crosses Earth's. He sat facing the city, half expecting Creak to come over the wall toward him at any time. After all, even if the fellow had not been at the landing site it was hard to believe that a weird-looking alien could throw a crowd into panic and then walk out of town, with no effort at concealment, with-out having everyone in the place knowing what hap-pened and where the alien was within the next hour. However, Creak did not appear.

Two or three other workers who came to discuss something with Hinge noticed the man and satisfied an apparently human curiosity by talking to him rather as Hinge had done. None of them seemed surprised to see him, and he finally realized that Creak had made his presence known, directly or otherwise, to the city's en-tire population. That made the Rantans seem rather less human. Granting the difficulty of a trip to the dam, most intelligent species which Cunningham had met would have had crowds coming to see an alien, regard-less of their ideas about his origin. Maybe Creak had a good reason for trying to poke his fellow citizens into action; they did seem a rather casual and unenterprising lot.

They knew no astronomy; they had an empirical fa-miliarity with the motions of their sun and moon, but had barely noticed the stars and were quite unaware of Boss 6673's other planets. They knew so little of the land areas of their own world that they took it for granted that Cunningham was from one of these—at least, Hinge had referred to him as "the land creature."

Where on Ranta was Creak? There were questions to be answered!

Eventually, Hinge replaced his tools in the worksack and began to drag the latter toward the city wall. Cun-ningham helped. There was a ramp some three hundred meters east of the point where he had descended, and the native used this. Hinge let the man do most of the work with the bag, making his own painful way up the slope with the rope slack. At the top, he spoke again.

"I really must eat. It will probably be quickest if you wait here. I will spread the word on my way home that you seek Creak. If he has not found you by the time I get back, I will guide you to the various places he is most likely to be. I should be back in half an hour, or a little more."

He waited for Cunningham to express comprehen-sion, then dropped his worksack into the water, fol-lowed it, and disappeared into the tangle.

III

Evidently Hinge kept his promise about spreading the word. During the next quarter-hour, more and more na-tive heads appeared above the water, and more and more lorgnettes were turned on the visitor. Human beings are not the only species rendered uneasy by the prolonged, silent stare; but they rank high. Before long, Cunningham was wondering whether the old idea of being frozen by a stare through a lorgnette might not have something more than an artificial social connota-tion.

Several more workers came up the ramp, looked him over, and then splashed on into the city—whether to form part of the growing crowd or to go home to dinner was anybody's guess.

Cunningham kicked uneasily at the material under-foot, then stopped guiltily as he remembered what

had happened earlier; but he looked closely and decided that the cement was in good condition here. Perhaps the Rantans paid more attention to upkeep on items which were nearby and in plain sight; after all, they had plenty of other human characteristics.

Presumably the crowd was not really silent, but none of its sound was reaching Cunningham's ears. This contributed to the oppressive atmosphere, which he felt more and more strongly as the minutes fled by. Hoping to hear better and perhaps get the actual feelings of the crowd, he seated himself on the inner edge of the wall and let his legs dangle in the water. He heard, but only a hopeless jumble of sound. No words could be distinguished, and he did not know the Rantans well enough to interpret general tones.

And now the crowd was moving closer. Was it because more people were crowding into the space, or for some other reason? He looked wistfully at his ship, towering above the walls only a few hundred meters away. Would it pay to make a dash for it? Almost certainly not. He could get to the right space along the wall, but that swim through the tangle would be a waste of time if even a single native chose to interfere. He got uneasily to his feet.

The heads were closer. Were they coming closer, or were more appearing inside the circle of early arrivals? A few minutes' watch showed that it was the latter, and that eased his mind somewhat. Evidently the crowd was not deliberately closing on him, but it was growing in size, so the word of his presence must be spreading. When would it reach the beings? Who had tried to capture him earlier? What would their reaction be when it did?

He was in no real immediate danger, of course. With any warning at all, he could spring back down the wall and be out of reach, but this would bring him no nearer to his ship in any sense. He wished Hinge or Creak would show up . . . or that someone would simply talk to him.

A head emerged a couple of meters to his left, against the wall; its owner, wearing a breathing suit, slowly snaked his way out of the water.

Cunningham stood tense for a moment. Then he relaxed, realizing that the newcomer could pose no threat at that distance. But he tightened up again and began looking at the water closely as it occurred to him that the being might be trying to distract his attention.

The native carefully dragged himself onto the wall so that no part of his length remained in the water. This seemed more effort than it was worth, since a typical Rantan weighs around four hundred fifty kilograms in air even on his own planet, and Cunningham was more suspicious than ever. He was almost sure that the fellow was bidding strictly for attention when he heard its voice.

"Cun'm! Listen carefully! Things have gone very badly. I don't think anyone in the water can hear me right now, but they'll get suspicious in a moment. It's very important that you stay away from your ship for a time, and we should both get away from here. As soon as I'm sure you understand, I'm going to roll down the wall; you follow as quickly as you can. Some may come after us, since there are a few other breathing suits on hand, so I'll roll as far as I can. I have some rope with me, and as soon as we get together you can use it to help me travel. That way we can go faster than them and maybe they'll give up."

By now, Cunningham had recognized Creak's body pattern.

"Why should they want to catch us?" he asked.

"I'll explain when we have time. Do you understand the plan?"

"Yes."

"All right, here I go. Come on!"

Creak poured his front end onto the slope and followed it with the rest of his body, curling into a flat spiral with his head in the center as he did so. His limbs were tucked against his sides, and his rubbery body offered no projections to be injured. He had given himself a downhill shove in the process of curling up, and the meter-wide disk which was his body went bounding down the irregular outer surface of the wall. Cunningham winced in sympathy with every bounce as he watched, though he knew the boneless, gristly tissue of the Rantans was not likely to be damaged by such treatment. Then, splashes behind him suggested that Creak probably had good reason for the haste he was so strongly recommending.

The man followed him, leaping as carefully as he could from rock to rock, tense with the fear that one of them would come loose as he landed on it. He reached the bottom safely, however, and sprinted after Creak, whose momentum combined with the southward slope of the rocky beach to carry him some distance from the wall.

Finally, he bumped into the springy scaffolding surrounding one of the numerous buildings that dotted the area, and was brought to a halt. He promptly unrolled, and shook out the rope which he had been carrying in some obscure fashion. It was already tied into a sort of harness which he fitted over his forward end. As Cun-ningham came up, the native extended a long bight to him.

The man had no trouble slipping this over his head and settling it in place around his waist. He looked back as he was finishing and saw that half a dozen suited natives had emulated Creak's method of descending the wall. They had, however, unrolled as soon as they reached the bottom, probably to see which way the fugitives were going; and they were well behind in the race. The nearest were just starting to crawl toward them in typical Rantan dry-land fashion, pulling them-selves along by whatever bits of lava they could find projecting through the sand.

"East or west? Or does it matter?" Cunningham asked.

"Not to me," was the response, "but let's get mov-ing!"

Cunningham took a quick look around, saw some-thing from his erect vantage point which amused him, leaned into the bight of the rope harness, and headed east. Creak helped as much as he could, but this was not very much. The native could not conveniently look back, since the harness prevented his front end from turning and none of his eyes projected far enough. The man could, and did.

"Only a couple are actually following," he reported. "You're pretty heavy, and I'm not dragging you really very much faster than they can travel; but I guess the fact that we're going faster at all, and that I am evi-dently a land creature, has discouraged most of them."

"There are some who won't give up easily. Don't stop just yet."

"I won't. We haven't reached the place I have in mind."

"What place is that? How do you know anything about this area? Personally, I don't think we should stop for at least a couple of your kilometers."

"I can see a place where I think we'll be safe even if they keep after us. You can decide, when we get there. I'll go on if you think we have to. But remember, you weigh half a dozen times as much as I do. This is work."

One by one their pursuers gave up and turned back, and at about the time the last one did so Cunningham felt the load he was pulling ease considerably. At the same moment Creak called out, "I'm sorry, Cun'm. I can't help you at all here. It's all sand, and there's noth-ing to hold on to."

"I know," the man replied. "That was what I thought I'd seen. It's easier to pull you in deep sand, and I didn't think anyone could follow us here." He dragged the native on for another hundred meters or so, then dropped the rope and turned to him.

"All right, Creak, what is this all about?"

The native lifted the front third of his body, and looked around as well as the height and his lens would permit before answering.

"I'll have to give you a lot of background, first. I dodged a lot of your questions earlier because I wasn't sure of your attitude. Now I'm pretty sure, from some of the things you've said, that you will agree with me and help me.

"First, as you seem to take for granted, we used to be dwellers in the tidal jungles—many lifetimes ago. Our ancestors must have been hunters like the other crea-tures that live there, though they ate some plant food as well as animals. Eventually they learned to raise both kinds of food instead of hunting for it, and still later learned so much about the rules which control the forms of living things that they could make new plants and animals to suit their needs. This knowledge also en-abled them to make buildings out of stone and wood, once cement was developed; and they could live in shel-ters and provide themselves with necessities and plea-sures, without ever risking their lives or comfort in the jungles. We became, as you have called it, civilized and scientific.

"That so-called 'progress' separated most of us from the realities of life. We ate when we were

hungry, slept in safety when we were tired, and did whatever amused us the rest of the time—developing new plants and ani-mals just for their appearance or taste, for example. The tides, which I think were the real cause of our de-veloping the brains we did, became a nuisance, so we built homes and finally cities out of the water."

"And you think that's bad?"

"Of course. We are dependent on the city and what it supplies, now. We are soft. Not one in a hundred of us could live a day in the tidal jungles—they wouldn't know what was fit to eat, or what was dangerous, or what to do when the tide went out. Even if they learned those things quickly enough to keep themselves alive, they'd die out because they couldn't protect eggs and children long enough. I've been pointing all this out to them for years."

"But how does this lead to the present trouble? Did you really wreck the dam yourself, to force people out of the city?"

"Oh, no. I'm enthusiastic but not crazy. Anyway, there was no need. Civilization out of water, like civi-lization in it, depends on construction, and construction depends on cement. It was—I suppose it was, any-way—the invention of cement which made cities possi-ble; and now that the cement is starting to fail, the warning is clear. We should—we must—start working our way back to the sea—back to Nature. We were de-signed to live in the sea, and it's foolish to go against basic design. We should no more be living on land than you should be living in the water."

"Some of my people do live in underwater cities," Cunningham pointed out. "Some live on worlds with no air, or even where the temperature would freeze air."

"But they're just workers, doing jobs which can't be done elsewhere. You told me that your people work only a certain number of years, and then retire and do what they please. You're certainly back to Nature."

"In some ways, I suppose so. But get back to the rea-son we're sitting on the sand out of reach of my ship."

"Most of the people in the city can't face facts. They plan to send a big party of workers to repair the dam, and go on just as we have been for years, of course setting up a strict water-use control until the reservoir fills again. But they plan to go on as though nothing serious had happened, or that nothing more serious could ever happen. They're insane. They just don't want to give up what they think of as the right to do what they want whenever they want."

"And you've been telling them all this."

"For years."

"And they refuse to listen."

"Yes."

"All right, I see why you are here. But what do they have against me? Or were they merely trying to get me away from your influence?"

If Creak saw any irony in the question he ignored it. "I've been telling them about you from the first, of course. I don't understand this bit about worlds in the sky, and most of them don't either, but there's nothing surprising about creatures living on land even if we've never seen any before. I told them about your flying machine, and the things you must know of science that we don't, and the way that you and your people have gone back to Nature just as I keep saying we must. You remember—you told me how your people had learned things which separated them from the proper life that fitted them, and which did a lot of damage to the Na-ture of your world, and how you finally had to change policies in order to stay alive."

"So I did, come to think of it. But you've done a certain amount of reading between the lines. You really think I'm living closer to Nature than my ancestors of a thousand years ago?" Cunningham was more amused than indignant, or even worried.

"Aren't you?"

"I hate to disillusion you, but— Well, you're not en-tirely wrong, but things aren't as simple as you seem to think. I could survive for a while on my own world away from my technological culture, and most of my people could do the same, because that's part of our ed-ucation these days. However, we

got back to that state very gradually. As it happened, my people did become completely dependent on the physical sciences to keep them protected and fed, just as you seem to have done with the biological ones. We did such a good job that our population rose far beyond the numbers which could be supported without the technology.

"The real crisis came because we used certain sources of energy much faster than they were formed in Nature, and just barely managed to convert to adequate ones in time. We're being natural in one way: we now make a strong point of not using any resource faster than Nature can renew it. However, we still live a very civilized-scientific life, the sort that lets us spend practically all our time doing what we feel like rather than grubbing for life's necessities. You're going to have to face the fact that the technology road is a one-way one, and cursing the ancestors who turned onto it is a waste of time. You'll just have to take the long way around before you get anywhere near where you started."

"I . . . I suppose I was wrong, at least in some de-tails." The native seemed more uneasy than the circum-stances called for, and Cunningham remembered the need-to-be-right which he had suspected of being un-usually strong in the species. Creak went on, "Still, us-ing you as an example was reasonable. Your flying machine proves you know a lot more than we do."

Cunningham refrained from pointing out the gap in this bit of logic, since at least it had led back to the point he wanted pursued.

"That machine is something I'd like to get back to," he remarked. "If you really don't want to explain why someone tried to capture me, I can stand it. But how do I get back there?"

"I wasn't trying to avoid explaining anything," Creak responded, rather indignantly. "I don't know why any-one tried to capture you, but maybe they thought I wasn't telling the exact truth about the situation and they wanted to question you without my intervention. I suppose they'd have been willing to take the time to learn your language—it's the sort of intellectual exercise a lot of them would like. But how you can get back there will take some thinking. I think I can work it out some-how—I'm sure I can. How long can you stay away from your machine without danger? I've never known you to spend more than two days—"

"I'm set to be comfortable for three days, and could get along for five or six; but I hope you don't take that long. What do I do, just sit out here on the sand while your brain works?"

"Can't you learn things outside the city? I thought that was what you were here for. However, there is one other thing you could do, if you were willing—and if it is possible. I know you are a land creature, but am not sure of your limits."

"What is that?"

"Well . . . it's Nereis. I can tell myself she's all right, and that nothing can reasonably go wrong, but I can't help thinking of things that might. How long would it take you to get to our house, without your ship? Or can you travel that far at all?"

"Sure. Even going around the city, that's less than twenty kilos each way, and there's nothing around to eat me. You really want me to go?"

"It's a little embarrassing to ask, but—yes, I do."

Cunningham shrugged. "It will be quite a while before I have to worry, myself, and you seem pretty sure of being able to solve the ship problem all right. I suppose, the sooner the better?"

"Well, I can't help but picture the house wall going out like the dam."

"I see. Okay, I'm on my way. Put your brain to work."

IV

Laird Cunningham was an unsuspecting character by nature. He tended to take the word of others at face value, until strong evidence forced him to do otherwise. Even when minor inconsistencies showed up, he tended to blame them on his own failure to grasp a pertinent point. Hence, he started on his walk with only the obvious worry about recovering his ship occupying his mind—and even that was largely buried, since his conscious attention was devoted to observing the planetary features around him.

He had left Creak at a point which would have been slightly inside the city if the latter had been a

perfect square. The easiest way to go seemed to be east until he reached the southern end of the east wall, north along the latter, and then roughly parallel with the aqueduct until he reached the north end of the latter. Crossing it, or the dam, might be a little risky, but the reservoir should be nearly empty by now. Unless he had to stay with Nereis for some reason, it should be possible to get back in, say, five or six hours. He should have mentioned that to Creak— But, no, the sun was almost down now; most of the journey would be in the dark. Why hadn't he remembered that?

And why hadn't Creak thought of this?

Cunningham stopped in his tracks. A Rantan breathing suit was not particularly time-limited—it merely kept the air intakes at the bases of the tentacles wet, and in theory several days' worth of water could be carried. Still, why hadn't Creak been worried for his own sake about the probable time of the man's return? He was trapped on a surface where he was almost helpless. Had he simply forgotten that aspect, through worry for his wife and incipient family? It was possible, of course.

Cunningham, almost at the corner that would take him out of sight of Creak, paused and looked back. He could just see the native, but nearly a kilometer of distance hid the details. He drew a small monocular from his belt and used it.

The sight was interesting, he had to admit. Creak had stretched his body on the sand, holding a slight curve, like a bent bow. His limbs were pulled tightly against his sides. Evidently he was exerting a downward force at the ends of the arc, for he was rolling in the direction of the convexity of the curve—rolling less rapidly than Cunningham could walk, but much faster than the man had ever seen a Rantan travel on dry land.

As he watched, Creak reached the end of the deep sand and reverted to more normal travel, pulling himself along the projecting stones. Creak never looked back at Cunningham; at least, his lorgnette was never called into use. Probably it never occurred to him that the human being's erect structure would give him such a wide circle of vision . . .

Cunningham was grinning widely as pieces of the jig-saw began to fall rapidly into place. After a few moments' thought, he replaced the monocular at his belt and resumed his northward hike. Several times he stopped to examine closely the wall of the city, as well as those of some of the small buildings outside. In every case the cement seemed sound. Further north, more than an hour later, he repeated the examination at the walls of the aqueduct, and nodded as though finding just what he had expected.

It was dark when he reached the dam, but the moon provided enough light for travel. He did not want to climb it, but there was no other way to get to the house. He used his small belt light and was extremely careful of his footing, but he was not at all happy until he reached the top. At that point, he could see that the reservoir was nearly empty. This eased his mind somewhat; there would be no water pressure on the structure, and its slopes on either side were gentle enough so that it should be fairly stable even with the cement's failure.

Nereis' house was still apparently intact, but this did not surprise him. Moonlight reflecting from the surface also indicated that its water level had not changed significantly.

He made his way along the walls to the living room as quickly as possible, found the corner where space had been made for him in the furniture, and dropped in. He then remembered that he had not ballasted himself, but managed to roll face down and call to Nereis.

"It's Cunningham, Nereis. I need to talk to you. Is everything all right here?"

The room was practically dark, the only artificial lighting used by the Rantans being a feeble bioluminescence from some of the plants; but he could see her silhouette against these as she entered the room and made her way toward him.

"Cun'm! I did not expect to see you so soon. Has something happened? Is Creak hurt? What is being done about the dam?"

"He's not hurt, though he may be in some trouble. He and I had to get away from the city for a while. He was more worried about you than about us, though; he asked me to come to make sure you were safe while he stayed to solve the other problems. I see your walls aren't leaking, so I suppose—"

"Oh, no, the walls are sound. I suppose the water is evaporating, but it will be quite a few days before I have to worry about producing crystals instead of eggs."

"And you're not worried about the walls failing, even after what happened to the dam today? You're a long, long way from help, and you couldn't travel very well, even in a breathing suit, in your condition."

"The house will last. That dam was different—"

She broke off suddenly. Cunningham grinned invisibly in the darkness.

"Of course, you knew it too," he said. "I should have known when Creak didn't arrange to have me fly you to the city."

Nereis remained silent, but curled up a little more tightly, drawing back into the furniture. The man went on after a moment.

"You knew that the glue lasts indefinitely as long as it's in some sort of contact with salt water. All your buildings have salt water inside, and apparently that's enough even for the glue on the outside—I suppose ions diffuse through or something like that. But you have just two structures with only fresh water in contact with them—the dam and the aqueduct. How long have you known that the glue doesn't hold up indefinitely in fresh water?"

"Oh, everyone has known that for years." She seemed willing enough to talk if specific plots were not the subject. "Two or three years, anyway. Cities have been dying for as long as there have been cities, and maybe some people sometimes found out why, but it was only a few years ago that some refugees from one of them got to ours and told what had happened to their reservoir. It didn't take the scientists long to find out why, after that. That's when Creak got his job renewing the cement on the dam. He kept saying there's much more needed—more people to do the cementing, and more reservoirs, if we must stay out of the ocean. But no one has taken him seriously."

"You and he think people should go back to the ocean—or at least build your cities there. Why don't others agree?"

"Oh, there are all sorts of things to keep us from living there. The water is hardly breathable. All sorts of living things that people made and turned loose when they didn't want them anymore—"

"I get it. What my people call 'industrial pollution.' Hinge was right. I suppose he wasn't in on this stunt of Creak's— No, never mind, I don't know his real name and can't explain to you. Why haven't you tried to produce a glue that could stand fresh water?"

"How could we? No living thing, natural or artificial, has ever been able to do without food."

"OOOOhhh! You mean the stuff is alive!"

"Certainly. I know you have shown us that you can change one substance into another all by yourself when you were doing what you called chemical testing, but we have never learned to do that. We can make things only with life."

Cunningham thought briefly. This added details to the picture, but did not, as far as he could see, alter the basic pattern. "All right," he said at last. "I think I know enough to act sensibly. I still don't see quite all of what you and Creak were trying to do, but it doesn't matter much. If you're sure you will be all right and can hold out here another few days, I'll get back to where I left Creak."

He started to swim slowly toward the wall.

"But it's night!" Nereis exclaimed. "How can you walk back in the dark? I know you're a land creature, but even you can't see very well when the sun is down. You'll have to wait here until morning."

Cunningham stopped swimming and thought for a moment.

"There's a moon," he pointed out, "and I guess I never showed you my light, at that. I'll be— How did you know I was walking?"

Silence.

"Are you in some sort of communication with Creak that you have never told me about?"

"No."

"And I know you didn't see me coining, and I didn't say anything about leaving the ship in the city or how I traveled. So Creak had set something up before we left here, and you knew about it. He was not really anxious about you—he knew you were perfectly safe. So part of the idea was to keep me away from my ship, or at least the city for some time. I can't guess why. That much of the plan has succeeded. Right?"

Still no word came from the woman.

"Well, I'm not holding it against you. You were trying for something you consider important, and you certainly haven't hurt me so far. Right now, in fact, it's fun. I don't blame you for trying. Please tell me one thing, though: Are you and Creak trying to force your people to move back to the ocean, in spite of knowing about the pollution which right now makes that impossible? Or do you have something more realistic in mind? If you can bring yourself to tell me, it may make a difference in what I can do for all of you."

"It was the second." Nereis took no time at all to make up her mind. "Mostly, it was to make people realize that they were just lying on their bellies doing nothing. We wanted them to see what could be done by—I can't say this just right—by someone who wasn't really any smarter than we are, but had the urge to act. We wanted them to see your flying machine to show them the possibilities, and we wanted to get it away from you to . . . well—"

"To show them that I'm not really any smarter than you are?"

"Well . . . Yes, that about says it. We hope people will be pushed into trying—as they did when they built the land cities so long ago. Saying it that way now makes it all seem unnecessarily complex, and silly, but it seemed worth trying. Anything seemed worth trying."

"Don't belittle yourselves or your idea. It may just work. In any case, I'd have had to do something, myself, before leaving to prove that I wasn't really superior to your people— Never mind why; it's one of the rules." He floated silently for a minute or two, then went on.

"I agree that your people probably need that kick—excuse me, push—that you suggest. I'm afraid it will be a long time before you really get back to Nature, but you should at least keep moving. No race I know of ever got back there until its mastery of science was so complete that no one really had to work anymore at the necessities of life. You have a long, long way to go, but I'll be glad to help with the push . . .

"Look, I have to go back to the ship. I'm betting Creak won't expect me back tonight, and the guarding won't be too much of a problem—you folks sleep at night, too. I have to get something from the ship, which I should have been carrying all along—you're not the only ones who get too casual. Then I'll come back here, and if you're willing to sacrifice your furniture to the cause, I'll make something that will do what you and Creak want. I guarantee it."

"Why do you have to get something from your ship in order to make something from my furniture? I have all the glue you could possibly need."

"That's the last thing I want. You depend too much on the stuff, and it's caused your collective craftsmanship to die in the—the egg. Glue would make what I want to do a lot easier, but I'm not going to use it. You'll see why in a few days, when I get the job done."

"A few days? If the weather stays dry, I may lose enough water from the house to make it too salt for me and —"

"Don't worry. I'll take care of that problem too. See you later."

V

The moon had passed culmination when Cunningham reached the place where Creak had rolled down the wall a few hours before, and he was relieved to see the bulk of his ship gleaming in the moonlight a few hundred meters away. To avoid tripping or slipping, he went slowly on all fours along the walls until he reached a point closest to the vessel, but on the side opposite the airlock. Then he unclipped the remote controller from his belt and opened the lock, regretting that he could not bring the ship to him with the device.

He listened for several minutes, but there was no evidence that the opening had attracted any attention. Of course, that was not conclusive . . .

Very, very gently he let himself into the water. Still no response. He could feel the plants a few centimeters down, and rather than trying to swim he grasped the twining growths and pulled himself along, Rantan fashion, slowly enough not to raise ripples.

The plants extended only twenty meters or so from the wall. He had to swim the rest of the way,

expecting at every moment to feel a snaky body coil around him; he was almost surprised when he reached the hull. He had no intention of swimming around to the lock; there were handholds on every square meter of the vessel's exterior. He found one, knew immediately where all the neighboring ones must be, reached for and found another, and hoisted himself gently out of the water. Still as quietly as possible he climbed over the top and started down toward the open lock. Now he could see the moon reflected in the water.

He stopped as he saw the silhouette of a Rantan head projecting from the lock. The opening must have been seen or heard after all, for the creature could not have been inside before. Was it alone? Or were there others waiting inside the lock or in the water below? Those in the water would be no problem, but he would have to take his chances if any were in the ship.

Cunningham thought out his movements for the next few minutes very carefully. Then he let himself down to a point just above the lock, three meters above the native. Securing a grip on the lowest hold he could reach, he swung himself down and inboard.

He had no way of telling whether he would land on a section of Rantan or not; he had to budget for the possibility. One foot did hit something rubbery, but the man kept his balance and made a leap for the inner door, which he had opened with the controller simultaneously with his swing. There had been only one guard in the lock, and lying on a smooth metal surface he had had no chance at all to act; he had been expecting to deal with the man climbing from below.

Cunningham relaxed for a few minutes, ate, and then looked over his supply of hand equipment. He selected a double-edged knife, thirty-five centimeters in blade length, cored with vanadium steel and faced with carbide. Adding a sheath and a diamond sharpener, he clipped the lot to his belt, reflecting that the assemblage could probably be called one tool without straining the term.

Then he stepped to the control console and turned on the external viewers, tuning far enough into the infrared to spot Rantan body heat but not, he hoped, far enough to be blocked entirely by water. Several dozen of the natives surrounded the ship, so he decided not to try swimming back out. The guard had apparently joined those in the water.

"I might get away with it, but it would be rubbing things in," he muttered. Gently he lifted the vessel and set it down again just outside the south wall of the city. Extending the ladder from the lock, he descended, closed up with the controller, and started his long walk back to the reservoir.

Creak, from the top of the wall, watched him out of sight and wondered where his plan had gone wrong and what he could do next. He also worried a little: Cunningham had been meaning to tell him that Nereis was all right, but had not seen him to deliver the message.

VI

Four Rantan days later, principles shelved for the moment in his anxiety for his wife, Creak accompanied the repair party toward the dam.

It had taken a long time to set up: the logistics of a fifteen-kilometer cross-country trip were formidable, and finding workers willing to go was worse. Glue, food, spare breathing suits and their supporting gear, arrangement for reserves and reliefs—all took time. It was a little like combing a city full of twentieth-century white-collar workers to find people who were willing to take on a job of undersea or space construction.

It might have taken even longer, but the water in the city was beginning to taste obnoxious.

A kilometer north of the wall they met something that startled Creak more than his first sight of Cunningham and the *Nimepotea* six months before. He could not even think of words to describe it, though he had managed all right with man and spaceship.

The thing consisted of a cylindrical framework, axis horizontal, made of strips of wood. Creak did not recognize the pieces of his own furniture. The cylinder contained something like an oversized worksack, made of the usual transparent fabric, which in turn contained his wife, obviously well and happy.

At the rear of the framework, on the underside, was a heavy transverse wooden rod, and at the

ends of this were—Creak had no word for "wheels." Under the front was a single, similar disk-shaped thing, connected to the frame by an even more indescribable object which seemed to have been shaped somehow from a single large piece of wood.

The human being was pulling the whole arrangement without apparent effort, steering it among the rocks by altering the axial orientation of the forward disk.

The Rantans were speechless—but not one of them had the slightest difficulty in seeing how the thing worked.

"Principles are an awful nuisance, Creak," the man remarked. "I swore I wasn't going to use a drop of your glue in making the wagon. Every bit of frame is tied together—I should think that people with your evolutionary background would at least have invented knots; or did they go out of style when glue came in? Anyway, the frame wasn't so bad, but the wheels were hell. If I'd given up and used the glue, they'd have been simple enough, and I'd have made four of them, and had less trouble with that front fork mount—though I suppose steering would have been harder then. Making bundles for the rims was easy enough, but attaching spokes and making them stay was more than I'd bargained for."

"Why didn't you use the glue?" Creak asked. He was slowly regaining his emotional equilibrium.

"Same reason I left the ship down by the city, and lived on emergency food. Principle. Your principle. I wanted you and your people to be really sure that what I did was nice and simple and didn't call for any arcane knowledge or fancy tools. Did you ever go through the stone-knife stage?" He displayed the blade. "Well, there's a time for everything, even if the times are some-times a little out of order. You just have to learn how to shape material instead of just sticking it together. Get it?"

"Well . . . I think so."

"Good. And I saved my own self-respect as well as yours, I think, so everyone should be happy. Now you get to work and make some more of these wagons—only for Heaven's sake do use glue to speed things up. And let three-quarters of this crowd go back to painting pictures or whatever they were doing, and then cart some stuff up to that dam and get it fixed. It might rain sometime, you know."

Creak looked at his wife—she was riding with one end out of the wagon, so she could hear him. "I'm afraid we're further than ever from Nature," he remarked.

She made a gesture which Cunningham knew to mean reluctant agreement.

"I'm afraid that's right," the man admitted. "Once you tip the balance, you never get quite back on dead center. You started a scientific culture, just as my people did. You got overdependent on your glue, just as we did on heat engines—I'll explain what those are, if you like, later. I don't see how that information can corrupt this planet.

"You still want to get back to your tidal jungles, I suppose. Maybe you will. We got back to our forests, but they are strictly for recreation now. We don't have to find our food in them, and we don't have much risk of getting eaten in them. So someday you may decide that's best. In any case, it will take you a long, long time to get around that circle; and you'll learn a lot of things on the way; and believe it or not, the trip will be fun.

"Forgive the philosophy, please. As I remarked to you a few days ago, when your ancestors started scientific thinking they turned you onto a one-way road. And speaking of roads, which is a word you don't know yet—you'd better make one up to the dam. These rocks I've been steering the wagon around are even worse than principles."