

Moral Biology

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As Perrault entered the room he quickly closed the anosmic receptors running in lines across his face like tribal markings, retaining the use only of those within his nose. The air was laden with pheromones, and he really had no need for further input on Gleeson's readiness for sex with Arbeck. Just walking through the door had been enough. Gleeson sat with her rump against her desk while Arbeck, his camo shirt hanging open to reveal the tight musculature of his chest, sat in one of the chairs facing her, his legs akimbo. Their conversation ceased and she looked up at Perrault, quickly snatching her hand away from fondling with her hair, doubtless aware of everything he could read. He glanced at them, taking in their dynamic and almost breaking into laughter at Arbeck's pose, then focused on other aspects of the room as he headed for the other chair. He blinked through the spectrum, seeing the so recognizable heat patterns on Gleeson's skin, listened in on the EMR chatter of the ship, then shut it out as irrelevant, measured shapes in conjunction throughout the space that hinted at shadow languages and esoteric meaning, and then shut that down too.

"Do we have further data?" he asked mildly.

Gleeson reluctantly pushed herself away from the desk and walked round it to pause with her hand on the back of her seat. She then showed a flash of irritation and sat down. Perrault read into the actions her hormonal wish to bring the chair round to sit nearer to Arbeck, overcome by her need to maintain her illusory power dynamic, being as they were meeting in her rooms, all in turn influenced by her awareness of his own abilities. He studied the surface of her desk as she sat down. Very little lay there beyond a paper notepad and pen. These were a hobby related to her interest in history and one of her specialisms in human archaeology. This display told him she used the items as a gambit to switch conversation to her interest, which also told him a little bit more about her self-absorption.

"Arbeck was telling me about the satellites," she said. "They are the product of advanced organic technology, as we first thought."

Via her aug she threw an image up on the screen behind her showing one of the satellites in high orbit about the world below them. The thing looked like a pearl hanging in vacuum and of course related to what had been scanned on the planet's surface: the nacre-lined tunnels worming through the ground, and the structures similar to termite mounds utterly riddled with them. Instead of commenting on this, he thought about her use of "organic technology." Like "biotech" it was a term that continued to survive despite very vague definition now. He also sensed her reluctant interest in active alien technology—her doubts about whether it fell under

the remit of another of her specialisms, which was xenoarchaeology.

“Grown they might have been,” said Arbeck, “but they can still pack a hell of a punch. They can fire masers and grazers, and a few of them can transmit some form of U-space disruption. I would love to get inside one for a look around.”

“Do we have any more on their true purpose?” asked Perrault.

“Orbital defenses,” said Gleeson. “Surely that’s obvious?”

Perrault shook his head and turned to Arbeck.

“Not only that,” said the soldier, whereupon Perrault noted a distinct cooling in the atmosphere. Gleeson did not like to be contradicted. “Those outward facing weapons have a long range, but they only respond close in to the planet. We managed to put an armored drone through. They ceased firing when it was in atmosphere, then opened up again when it tried to leave. It didn’t make it.”

“The drone was sub-AI I hope,” said Perrault.

“Yup.”

“That still doesn’t discount orbital defenses,” said Gleeson.

Arbeck shook his head. “The format is all wrong. Heavy grazers point out, lighter maser weapons point down toward the world, while the U-space stuff hasn’t even done anything.”

“So it seems the system activates when something tries to land yet, this ship, which is in range of those grazers you mention, has not been fired upon. A threat and an option pointed outward and coverage to prevent anything landing or leaving,” suggested Perrault.

“Internal coverage could be to keep a population under control—some heavily authoritarian regime. We’ve seen that before,” said Gleeson, grudgingly.

“But they did not fire at the drone when it reached the surface,” he replied. “In fact, as I understand it, the masers do not have the penetration to reach the surface.”

“That’s true,” Arbeck agreed, further destroying his chances with Gleeson, had that been his inclination.

“So what’s your assessment, Translator?” asked Gleeson.

He noted her acerbic use of the title and discounted it. Despite her temporary power dynamic here, they were all in command of their own specialisms on the ground. Arbeck would nominally be in command because, as leader of the military contingent, his concern would be their safety. But in the end he, and they, answered to the forensic AI, Mobius Clean, who had only temporarily left the ground mission in human hands. The usual reason for this was that on first contact it was best not to display the full extent of your capabilities. If the life-form below turned out to be dangerously hostile, it would think it only had stumbling humans to contend with. Or the AI had done this because humans, in some esoteric manner, would render the data it required.

“I have studied the same data as Arbeck and come to some conclusions, yes.”

Gleeson grimaced. “This would be because of your facility with pattern recognition, logic and . . . what was it? Oh yes: psycho-semantic math?”

He nodded agreeably, acknowledging three of the hundreds of disciplines he had learned, but said, “The system prevents anything landing or leaving, but ignores this ship, which could be a larger threat. So we must assume its purpose is precisely the aforesaid. It doesn’t look like a defense against major attack, rather more like a border fence.”

“Really?” said Arbeck. “A territorial thing?”

Perrault shrugged. “Or a prison or . . .” He searched for the appropriate word. “. . . or quarantine.”

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The soldiers were Sparkind: two four-person combat units under the overall command of Arbeck. They all looked like big, heavily muscled men and women, rugged, battle hardened and efficient. They all wore augs and clad themselves in the same combat armor so it would be difficult for most to see that one of them was a Golem android, one a human only in so far as he still had an organic brain, while another had the crystal mind of an AI but a tank-grown human body. But even then, the last had the greatest quantity of human tissue in him, for all the other

humans were liberally sprinkled with prosthetics and other hardware integrated into their bodies.

Clad in his specially adapted envirosuit, Perrault walked out into the shuttle bay where the soldiers were preparing their gear, and eyed the vehicle that would take them down to the planet. The shuttle looked like a fifty-foot shard of lignite. He walked over and inspected the hull, reached down and felt the faint tingle of as yet fully active meta-materials armor and chameleonware. Fine lines etched the surface and, as ever, his mind began to integrate their math and search for their meaning.

"This should get us through without problem," said Arbeck at his shoulder. "But even if there are problems we've been given permission to take out the satellite weapon concerned."

"Permission from Mobius Clean?"

"Yes."

Perrault nodded and turned to face Arbeck. He was big, conventionally handsome with a cheerful face below a mop of blond hair, and whose grin showed conventionally perfect teeth. His emulation was near perfect, and Perrault would not have been surprised if Arbeck had nasty breath in the morning and body odor if he did not shower sufficiently. The minutiae in his speech patterns gave him away however. His colloquialisms were too even, his accent too near the norm for his supposed birthplace, while his acquired vocabulary did not have the correct statistical deviation to match his apparent experience of many missions on many different worlds. Gleeson's reaction to Arbeck had amused Perrault because the soldier was a Golem android.

"Gleeson will be joining us on this run?" he enquired.

Arbeck nodded. "We'll land by one of the empty formations where she can collect data and samples before we proceed." He stabbed a thumb behind him. "Your gear is out of storage if you want to inspect it."

Perrault nodded. He already knew that, since the shroud had established radio links to him even as he approached this hold. He followed the soldier over to a plasmel case sitting on the floor, reached down, and pressed his hand against the palm reader to unlock it—perhaps a little too obviously eager, he felt—then hinged up the lid.

Most of the case contained the feeding and other support gear for the shroud, which rested in carbon foam packing. The thing looked like a stingray, but with a truncated tail and jointed limbs webbing its wings, and a crumpled up mass protruding from its front end. This Gleeson would describe as organic technology or biotech. Like most such items, it contained technology both grown and manufactured, living systems and printed hardware. Whether it could be described as a cyber-enhanced organism or a machine with organic components was open to debate. He rested a hand on it and felt its response to him—its readiness to detach from its support equipment—and quelled it with a thought transferred as a chemical communication through his fingertips. Still, the attachment points on his sides, down his spine and in the back of his skull, opened slightly in readiness and sent a shiver through his body. He closed the lid.

"Load it with the rest," he said. "I won't attach until we're heading toward the creature." He headed back toward the vessel—noting that Gleeson had now arrived and some of the troops were boarding—shrugged, and headed for the steps up to the airlock.

* * *

Stepping into the shuttle, Gleeson eyed the rows of pods clamped to the floor. She saw Perrault sit and strap himself into one of the front row pods just behind the cockpit, so chose one at the back—acknowledging her discomfort at his abilities. It was foolish really, because AIs could be similarly equipped to read humans and she did not have such a reaction to them. Her discomfort, it seemed, arose from him being human. It was like having a telepath nearby reading her every thought. She sat and strapped herself in, eyed the shield at the front ready to snap up and enclose her, then the surrounding orifices ready to inject crash gel. After a moment she wedged her arms down in the grooves in the arms of the chair. Via her aug she called up a present view of the planet transmitted to the shuttle from the sensors of the main vessel.

Scanning showed the tunnels worming through many areas of that world. They were like road

and underground maps on Earth long before the Quiet War. In some areas they thinned out to nothing; in others they gathered together in such a chaotic tangle they became difficult to distinguish from each other. Cysts and bulbs also budded on this network—small chambers like the alveoli in lungs. Where most prevalent, these tunnels had shoved up structures like giant worm casts of rock and earth—some were so extensive they had at first been mistaken for mountain ranges. Smaller conglomerations formed massifs jutting up through the planetary flora.

She noted status alerts appearing down the side of her view and closed her eyes. All were aboard now, and the airlock closed.

“One minute to launch,” said Arbeck from the cockpit. “Then five minutes to gel stasis. For those of you who have never experienced it before, it’s nothing to worry about. You won’t be conscious. Any problems and the crash pods will likely blow us away from the planet, and the next thing you know you’ll wake up aboard the ship again.”

Gleeson grimaced. The talk had been for herself and Perrault, but Arbeck had neglected to mention that if “any trouble” occurred low down in orbit, the pods, scattered from this shuttle, had a lower chance of survival than the vessel itself. She returned to her contemplations of what they might encounter below, even as she felt the shudder of docking clamps disengaging.

The first sampling probe they sent had blinked out in a flash of plasma—their first indication that the objects orbiting the world were not in fact oddly featureless moonlets but a weapons system. The second probe, wrapped in a ten-foot-thick casing of armor, which the weapons stripped away, arrived intact and sent back the first data. The tunnels were formed of a substance almost indistinguishable from nacre—from the material of an ormer’s shell. They seemed the product of a life-form, however, since the satellite weapons were also formed of this material, the nacre must ultimately be the product of intelligent life, which meant it could also be biotech distinct from that life.

A light touch ensued. The unique find here indicated they should not be hasty and go crashing in to perhaps destroy something of value, and Gleeson had been utterly in agreement with that approach. Months of scanning ensued, further probes explored the surface. At first it seemed that the intelligent life here, whatever it had been, was extinct. But then a wandering probe approached one of the massifs and detected tunnels and cysts filled with something living. When it tried to get inside for a closer examination, its find grabbed it and broke it apart.

“Gleeson.”

She looked up. Demarco—one of the soldiers—stood by her pod with the heavy pack containing her equipment. He lowered it into the front of the pod between her feet and the shield. He also pointed to closed compartments either side of her chair arms.

“Survival gear in there—with any luck you won’t need it,” he said.

“Some problem?” She peered ahead and saw that another soldier had delivered a smooth plasme case to Perrault. No doubt it contained that thing, that shroud, which would enhance his already annoying abilities further. Other soldiers were shifting further gear into their own pods.

“The AI made some changes. We take as much of our own gear in the pods as we can. If the shuttle gets blown away we don’t want to lose everything.”

She nodded. It made sense for her equipment, more so for Perrault’s shroud. He only had the one, and it was either expensive, complex Polity technology, or alien technology—though that last might be apocryphal. Anyway, though her own equipment could be resupplied by the ship, the shroud lay beyond its manufacturing capabilities.

“I thought we were allowed to shoot back?” she asked.

He grimaced. “Seems the AI changed its mind.”

As Demarco moved away, she returned to her contemplations.

The data from the unfortunate probe revealed a life-form, or conglomeration of life-forms, occupying a volume five miles across and two deep. Spill holes revealed piles of chewed up organic detritus consisting of the mostly digested remains of animals and plants—spill piles she really wanted to look at. Data the probe broadcast during its destruction revealed some of the creature or creatures concerned. Fringed fleshy ridges, tentacles, organs, and the other paraphernalia much like that of a terran mollusk dwelt in wet darkness down there. Further

watching from orbit revealed it extending itself through tunnels under the surrounding jungle, to occasionally drag down a wandering beast or sometimes plants—growths much like cycads from stream edges seemed preferred. But beyond this, little else could be discovered, and no signs of intelligence beyond that of an animal revealed itself. However, a reassessment of the data did reveal an anomaly.

When this creature grabbed the probe, its diagnostic feed revealed dismantling rather than destruction. Meanwhile, at that precise time, the energy signatures of all the satellite weapons up in orbit changed. It looked like they were transferring power from some long-term source like a fusion reactor to a more useable one like laminar storage or some other form of capacitor battery. Other indications were that they had risen to a higher level of alertness. There had to be a connection. The creature seemed likely to be intelligent and to have initiated this. Gleeson immediately pushed for a ground mission so she could examine first the abandoned tunnels and then the creature's home for xenoarchaeological artifacts. The AI agreed, but delayed, opining that the best way to confirm its intelligence was, in the end, to try to talk to it. And that's where, to her annoyance, Perrault came in.

The pumps finished—the shuttle bay now empty of air. Gleeson felt the vibration of space doors opening, then brief acceleration throwing them out into vacuum. She went weightless—the shuttle containing no gravplates. She pulled on the goggles she was supposed to wear in the pod. Through these she got a view through the shuttle's sensors. The planet looked further away in this one. She glimpsed the main ship as the shuttle turned, the blade flames of steering thrusters starring out all round. That main vessel—a great slab of advanced technology two miles long—should be enough to worry any intelligence. She finally conceded Perrault's point about the weapons system being more like a border fence than planetary defenses. Then fusion kicked her in the back as the shuttle sped toward the planet.

"Two minutes to gel stasis," Arbeck intoned.

With a gentle hiss clamps closed over her arms and legs, securing her in place. A collar closed around her neck, and she felt brief stabs there as the shunts engaged. Cold seemed to spread through her body from that point, and she was sure she could feel her heart slowing as the gel spread its molecular chains throughout her. The shield ahead then rose up to seal the pod.

"One minute," Arbeck told them, as the surrounding nozzles began to ooze globules of clear fluid. Gleeson briefly wondered if Arbeck, who to her chagrin she had recently learned was a Golem, or Demarco being mostly such, needed to go into stasis like this. Probably, but only to protect their synthetic exteriors from damage. Golem were tough.

"See you groundside," was the last thing Arbeck said, and his words seemed slow and leaden to Gleeson as she slid into somnolence.

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Perrault returned to consciousness with a lurch. His goggles were opaque until he raised a hand to tap them, whereupon gel crystals powdered away from their near frictionless surface. He could now see the inside of the pod but nothing else—it was powered down. He lowered his arm and ran a finger over the touch console in the chair arm. Immediately a menu appeared in his goggles, and he checked through it trying to find out why the pod hadn't opened.

"Perrault here," he finally said. "My pod is closed."

After a pause Arbeck replied over radio, "My orders. We are down on the planet."

"I still don't see why my pod is closed," he replied.

"Because we're down on the planet, and the shuttle isn't."

Perrault sat there absorbing that for a moment. The soldiers were nominally along to protect the two experts—himself and Gleeson—though some of them did have their own specialties that did not involve shooting things or blowing them up. If the shuttle had been destroyed and the pods were down, they were probably scattered. He had no doubt that Arbeck thought Perrault would be safer in the pod until he or other soldiers came along. Perrault found this very annoying.

"How long until you reach me?" he asked.

"Eight hours."

“So I am to sit here with patient forbearance until then? I do have the requisite training and uploads, and I also know that there are weapons in the pod gear.” He paused for a second. Had he been speaking to a human, he might have tried some polite wheedling, but Arbeck was Golem and as immune to politeness or rudeness as he chose to be. In a half measure he said, “Please open my pod.”

“Sorry. I can’t do that.”

Okay, simple statement of fact, then: “Open my pod or I will open it myself.”

“Sorry. *You* can’t do that.”

“I see.” Obviously Arbeck, despite being a Golem, didn’t have much idea of Perrault’s capabilities. He undid his straps, reached forward, and hauled up the shroud case. It had been his intention to put the thing on at a later juncture after Gleeson had studied some of the tunnels, but now was as good a time as any. Also, putting the thing on inside the pod would circumvent the inconvenience of doing so in a sealed tent later on, and having to lug around its support gear. He realized he was rationalizing, but no matter. Every time he used the thing it became more difficult to take it off, and he became more eager to put it on the next time. It increased the functionality of his enhanced senses in ways that were addictive which, in itself, wasn’t a problem. The problem was that the increased functionality in this respect made him a less able member of *normal* Polity society. It made him *strange*.

He opened his envirosuit, stripped it off his arms and upper body and folded it down to his waist, then, raising his backside, pushed it further down to his thighs, partially detaching the rectal catheter. He then opened the case, reached inside, and pressed his hand down on the fishy skin, chemically accepting its willingness to detach from its support gear. It rose up out of its packing, flexing its wing limbs, shivered when he took hold of the nodular mass at its head end. He lifted it up with both hands, leaned forward, and swung its heavy wet weight round onto his back. The tail inserted in the crevice of his buttocks and found the side port of the catheter—it would excrete its waste there. It clung to his back, shifting round into the correct position. He felt the junction holes open down his sides and in his spine and the cold insertion of its connectors. Taking off the pod goggles, he pulled open the nodular protrusion, then slipped it over his head where it formed an organic mask, probing to his anosmic and EMR receptors, and additional nerve clusters that linked to his brain. The whole thing began to settle. He could feel the cold growth of the nanofibers in his spine and in his skull, and then came connection and his limited vista inside the pod opened out into a world. He felt complete.

Perrault pulled the envirosuit back onto his body and over the shroud. He paused with his fingers on the collar pouches, for the shroud provided adaptive protection from a whole host of exogenous antigens way beyond that of the military nanosuite he already possessed. However, stupid arrogance might result in something nasty in his body he could have avoided. He rolled the envirosuit hood up over his head, and filling its open cell foam with air, it stiffened. He then touched the control at his throat, and the visor oozed up to connect and stiffened too. The heads up display of the suit showed him full power in the suit and plenty of oxygen in storage. It would filter and recycle his air supply, complementing that with meager oxygen extracted from the atmosphere. It would also recharge its power supply from local EMR and even his movement about the world outside. But he had to get out there for it to do so.

The pod now lay thoroughly open to his inspection. Even its construction linked to human language and thousands of words describing its components, but human language wasn’t what he needed right then. He absorbed the EMR of its internal communications, read it from induction in wires, and even picked up some from the spill of a faulty optic junction behind him to the left. He had long ago understood the code used in Polity devices and was more than competent using it even without the shroud. Here, with his enhancement in place, he found it childishly easy and began talking to the computing around him. The pod was amenable, and he soon found the right code to use to get it to forget Arbeck’s order and open itself to the alien world. The shield before him huffed off its seal, then slid down out of sight.

A dark red tangle like a three dimensional geodesic lay before him, and he could only see perhaps twenty yards before all he could see were those massed red branches. In their tangle, his

mind etched out the letters and glyphs of a thousand languages and began to cohere them into elements of words, phrases, and sentences. He pushed the reaction to the periphery of his consciousness and focused on more useful data.

Having studied and recorded to his implants everything about the native fauna and flora here, he knew the pod had come to rest in the tree canopy of one of the forest growths that spread like molds on the planet's surface. He leaned forward to get a better view. The trunks below were pale lavender at their globular bases, shading to the dark red he saw up here. The branches had no leaves, for they themselves photosynthesized, extracting the energy the trees needed for their biological processes from the bright white cloud-locked sky. A ten-foot drop to the ground lay below him. He grimaced then spoke to the pod again. In answer to his query, it told him its energy was low but it would make the attempt. The thing rose on grav a little way, the branches crackling all around, fired its thrusters intermittently, one of them guttering out, then took off grav again. It fell through, bringing grav back on at the last moment, and settled steadily to the ground with a crump.

Perrault now opened the emergency kit and, this being a military pod, the first item within his reach was a short pulsed carbine. He pulled it from its clips and activated it, stepping out of the pod. The red-brown ground consisted of slivers from the branches above. Again he saw language: tone poems from the forest floor, Roman numerals counting out mass below his feet, cuneiform shattered by the chaos of biology. He blinked and focused elsewhere. A short distance away he could see the edge of the grove—probably where the pod had been aiming for before becoming tangled in the branches. He walked over, feet sinking to the ankles and things like large silverfish darting away from them. Hollows containing growths like sick yellow tumbleweeds dotted the rocky landscape ahead, and about half a mile on stood another grove like this one. He turned back to inspect the nearer one.

Spike gibbons hung in the trees—a name that had stuck aboard the ship and an interesting illumination of a human tendency to slot the alien into the conventional. Remembering an old Chinese puzzle fashioned of glass, he would have preferred “star gibbons” but knew that the meme had stuck so didn't mention it. They were a pale fleshy white, consisted of six arms extending from a central point that held the mouth. Each arm was thick at the base, tapering to small black grasping claws. As he understood it, that central point only contained the mouth and its macerating equipment, the creatures' main organs occupying those limbs. Apparently they shit the remains of digestion out of lines of anuses along the arms. Did they write some yet to be learned language in the tree with their excrement? He thought not. Even as he watched, the first of them tumbled through the canopy closer to him, others soon following it. He suspected the crash had scattered them, but now wondered what might be bringing them back; curiosity or the presence of prey? They were carnivores that preyed on smaller creatures in the canopy and often hunted as packs to bring down larger animals.

Perrault shook his head, now really feeling the barrier his suit presented. The moment he thought this, he reached up and touched the controls at his collar. The visor softened and rolled down, and the hood peeled back from his head. Sensory input rocketed, and he took a swaying step back as he tried to incorporate it. The air was redolent with the complex chemicals of life from which he could make thousands of comparisons. Simply too much assaulted his senses for him to interpret right away, and now he questioned his impulse, so soon after earlier caution, to open himself to the world. It was the effect of the shroud, he knew—his need to engage. Too late now to reconsider.

“So what is it that you want?” he wondered out loud, aware that these were likely the first human words spoken into this air.

Ignoring chemical input for now, he focused his other enhanced senses on the gibbons. He scanned EMR and picked up the electrostatic fields that wrapped each creature. These were static, though each being distinct, they might act as identifiers. In audio he picked up an ultrasound twittering emitted by the lead creature, to which those behind responded. Previous scans of these animals had revealed sophisticated mentation so, looking for pattern matches, he recorded their chatter and ran it through his library of recorded animal communications. He

found some similarities in DeepSqueak—a language first learned in laboratories centuries ago, where the rodents that used it were experimental animals. A moment later he had a better match. This resembled the exchanges between a troop of chimps hunting down a colobus monkey. The lead animal was telling individuals behind to go to this position or that. They were either responding in the affirmative or when negative informing the leader where they were going. From this he interpreted what the tweets meant regarding direction, height, speed and readiness. He soon understood their combinations for tree trunk, ground, canopy branches in fifteen different forms, and saw that the ones behind were being directed out to the sides, fast, while those to the fore were moving much more slowly. When creatures to his right and left dropped to the ground and began moving out either side of him, he recognized the simple encirclement—their intent to drive him back into the trees where the lead creature and its fellows could drop on him.

Now, perfectly copying the voice of the leader, he began sending his own instructions. Some of those over to the right retreated into the trees, but some replied in the negative. Over to the left they halted, and he picked up a complicated exchange between those and the ones on the left. It seemed the leader was only nominally the leader and could, should circumstances permit, be ignored. He understood more and added it to his growing vocabulary, but soon realized he had no tweets for danger or any other way of calling off this hunt. So he tried something else.

The shroud could broadcast just about anything in the EMR and auditory spectra. It could even broadcast molecular languages of his design. He considered what pheromones might be applicable here, but weaning the correct ones out of the air would take too long, so instead he created around him an electrostatic field the same as theirs but with a different identifier. This gave them pause, and the twittering increased. His vocabulary grew too, and he soon understood that spike gibbons outside of the tribe were also valid prey. Reluctantly he raised the carbine to his shoulder and fired a shot into the ground in front of the nearest of them. Hot rock flakes and smoking earth exploded over it, and with ultrasonic shrieks, it rolled back into the trees. He fired again and again, taking care not to actually hit any of them. Even as those on the ground leapt back into the trees and the whole tribe retreated to chatter at him from further trees, he learned more of their words and knew the ones for danger, threat, and run. With a sigh he lowered the weapon and walked back to the pod.

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Arbeck ran between the trees. On scan he could pick up his comrades zeroing in on his position. They too were running, which seemed best since going any slower resulted in the spike gibbons converging and dropping on them. He also felt a degree of urgency since it was apparent that Perrault had opened his pod and was now almost certainly in danger. Gleeson's had come down near one of the massifs and not in the trees, so would have been safe from these creatures had she even managed to exit it. But despite trying to use her aug to open it, she was still safely inside.

"Any word from him yet?" Demarco asked over com.

"He hasn't seen fit to respond to me," Arbeck replied. "Bloody experts."

"Maybe his suit's damaged?"

"Not according to his diagnostic feed, though some of the readouts are weird. I think he's put on his shroud."

"That would explain how he got out of the pod."

A particularly brave spike gibbon dropped on Arbeck at that point. He grabbed one of its limbs and hurled it aside, even as others began falling in the path ahead.

"We need to get out of this and into the open or that jungle—fewer spike gibbons there."

"But there are other nasties," Demarco observed.

"Hopefully not so persistent."

"There is that," Demarco agreed.

"Damn their fucking claws are sharp," said Relson. "Suit puncture."

"Patch it," Arbeck instructed, leaping the gibbons ahead and hurtling on.

Twenty yards. He should be able to see . . . there it was. The pod was down on the ground

under the trees, while open space lay ahead. There seemed masses of the creatures in the canopy above now, but their behavior wasn't what he had seen before. They hung in even ranks and were swaying as if to some unheard tune. Perhaps that's what they did after they had fed. Perhaps human and shroud meat had this effect on them. Then he saw it.

Perrault sat at the mouth of a tent with equipment from the pod laid out around him. He had his envirosuit open, but the mask of his shroud covered part of his face like a large webbed hand grasping his head from behind. Before him he had a pot sitting on a small cooker. Arbeck ran up, skidding to a halt on the rock, whirled, and sought for targets in the trees behind. The gibbons still hung in ranks and were still swaying.

"I thought you said eight hours," said Perrault, looking up.

"They're not attacking," said Arbeck.

Perrault glanced at the creatures, then concentrated on pouring hot water into a cup. He was making coffee, Arbeck saw.

"I have their full vocabulary now," Perrault said. "And have modeled the simple minds behind it. I only managed to do this," he gestured to the trees, "when I observed two of them mating. There has to be some genetic exchange between troops so they cannot remain hostile and view other troop members as food all the time. A pheromone induces passivity." He paused, adding, "It took me a while to find that since opening my suit." He paused yet again, gazing off into the distance.

"A pheromone?" Arbeck prompted.

Perrault's attention snapped back to him. "Yes, a pheromone—one of far too many in the air here. It makes them passive and receptive to mating. I keep that in check by broadcasting low-level danger. I then cycle through other tonal alterations of their ultrasound language, used during hunting, with contradictory orders."

"You what?" said Arbeck, as he noted Demarco coming out of the trees further along, then others of his soldiers arriving.

"I'm singing to them," Perrault explained.

Arbeck was Golem, with Golem senses and an artificial intelligence that could work an order of magnitude better than a human mind. He now listened, scrolling through the spectra available to him and soon picked up on the ultrasound. But putting that together with what the man had just told him lay beyond even his grasp. Capable of all human emotions, in fact some emotions that went beyond human, it took Arbeck a moment to identify what he now felt, because it was so unfamiliar. He felt humbled, and he did not like it.

"So I take it Gleeson is still in her pod?" Perrault asked, standing and sipping his beaker of coffee while observing the other soldiers approaching.

"Yes, she is. I thought it an idea to get to you fast what with the dangers here." Arbeck gestured to the trees.

"An understandable misapprehension." Perrault nodded contemplatively, sipped again. From anyone else it would have seemed like arrogance, but Arbeck could see that wasn't the case here. Arrogance presupposed a competitiveness Perrault did not seem to possess. He next waved a hand toward the trees and Arbeck heard the weird ultrasound chattering issuing from him. The gibbons retreated, tumbling over each other, some falling to the ground then hurrying to catch up. The tree canopy shifted in a wave moving away from the humans, and the creatures disappeared from sight.

"Time to go get Gleeson," said Arbeck.

Perrault glanced at his tent, obviously sending a radio instruction via his shroud. The tent collapsed and folded itself. He stepped over and began putting his supplies into a pack.

* * *

When the shield finally dropped, Gleeson stepped out fast and angrily, but that lost something when her legs gave way, and she went down on one knee.

"I've been in there for hours," she exclaimed, looking at them angrily. "I thought you were coming for me first."

She turned as Demarco moved past her and took her heavy equipment pack out of the pod,

easily shouldering it.

“Other circumstances arose,” Arbeck replied, and she returned her attention to him. “Perrault was able to open his pod.”

He glanced to Perrault, who was walking over, and now Gleeson got a good look at the man. The shroud humped the back of his suit, and he had the hood and visor down exposing the biotech device’s mask wrapped around his head. She felt a brief flush of abhorrence at the sight—she liked neither the man nor his enhanced abilities. He made her feel naked, and it seemed unfair that he could perceive so much. She wanted to say something about him getting out of his pod and endangering them all but, since she herself had tried, knew it would come across sour. Then, because she had spent so long cramped in her pod, she felt the urge to urinate. This seemed perfect timing now Perrault stood close and would know, so declined to use her suction catheter. Thankfully she had brought along slow food so it would be some time before she needed the other option.

“I’m sorry to have delayed your release,” said Perrault. “I guess sitting up in orbit when I wanted to get down here, and into this,”—he gestured at their surroundings—“made me a little impatient.”

She stared at him. That was precisely how she felt, but she didn’t want to agree with him. A brief uncomfortable silence ensued, broken by Arbeck.

“Anything new?” the Golem soldier asked.

Perrault tilted his head and closed his eyes. “A steep rise in airborne pheromones of a particular kind since we landed, but I’ve no idea what they signify.”

“Some kind of communication?” Gleeson asked.

He smiled and replied, “Pheromones are always a form of communication.”

She bridled at that but could think of no cutting rejoinder. Arbeck rescued her.

“We have three hours of light left.” He gestured beyond her pod. “Do you want to make a start while we have that time?”

She turned and felt her anger collapse. Just ten yards beyond the pod, a rocky slope rose up into one of the massifs, flat-topped, the stone and compacted earth having the look of the excreta of a worm cast. Plants grew on the lower part of the slope, tangled masses of yellow dotted with red berries, while higher up she could see the nacre glint of the mouth of one of the tunnels. She studied the thing for a long moment, trying to decide what to do next. “I need samples,” she stated emphatically. “I need my things.”

She studied the soldiers who had gathered round. The AI had assigned the woman Relson and the man Armid as her assistants when her specialty took precedence. They’d uploaded numerous disciplines and practiced in virtuality so she wouldn’t need to explain too much. She watched as Demarco handed her pack to Relson, who dropped it down and immediately opened it.

“One yard grid of micro surface samples,” she stated, walking over. “Extra samples at your discretion, both micro and macro. Run it from the base of the massif,” she pointed, meanwhile creating a grid overlay in her aug for the slope and transmitting it to the others, “thirty yards wide to begin then stepping in a yard at a time, converging there.” She pointed up at the glint of nacre. “That’s probably all we’ll have time for today.”

Stooping by the pack, Gleeson waited until Relson handed a sample case and probe to Armid and took out the same for herself. She then reached in and took out her shoulder bag and stood, looking up the slope.

“You’re going up there,” said Arbeck at her shoulder.

“Damned right.”

“I will accompany you.” He looked round at the others. “Make camp here. Sensor perimeter and unpack the mosquito.” He glanced over at Perrault who was now sitting on a rock a short distance away. In a lower voice he said to Demarco, “Make sure he doesn’t stray.”

Even though a normal man should not have heard, Perrault turned and looked over, smiled briefly, then returned his attention to the horizon. Gleeson thought about that for a moment. First off, as ever, she didn’t like the acuity of Perrault’s senses, but secondly she realized Arbeck

could have spoken directly to Demarco's aug. Arbeck had wanted Perrault to hear and to know he was being watched. She shook her head and marched over toward the slope. Pausing at the bottom, she cast a brief eye over the worm casts: compacted flaked stone, earth of different kinds, some petrified organics and cracks and hollows where she suspected other organics had decayed away. It could just as easily be the output of a rock boring machine as the creature they were going to see. But she knew that already. She stepped up and began to climb.

"So he might wander off?" she asked Arbeck as he moved up lightly beside her.

"It's possible," he replied. "Though I wonder if he might be a better judge of the dangers here even than me."

"I beg your pardon?"

Arbeck then related what Perrault had done with the spike gibbons. Gleeson felt her back crawling. It wasn't so much the story Arbeck told but that he, a Golem, seemed to be in awe of Perrault. She tried to be rational about it. She disliked Perrault because he could see right through her. This was why she felt the man's actions were an attempt to assert inappropriate authority over their mission. He probably didn't care who was in charge so long as he could wear his shroud and process data like a machine.

They finally reached the tunnel mouth, and here Gleeson paused to peer into the darkness. Scans from orbit, and from the probes, had detected only the one creature like the one they would be heading toward, but other creatures did use these tunnels. She opened her shoulder bag and took a small box with twelve remotes sitting inside like chrome eggs. She had already programmed search parameters and only needed to initiate them from the console in the lid. This she did, the remotes rising out of the box in an even formation, circling around each other for a moment as they located themselves, then shooting into the tunnel. She had only just placed the box on the ground when the console beeped, signaling an alert.

"Beware! I detect activity!" Perrault's voice arrived out of the air, almost as if he was standing beside them. Directed sound, Gleeson realized.

A second later a large arthropod like a long, thick-limbed spider scuttled out to the lip of the hole, peered at them with stalked eyes, then leapt out, rattling a row of petal-shaped mandibles. A flash of ionization lit the air. Gleeson recognized the stun shot, but the arthropod seemed oblivious. It charged toward her, but now a more vicious line of fire cut past her. The arthropod jumped up then came down on its back smoking, its limbs folding in.

"What the—?" she began, just as Arbeck grabbed her shoulder and pulled her back.

She saw further shadowy movement in the hole, then suddenly a great mass of the creatures flooded out. She stumbled downslope, keeping Arbeck between her and the things. He opened fire—accurate shots punching through their bodies as he continued backing away. Some reached his feet, and he kicked them aside. He switched his pulse rifle to one hand and drew a sidearm, firing continuously in different directions with Golem accuracy. One of the things got past him and grabbed her calf, mandibles grinding against but thankfully not penetrating her suit. She stamped on its back with her other foot, breaking its hold, and kicked it away. The region around her next filled with pulse fire from below. Hot rock splinters shot into the air, and smoke boiled from numerous corpses. She realized she was yelling, ducked down on one knee as one of the things jumped toward her head, but flared fire and sailed right past her. Then suddenly it was all over.

Enclosed in her envirosuit she had been unaware of the steady breeze that now swept away the bulk of the smoke, but creatures still smoldering, some of them moving weakly, kept adding to it. She realized with a grimace that she had just used both sanitary options in her suit.

"Are you hurt?" Arbeck asked.

"No, I'm fine," she said stubbornly, standing back upright.

Perrault's voice reached them again. "I detect no more chatter from inside the massif," he told them. "I think that was all of them."

Arbeck reached down and picked up one of the creatures. "They're predatory, have a poisonous bite, and will prey on creatures as large as us. We don't know what effect the poison would have, but the bite would certainly hurt if it got through your suit."

“It was necessary to kill them?” she asked, realizing his statement had been a justification.

“Yes.” He inspected the thing closely. “Will you want samples from these?”

She shook her head, and he tossed it aside.

“Our data indicates they are lone hunters.” He looked thoughtful. “Perrault?”

“Agreed,” the man replied, his voice ghosting in. “They were distressed by close proximity with each other. Perhaps this was something to do with mating, or perhaps they had recently hatched out of an egg cluster like the spiders they resemble.”

Gleeson felt shaky, and she really didn’t like how he could cast his voice over twenty yards so it seemed he was speaking in her ear. He was demonstrating his superiority, she felt. He could have used the comlink in his suit.

“This is a distraction,” she said and resolutely stepped up past Arbeck to the tunnel mouth. Here her nervousness increased, but she stooped down and, using fingertips only, lifted one of the quietly smoldering creatures lying on the box for the remotes, pulling the box out and quickly stepping away. The readouts showed the remotes were fine, though they had stuck to the tunnel wall to prevent themselves being damaged. Stabbing one of the touch controls, she set them in motion again. While she waited she watched the soldiers collecting bodies on the slope and carting them away. Perrault was sitting on his rock again, annoyingly insouciant.

Within seconds the remotes had drawn a map of the near network of tunnels and reported no other life forms. In a few minutes more they would have covered a sufficient safe area and then, following their programming, begin close scanning of the walls and any detritus they might find. Gleeson put the box on the ground again then delved in her bag to remove her multi-scanner.

“Primitive appearance,” Arbeck noted, standing close behind her.

“I have anachronistic tastes,” she replied tartly.

The device looked like a large magnifying glass with a thick handle, but its magnification delved down to the nanoscopic, and it could scan, and record, across much of the EMR spectrum. She linked her aug to it for analytical readout and function control. Stooping down she peered through the glass at the nacre, first getting microscopic images then on down smaller and smaller. For a while she couldn’t concentrate, but then in her aug she got thousands of points of comparison with the nacreous materials of shells from Earth and other worlds. Her hands stopped shaking. Pattern recognition next gave her methods of deposition and these indicated wholly organic origin. Soon, however, she began to see the anomalies, and delving into these felt the tight clench in her chest relaxing. Composite fibers bound this stuff, and within those she found compounds not normally naturally occurring. Laminated flakes showed high reflectivity and overall the meta-material structure was very strong.

“I’m seeing something very familiar here,” she stated, all business now.

“Evidence of biotech?” Arbeck guessed.

“Yes. A lot of the meta-material structures have formats found in impact armor, while binding fibers are highly conductive—not superconductor, but still highly conductive.”

“Impact armor was originally based on organic structures itself,” Arbeck noted.

“True, but this stuff has durability beyond what should be required for a . . . shellfish.”

“Prador armor,” said Arbeck.

She looked up. “What?”

“The prador have their own natural armor yet their technology led them to develop even stronger armor—part of their psyche. It’s not unfeasible that a creature with a shell might want to make it stronger.”

“True,” she agreed. “But still the prador developed their battle armor separate from their natural armor and didn’t make the latter stronger or better. I wonder if what we are seeing here is the product of some kind of biotech mining machine.”

“The indications are that it is intelligent.”

“So are our machines,” she said, observing him wryly.

Analysis in her aug now alerted her to other formations. She focused her scanner on one of the flakes and noted the numerous fiber connections all around it. At first she had thought this

all about reinforcing the strength of the shell, now she wasn't so sure. Running through different scan routines, she finally picked up even and complex nano-structures imbedded between laminations.

"No, it can't be," she said.

"Can't be what?"

Ignoring him, she took a probe out of her bag, unwound two wires terminating in sticky electrodes, and pressed them against the nacre a couple of inches apart. Auging to the probe, she made a selection of direct microcurrents at varying power and voltage and initiated them. The sweet spot was just above a micro amp at four volts. She read outputs for a while, then a short while later used induction scanning. Pulling out again she observed small holes on the surface, noted their connection to the fibers, then lowered her scanner and sat back on her heels.

"Fuck a duck," she said.

"Something interesting?" Arbeck asked.

She looked at him, her skin creeping. "Computer architecture, all the way through."

* * *

The shroud breathed on him as it had since he exposed it to the alien air. It shivered though it was warm from the processes ongoing inside it as it decoded organic molecules, listened to the EMR bands and interpreted, collected sounds and shapes and slotted them into protolanguages he might use or discard. In making himself receptive to this new environment, it to a degree centered him, and he felt the strange wonder of it all, and some sense of being on the edge of a whole perception. But even the prosaic and known was input because of its interaction with the alien. So Perrault listened.

He listened to the exchange between Arbeck and Gleeson and speculated. The nacre was a product of biotech—of an organism that had altered itself. It struck him as highly likely that what Gleeson had found was comparable to a human mental augmentation—an adjunct to the creatures themselves and probably no longer active now all but one of the creatures concerned were gone. However, he ran a precautionary scan across the EMR bands to see if he could find anything local. This required him pushing things out of his perception and into the territory of the shroud. First the solar and cosmic radiation and their related effects here on the planet, then the constant communications between the soldiers here, aug links to equipment, Arbeck's constant updates back to the ship. Then there were the animals. The spider things they had killed had screeched in extreme infrared and microwave. Other creatures in the area, but thankfully not close, emitted similar radiations. Broadcasts on still other frequencies filled the air with their cacophony, but nothing as complicated as the kind of data transfer of intelligence. When he fined it all down, he did get something from the nacre above, but only when Gleeson applied an electric current. This contained data too scrambled to be useful. As he had thought—the augmentation of the creatures was inactive without them attached. He returned his focus to something that had been puzzling him for some while now.

The air was laden with organics. The spider things had produced their own pheromones that, as expected, related to mating and territoriality, though he still puzzled over their distress at so many of them being so close together. He could now safely eliminate those as they did not seem a product of intelligence. These also gave him a key into other arthropod communications of a similar nature, and he eliminated them, but only provisionally. His envirosuit rolled down to his waist, he walked a circuit of the encampment so more of the stuff in the air ended up on the receptors of his shroud. Even with the eliminations, the air burgeoned with aromatics, pheromones, and long complex chains of molecules that might be some form of data. Were these more prevalent at their present location only thirty miles from the creature than, say, on the other side of the planet? He could not check. Nor could he know whether or not they were the product of some other life-form he had yet to see. He ran analyses on them, comparing them to what he had already identified from the arthropods. Chemically they were completely different, but he made one of those intuitive leaps that arose out of the synergy of human mind, internal computing, and the shroud. The pheromones that had steadily risen since their arrival here were another more complex version of the pulse of pheromones the spider things had emitted

prior to coming out of the tunnel.

“Fear, threat, invasion of territory,” he said out loud.

“You what?” asked Relson, coming down from the slope with a small glass container in her hand and a corpse in the other, which she skimmed past the tents to land on a growing pile of the things.

“Never mind, it might be nothing,” he replied. “What have you got there?”

She held up the container and rattled its contents. “Proof of organic origin.” She pointed back to the massif. “Of that.”

“I thought that was already established?”

“No, it could have been caused by rock boring machines.” She winced at a painful thought. “Though a rock boring machine is not necessarily inorganic and something inorganic is not necessarily insentient.”

“Let’s not get lost in semantics here,” said Perrault. “I know what you mean or rather, I get your implication but don’t know what you have in the jar.” It was Perrault’s turn to wince, semantics being a particular interest of his.

She shook the container again. “Teeth.”

“Really?” He held out his hand, and she passed it over.

Peering through the clear plasmel he saw a number of small black objects that looked like segments chopped from a charcoal stick. He blinked and focused closer, seeing the even ridges on one surface, like scrawls of writing that hinted at legibility.

“They’re grinding teeth,” Relson added. “They show all the attributes of having been grown rather than manufactured. Of course we’ll need to examine them a lot more closely to determine if that is the case.”

Perrault nodded. The more advanced technology became, the more it came to resemble life and the products of life. Semantics had really hit a wall when it came to distinguishing evolved organics, biotech, and straightforward material tech. But he understood Relson’s underlying meaning: these were likely teeth from creatures like the one they would soon be going to see and with which he would attempt to have a conversation. The things bored into the ground throwing up these heaps and networking them with the nacre tunnels. Allegedly. He winced again. They might have had biotech machines for the purpose, they might have had such machines as part of them—all was open to conjecture until they could get some firm data from the creature itself. And even then conjecture would remain.

He headed over to one of the tents, his shroud still gathering molecules, and his internal processing still analyzing, the world around him permeating him, soaking him, but he came out of it again for more prosaic matters. The sun was burning into the horizon, and little light remained now. One of the soldiers had put up his tent and left his stuff outside. He settled down to open food packets because the shroud fed on him and in turn made him very hungry, and brewed some more coffee—real powder from real coffee beans, because, especially when wearing the shroud, he could tell the difference. He glanced over, noting shimmering movement, and saw the mosquito autogun patrolling around the camp, but sensed no communications, as uncomplicated as they would be, of anything likely to attack them. He was sipping a beaker when twilight fell, and Arbeck, Gleeson, and the others returned from the massif.

“I have generalized analysis of atmosphere and its biotoxins,” Arbeck announced, as he walked into the space the ring of tents formed. “Nothing poisonous our nanosuits can’t handle. Microfauna and viruses either incompatible or likewise can be handled by the ‘suits. You can breathe the air here.”

“Thank fuck for that,” said the soldier Oaran, opening his visor and peeling back his hood. All the others did the same, including Arbeck and Demarco who had no need of such protection anyway. Gleeson was rather slower in dropping her visor and opening her hood.

“Smells like the sea,” said Relson.

Perrault looked at her. The sense of smell was the oldest human sense and deeply connected in the brain. The odor she smelled obviously linked to her memories of the sea, while the air was full of those organic chemicals that, he felt sure, were from the creature. It seemed like a

confirmation since, given its format, the creature seemed likely to have had recent origins in some sea. But it was also, like so much here, highly debatable.

But for two soldiers standing guard out from the circuit of the autogun, they began to settle by their allotted tents. All that was needed, Perrault felt, was a campfire in the middle. Relson and Gleeson had that glassy-eyed look of people deep into aug studies while around them sample bottles had been inserted into devices that analyzed their contents. Perrault sensed the data flows between them and their machines, and, if he so wished, he could break the coding of that, but he did not. He smiled to himself when he focused on the man Armid, who wore an aug on his temple and appeared to be doing the same, but looked bored. Then he waited, and, as expected, Arbeck started in:

“So what do we have thus far?” he asked, deferring to Gleeson.

She lost her glassy-eyed look and focused. “The nacre is not purely the product of an evolved creature—it definitely contains biotech, but whether it is all the product of such is moot. I would, however, suggest that a lot of the structures are inefficient and that they are a product of evolution. The nacre contains computing structures of a neural nature that will take a forensic AI to interpret.”

“No data storage?” suggested Armid.

She shook her head. “Nothing separate. An AI would be able to analyze structure and get something, but I’ve found no separate hard storage of any kind.” She shrugged. “But then I have only made a cursory study of a few ounces of something that weighs many tons.”

“Radio?” said Perrault.

She looked at him and nodded. “Distributed throughout what I examined, but inactive without power. Surface structures indicate organismal connections for bioelectricity.”

“So in essence very similar to human augmentations?” suggested Arbeck.

“Pretty much.”

“Other data?” he enquired, looking around.

“The teeth are the same: they seem to be an amalgam of evolved biology and biotech,” Relson replied. “But perhaps we don’t want to get too wrapped up in trying to make distinctions.” She glanced at Perrault.

“If only the AI was down here,” said Gleeson. “I think the data we could glean from that computing would be key.”

“There might not be much that’s useful,” said Armid.

“Why?” asked Arbeck, though he probably knew.

“Dating. I’ve run the full gamut of paleo-isotopes, plus molecular pattern breakdown and diffusion.” He gestured toward the massif. “The earliest formations I’ve looked at are about twenty thousand years Solstan, the latest, supposing they are the ones around the tunnel entrance up there, are ten thousand years old.”

“So pattern breakdown and diffusion will likely have destroyed any hard storage, even if there is any,” said Arbeck.

“We can’t know that,” said Gleeson, no doubt feeling something was getting away from her.

“No, but we don’t have much time to find out,” he replied. “Remember, we don’t have a ship, and we have limited supplies. The initial probe here indicates that the creature may have some control over the orbital weapons, so communicating with it is vital. We do not want to destroy those weapons just to get a shuttle down to us. We do not want to take actions that could be interpreted as hostile before speaking to the creature here, if that is possible.” He shot a glance at Perrault, who decided to make no comment. “We leave in the morning.”

“That’s crazy!” Gleeson exclaimed. “There’s far too much to do here, far too much to learn!” She looked around at the others for support. Perrault knew she wouldn’t get it—they were soldiers and followed a chain of command.

“That’s the AI’s direct order,” Arbeck replied, shutting her down with the top link of that chain.

* * *

Gleeson had berated Armid and Relson for small infractions of her methodology and asked to take a few more samples from the tunnel mouth while the soldiers packed away the tents. Arbeck

had refused—pointing out that packing up would take just a few minutes. Demarco later informed him that she had asked him to go grab her a sample of the nacre, and he had refused. Now she was opening containers for unnecessary checks and unpacking and repacking equipment.

“Demarco,” he spoke to the man directly through his aug. “Get her sample and tell her you’re doing so.”

“Why?”

“You can do it without delaying us, and she’s dragging her feet.”

“Will do.”

Demarco had a quiet word with her then headed away. Arbeck walked over to her, tapped her on the shoulder, and beckoned her with a finger. She followed him out of the encampment like a sulky teenager.

“Are you under the impression that your work is finished?” he asked once they were out of earshot of the rest, besides Perrault.

“What?” She looked startled.

He gestured to the nearby massif. “This is one of many and, as Armid has pointed out, it is very old. The one we are to travel to is, almost certainly, considerably younger.”

“I’m a xenoarchaeologist,” she said stubbornly.

“You are much more than that just as Armid is much more than a soldier. Would you refuse to study a living community of, say, the Jain, and much prefer to delve in their ruins?”

“Oh,” she said, getting it now.

“Do you also think that while Perrault does his work the AI wants you sitting in your tent twiddling your thumbs?”

She slumped a little. “Okay, no need to belabor the point.” She turned away and headed back to the near dismantled camp.

Arbeck was about to follow when Mobius Clean, the AI in the ship up above, contacted him.

“Soldier Oaran has training and uploads in forensic dissection,” it stated.

“I am aware of this,” Arbeck replied.

“Tell him to collect one or more of the creatures you killed yesterday, along whatever samples he deems necessary, and have him examine it at your next encampment.”

“Is there anything specifically he should search for?”

“Biotech,” Clean replied.

“This is a world that was inhabited for a long time by creatures adept with biotechnology. I think it unlikely he won’t find anything.”

“I have analyzed Gleeson’s recent research and uploaded data from the assay of the samples. You are correct that the creatures here were adept with biotechnology and by inference the remaining creature still is, however you are wrong on your first point.”

“If you could explain?”

“All analysis points to the creature being of oceanic origin, doubtless adapted to live on land. Do you agree?”

“I agree.”

“We do not have the genome of the creature, or its predecessors to examine, so we cannot make extrapolations from that, however, the samples indicate organic disparities with life already examined there.”

“Organic disparities are also not enough from which to make extrapolations of any accuracy.”

“One plain fact is.”

“That being?”

“No oceans.”

“What?”

“The world you are standing on has no oceans and, according to paleogeology has not had oceans for close to ten million years.”

“Oh.”

“The creatures were colonists.”

That put a whole new spin on things, and Arbeck lost himself in the implication and so he missed his chance of further queries when the AI broke the link. He tried to reestablish it, but no response. This was not unusual for Mobius Clean. The AI tended to be hands-off and liked others to do their own thinking. Despite this new information, Arbeck still had no idea why Oaran needed to look for biotech in the spider things. He grimaced and continued on into the camp where Gleeson now had all her stuff packed away.

"Let's go," he said.

* * *

The day was warm, and Arbeck led them on a course running alongside a grove of those strange trees with their fruits of spike gibbons. The others talked about their finds at the massifs, queried Oaran about the two spider creatures hanging on a string from his pack, and speculated on what they would find when they reached their destination. Perrault listened to the queries to Oaran, discovering the instructions he had received via Arbeck from the AI, but all the rest was noise he tuned out.

There was so much else to listen to.

The spike gibbons were agitated. They gathered in the trees in huge numbers, and now understanding their language perfectly, he realized they felt the same stresses the spider things had felt. Troops of gibbons, normally highly territorial, were pressing into close proximity with each other, and they really did not like it. Fights were breaking out, and even as he watched, he saw one torn apart and eaten by others—it's ultrasonic shrieks continuing even when it was down to two legs only. All of them were in hunting mode while their prey walked in territory into which they did not customarily venture. Some did, but they only got a few yards out before instinct broke whatever drove them, and they rolled back to the trees, very often to fall prey to a troop not their own. And that, in the end, was the question: what was driving them?

They were not behaving as they should. Perrault considered some form of xenophobia at the root of that, then rejected the idea. He felt sure it had something to do with those pheromones in the air that even now were on the increase again. Yet, the gibbons, though they did emit a limited number of pheromones, did not emit anything like this. Mentally analyzing its molecular structure from input via his shroud, he ascertained that chemically it was very different from anything they emitted and, therefore, should not be something to which they could respond. He was missing something, he was sure—

"Can you get us through here?"

Arbeck had dropped back to walk beside him. Perrault glanced at him and then to where he was pointing. Ahead a grove cut their path, already filling up with agitated gibbons. Perrault assessed his chances. He now realized that when he first encountered these creatures there had been only the one troop. That pheromone had been in the air, but nowhere near as strong as it was now.

"I will try, but they are very agitated," he replied.

"And why is that?"

Even though he could see only correlation between the activity of the gibbons and the pheromone, workings on the periphery of his logic gave him certainty. "Something is driving them in our path, just as it drove those spider creatures to attack us."

"Something?" Arbeck enquired.

Perrault looked at him. "Logically it is the creature we are traveling to." He paused and looked ahead, focusing on the two creatures Oaran was carrying and realized that the AI had got there ahead of him. Some biotech mechanism, for sure.

"A particular pheromone is increasing in the air. It did this before the spiders attacked. I submit that the animals here are responding just like the orbital weapons responded. The creature wants to be left alone."

Arbeck nodded, once, briefly. "It will have to communicate that wish more eloquently than this." He glanced at Perrault again. "Do what you can."

So why did the creature want to be left alone? Was it as territorial as the simple animals of this world? Was it xenophobic? A hermit? His reading of the pheromones, still not proven to have

issued from that creature, could tell him nothing, yet, he felt some sense of them nibbling at the borders of his perception as if more than their brute purpose might be getting through to him. However, he no longer had time to analyze this as they drew closer to the grove.

Perrault first broadcast “danger” and “threat” in their ultrasound language. Ahead the gibbons scattered through the trees taking up and rebroadcasting the warning, but then, as if they had drawn elastic to its fullest extent, they began to pull back. He broadcast again, and they retreated again, but this time they did not take up his cry as much, and returned more swiftly. Something was very definitely overpowering their instincts.

“Wait,” he said.

The others halted and turned to look at him.

“I need to try something.”

He walked ahead of them, reexamining his analysis of the pheromone. If he was to suppose it was causing this aberrant behavior, then he had to neutralize it. He went down on his knees and concentrated, swiftly designing a counter that would bind to it. Of necessity he saw more of its structure as he looked for ways to break it, and when he looked up, elements of that structure seemed to be mapped out in the tree branches. He puzzled on this for a moment as he fed the required data to his shroud. The thing tightened around him, and he felt slightly faint as it drew harder on his blood for materials.

“What the hell is he doing?” asked Gleeson.

“Patience,” Arbeck replied. “He’s doing what he does.”

That really was no answer at all, Perrault felt, as the shroud’s internal micro-factories and forced chemical reactions heated his spine. Minutes passed, and then he felt the shroud’s readiness. He shrugged, opening ports on its surface on his back and next huffed the thing like external lungs. The counter issued in the air and close up smelled of aniseed and putrefaction. He switched his vision over to infrared to see a marker on the counter, and now it seemed a red cloud spread out from him. It rolled ahead, diffusing fast through the air. He stood up and advanced with it. A moment later it reached the trees, and now he shrieked danger, warning, and threat again. The spike gibbons fragmented into their troops, some attacking each other in their eagerness to flee. Even as he reached the trees the last of them were disappearing out of sight.

“Nicely done,” said Arbeck, moving up beside him.

“It is confirmed: the pheromone was influencing them,” Perrault replied.

The counteragent had cleared the air of the pheromone he had identified, the resultant compound heavier than before and now falling as a fine powder he could only see because of the infrared marker. But now this revealed other molecules for his and the shroud’s perception—if such a distinction could now be made. The shroud was part of him, an augmentation, something like a subconscious whose main concern was language and its interpretation.

He brought in these other molecules and decoded them, searching for meaning. Fragments arose from the shroud as they walked under the trees, stepping over the remains of gibbons that had fallen foul of tribal disputes. He detected a stab of com between Arbeck and Oaran—the latter picking up one of the corpses—but felt little interest. He knew what was happening. Oaran would only elucidate its mechanism.

Fragments, hints of meaning, elements of chemical speech. Alien. The word rose in his mind and drifted. Not self. Not local. Danger. An acidic stab at afferent nerves combined with an odor in human breath. The molecular segment imparting this arose for his inspection. He saw this came from the pheromone he had neutralized, which, though it had been an instruction to another species, must have a suitable receptor—that biotech the AI wanted Oaran to find. It was therefore a key at last, and billions of data points began to coalesce. He looked up into the geodesic branches and saw them as a reflection of infinite molecular connections, walked out into the open again and envisioned molecular chains all around him. All words and phrases in a language lurking at the edge of perception. But some were now coming through. He saw phonemes and morphemes, allophones and graphemes in chemical code as complex plugs requiring their socket. He mapped patterns of connection and overall structures and, even as Arbeck said, “We’ll camp here,” he was unsurprised by the missing day, and equally unsurprised

that the AI had already been seeking the answer he now required.

* * *

As the soldiers made camp and began preparing food, Gleeson walked up to the top of the small rocky outcrop and gazed across the land that lay ahead. Distantly, despite the fading light, she could see their destination rearing up out of the jungle. Next she focused on the jungle itself. Fewer of the strange geodesic trees grew here, and other vegetation bore a more familiar shape. Here were plants like cycads at the edge, tall rat's tails, spread out canopies of plants like a cross between giant rhubarbs and toadstools and other trees bearing what looked like leaves. What made it all alien to her, however, was the lack of green. The shades here were mostly red, some flashes of pale blue and some black so intense it seemed like cracks in reality.

Most of the planet was covered with jungle like this. She turned to look back at the terrain they had crossed. Satellite imagery had revealed that these clear areas and groves of geodesic trees, with their large populations of spike gibbons, were only scattered around where the creature had made its home. It had been speculated that here was where it had been feeding, stripping vegetation and animals to satisfy its appetite, and that the geodesics and spike gibbons were the first to return after its depredations. Whether this was the case she did not know, but certainly the scan had detected nacre tunnels extending from the creature's massif down below her feet. She grimaced, such things only loosely related to her specialty. She glanced back at the camp and decided it best she focused on her own areas of expertise, and opened her bag.

Demarco had acceded to her request, despite Arbeck's anxiousness to pack up the camp and be on their way. He had quickly dashed up the slope but had been gone for longer than she expected.

"Screwed the diamond cutter," he had announced, handing her a large hemisphere of the nacre ten inches across.

She now took the piece out of her bag and inspected it closely, unsure of why it felt rebellion against AI autocracy to take it. Still, it gave her some satisfaction. She would have something further to study in the night, searching for elusive hard storage. Inserting it back into her bag, she returned to the camp.

Oaran had set up lights over a work surface expanded from a close cell foam composite similar to the kind that comprised the hoods and visors of their envirosuits—utterly solid when expanded but could be folded down small enough to fit in a pocket. He had one of the spider things spread out on this and had already opened it up. Checking her aug links, Gleeson found a virtual representation of the thing aping his examination and throwing up details on the items he removed. There its various stomachs along with a web of digestive tracts. Here something like a liver. Other organs, with names from xenobiology and others he gave only numbers, because though they were all spider, he had no words for them. His more intricate work revealed its nervous system and the scattered nodes of its ganglion. Further work revealed fibers attached to some of those nodes, and these, judging by the chatter, were of extreme interest.

Gleeson shut down the aug link and returned to the real messy work as Oaran freed up these fibers, traced them down to one point in the carapace, then turned the corpse over. He directed a lazer pointer at a formation like a minute metallic worm cast on that surface—almost a truncated version of one of the massifs.

"Biotech," he said with satisfaction.

Gleeson opened the aug link again and now saw the structure, and its long connections, in great detail. Oaran was scanning it and working the data with his aug, flinging up its components for inspection and dismantling them too in virtuality.

"Any idea what it is?" asked Perrault from the darkness that had now fallen.

"The outer structure appears to be a complex chemical receptor. Internally it converts the chemical data to nerve impulses that head straight for the main ganglion nodes. A form of control possibly, or cerebral programming . . . or it might even simply be a chemical radio or translator."

"So the creature sends its instructions in its own pheromonal language, and that thing receives them, interpreting for the spider's scattered mind." Perrault walked back into the camp

and sat down with them. “Is there one on the spike gibbon?”

Oaran looked up, eyes glassy as he continued to work in his aug. “I gave it a brief external visual inspection. Yes, something like this there too. I thought it was a parasite at first.”

“If you could relay your findings to me,” said Perrault. “I would be grateful.”

“Language,” said Arbeck glancing at him sharply.

“The pheromones are keys and this is the lock. I can learn a lot here and perhaps begin to put something together.”

“Relay it to you?” said Oaran. “You don’t have an aug.”

Perrault looked at him. “You have the link?”

“Oh . . . yes I do.”

“My hardware is not as visible as this software.” He gestured to his shroud. “And thank you.”

“Wait a minute,” said Arbeck. “You knew about this!”

“A suspicion only.”

“You knew this and didn’t think to mention it?” Arbeck seemed annoyed which, from a Golem, could be more than just emulation.

“Mobius Clean knew, or suspected this and wasn’t forthcoming,” said Perrault. “I too suspected this but prefer expert confirmation.”

Gleeson suddenly felt a strange reversal of her feelings about him. He had held back his knowledge because he had not wanted to appear arrogant, a know-all. If Arbeck hadn’t spoken out no one would have known otherwise. Perrault had then complemented Oaran’s expertise. It annoyed her that he now did not seem to fit her perception of him.

“Okay, best we get some sleep now,” said Arbeck. “All being well we should reach the massif by midafternoon.”

* * *

The biotech was a further key. Oaran’s analysis of it gave Perrault a large chunk of the vocabulary of the response side of the chemical language in the air. He lay inside his tent steadily assembling a lexicon. From this he ran translation into numerous other languages, including computer code, and from those to standard Anglic. It wasn’t perfect—by its very nature simply could not be—but in the end, from the data gathered, he fined it down to a vocabulary, thus far, of a few hundred words. Sleep evaded him, because he really wanted more of those complex airborne chemicals to examine. Finally he sat up and exited the tent out into the night.

At the perimeter of the encampment, the mosquito autogun swiveled to observe him then came over with delicate steps. He felt its scanning, reading in the changes in its confusion with his form, then a further change signifying a programming change, scanning cut-off, and the thing moving away again. Even in this there was language.

“Your shroud has changed, and it’s wrought changes in you,” said a voice. “It wasn’t quite sure what you were for a moment then.”

“Armid,” he said, moving further out to where the man sat on a rock.

A strong aroma hung in the air and grew stronger as Perrault approached. Just for a second he analyzed it as part of the chemical language surrounding him, until he recognized what it was.

“Tobacco?” he queried. Armid was smoking a slim cigar.

“It causes some interesting changes in human biology and to the function of the human brain,” the man replied.

“But how would you know about the latter?” Perrault asked, separating out the tobacco smoke and searching the remainder for new words in the language of an alien.

Armid looked up. “Emulation of course, though it does not give the full experience of a biological brain.”

“Close enough one would think.”

Armid nodded. “I kept my status under wraps, even though Arbeck and Demarco let it be known what they were. But of course something like that cannot be hidden from the likes of you.”

Perrault shrugged. “Your spoken language has the same discrepancies as Arbeck’s, but mostly it is your body language that gives you away. Why did you choose to implant yourself in a human

body?”

“For knowledge, for understanding of the human condition. It’s nearly run its course now that I’ve started searching for novelty.” He held up the cigar, then discarded it. “Now it’s time for me to head back to my old body.”

“Which was?”

“A war drone.”

Perrault focused at least a little more of his attention on the man. He’d known within minutes of meeting Armid that here was a human body with AI crystal in his skull. But that he had been a war drone was interesting. Perhaps he was one of the disenfranchised from the war, wondering about the point of AIs staying with humans—what possible purpose they might serve in a future rapidly moving away from them. Questions began to arise, but before he could ask the first, a chaotic radio pulse issued from the encampment, and he staggered, input swamping him, an explosion of language his mind struggled for purchase upon.

“You got that?” Armid asked, standing.

“I did,” he managed.

“Gleeson,” said the man, striding back toward the encampment.

Arbeck and Demarco were already pulling open Gleeson’s tent when they arrived. Arbeck ducked in and carried her out, a chunk of nacre in her lap and connections running from it to her aug.

“I found it,” she babbled. “I found hard storage.”

Perrault moved closer as Arbeck laid her on the ground since she seemed incapable of standing. She’d fixed an optic socket to the chunk of nacre and had a lead running from that to her aug. Focusing in, he could see a web of thin wires spreading from the socket over the nacre. After a moment he realized he was looking at a neural mesh. She’d fixed the thing on to try and access the hardware in the nacre. It was, he felt, both a brilliant and stupid attempt to find answers.

“I found it,” she repeated, staring up into the sky as Arbeck detached the optic from her aug. He then reached inside a small pocket in his envirosuit and unwound another optic, undoubtedly attached to him, and reached to plug that into her aug. But the next moment she was convulsing, hands and feet slamming against the ground and foam around her lips.

Demarco got down on her, sitting astride, and pushed his fingers between her teeth. He held her head still while Arbeck inserted that optic. After a moment she froze, rigid as stone. Arbeck blinked, then reached down. With a tinny clink the main body of the aug detached from its seating against her skull, and he inserted it in his pocket. He looked up.

“Massive feedback, completely scrambled.” He shook his head. “She should have known better.”

“Will she be okay?” Perrault watched as Demarco took out an air injector and pressed it against her neck. The thing sighed, and she relaxed, closing her eyes.

“Big headache and aug withdrawal in the morning. She’s going to be pissed because she won’t be able to access her equipment.”

“Her data?” asked Relson from behind Perrault.

“Backed up—she did that before trying this little experiment,” Arbeck replied.

Perrault squatted down, reached out and picked up the piece of nacre with its attached optic.

“Don’t,” said Arbeck.

“My specialty,” Perrault replied. “And I have considerably more resources than she had in her aug.”

“Why your specialty?”

“Because the creatures linked to each other, just as we do with augs. She accessed that connection. Language.”

Arbeck did not look happy, but he nodded once, sharply.

* * *

Perrault felt bloated. He detached the optic cable from his shroud and wound it around the chunk of nacre and held it out to Arbeck. The Golem shook his head and gestured Armid over,

who took the nacre, stepped off to one side to shrug off his pack and put the thing inside. The download had filled up a great deal of the storage in Perrault's internal computing and in the shroud. Great masses of data sat in there in seemingly indigestible chunks. The lack of room also limited his ability to process them. However, even as Armid ran to catch up and move ahead, he managed to learn something.

He glanced over at Gleeson. She didn't seem badly damaged by her experiment of the night before, but her every movement broadcast unhappiness. She also had an analgesic patch on her neck to kill her headache and a decidedly pissed off expression. So right then wasn't the time to tell her she hadn't found hard storage packed with a convenient history of the race that had occupied this world. She had instead found an interface that converted their chemical language into a trinary computer language for radio broadcast. He grimaced, then looked ahead to the autogun as it approached the jungle.

"You normally pack it away for transport," he said.

Arbeck replied, "You told me that the attacks were driven by the creature—that it wants to keep us away. Extrapolating from that, it seems likely they will become more intense the closer we get to it. Perhaps the thing itself will attack, since we've seen it hunting in the area ahead. I wouldn't want to harm it, but our lives are my first responsibility." It was his turn to grimace. "Unless I am told otherwise."

Perrault absorbed that. It wasn't unfeasible that the AI might give new instructions in that regard.

"I don't think it will personally attack us," he stated, only examining that statement once it was out.

"Why not?"

"I am not sure why I said that."

"Then examine your thinking."

Perrault glanced at him. He was Golem, but he was now wearing the expression of an angry man. Emulated reaction to what had happened last night, but no less real for all that.

"Very well. My enhanced ability to translate languages is not all simple mathematics. It is a holistic interpretation of the parts. Sometimes word precedes meaning, but sometimes it can be the other way round, whilst there are meanings that fall outside of the human spectrum of perception. As I begin to integrate a language, I also integrate a quite deep sense of its source—perhaps the culture from which it arose. You must be aware, that in human culture the learning of a new language results in similar perception?"

"Yes, I understand that."

"Through all this I have some sense of the creature that lies ahead. Thoughts, ideas, perceptions arise in my mind from the shroud, from my subconscious and from my internal computing whose singular source I cannot nail down."

"And what do you sense?" Arbeck asked.

"Desperation, but also a strong sense of morality." He paused for a second, something occurring to him. "When we came down our shuttle was destroyed. Our pods were then ejected and, until they reached the ground, were presumably vulnerable?"

"Yes, they were."

"Yet they all arrived intact."

"Yes, they did." Arbeck's tone was leaden. Perrault realized this was not because of any understanding of the actions of the creature, but because of one of the AI that had sent them down.

"Through its orbital array the creature destroyed mechanisms. I don't know whether it thought the shuttle was just such a mechanism when it fired upon it or whether it was aware we were aboard." He glanced at Arbeck again. "The attack?"

"Not as hard as it could have been," he shook his head, annoyed still.

"It did not attack the pods because people were aboard."

"You get all of this from your holistic perception?" He had tried to be scathing but obviously didn't have the heart for it. He added, "The AI knew."

“Or it just wanted to test a theory,” said Perrault.

Arbeck nodded and moved away from him.

The autogun fired a few shots, bringing down a great mass of vines supporting objects like pink pineapples, it then advanced into the shadows. Perrault and the others reached the jungle shortly afterward. He peered in. It wasn't too claustrophobic in there, and it seemed they would be able to travel without too much in the way of laser slicing the plant life. He waited to one side as the others went through. Gleeson was last and paused beside him.

“Did you get anything from it?” she asked.

“Very little unfortunately—the hard storage is very disrupted,” he lied.

She pursed her lips and moved in ahead of him. He followed, now returning the bulk of his attention to the masses of data swirling about inside him. After he had taken just a few paces inside, one of his search programs alerted him to a find. His map of the engaging surface of the hardware in the nacre, which acted much like that metallic worm cast biotech on the spiders and spike gibbons, revealed millions of chemical keys, or rather sockets. The program had now identified one of them as matching one of the words those creatures nominally understood. He recorded the trinary output to his lexicon and now, knowing he was on the right path, eagerly searched for more. They had gone perhaps just a few hundred yards further by the time he had all of the words he knew and now by extrapolation could infer more. A breakthrough, unconscious in its source, had him grunt in surprise, as he discovered the negative iteration of “find”—a short chemical chain that essentially meant “do not.”

“We'll stop for a break,” said Arbeck, and again the hours had slid by.

They stopped, and Perrault sat with the rest of them while the autogun walked a perimeter, but he remained focused inward, finding new words, hunting down meaning. Armid passed him food, and he wolfed it down. Armid kept passing him food, and he kept eating till he felt himself bulging against his envirosuit. The shroud had made its demands on his body, and now he needed to replenish his reserves. He fell into a half-sleep and dreamed language—words of chemical code flitting round him like bats. Without any transition he remembered he was walking again. He fitted words into phrases, but anomalies arose until he realized he was seeing three tenses, just like human language. From this he extrapolated further, but then began paying more attention to his surroundings when he noted the air filling with that particular pheromone again.

Then the pig came.

It appeared in the jungle ahead of them, snuffling at the ground, three stalked eyes up from its head observing them, a mouth full of teeth like broken glass. It then emitted a very piggish squeal and charged. Arbeck and the others fired shots into the ground before it, showering it with burning debris. It swerved away and charged off into the jungle beside them.

“A fucking great pig,” Oaran named it. Perrault felt a moment of irritation but knew the name would stick because of the emotional context. But he felt the thing, with its ribbed armor and long head, more resembled an armadillo.

“Biotech,” Arbeck stated.

Yes, Perrault had seen the metallic worm cast on its long skull.

Arbeck went on, “There are more out there, Perrault. Can you shut them down?”

He was already reading all the emissions around him. Their grunts and squeals were human audible now. He could get little from them, but they were likely expressions of danger, anger, fear and territoriality. He opened his mouth, hacked for a moment as his vocal cords strained at new input, then emitted a loud squeal of what seemed likely to be danger. The response was anger, and then something crashed into him from the side, and he was tumbling through the air. A splayed foot came down on his chest, driving his breath out as the bristly fat mass of the thing ran over him. He rolled upright, still fighting for breath as it turned, side swiping a tree and bringing down a rain of grey nodules. Stun fire tracked along its body, steadily increasing in intensity until the air filled with the stink of burning flesh, killing pheromone input. But they had little effect on the thing.

“I don't like this! I don't like this!” he could hear Gleeson shouting.

The creature came back at him, snapping at the air as if being attacked by something invisible. He had no doubt that when it reached him it would be snapping at something wholly visible and material. A weapon cracked, and he heard a meaty impact. The creature juddered sideways, shook itself, a wound welling just back from its neck. The ensuing blast took off its head and rolled it in the leaf litter before him, while its body slumped and skidded to a halt, piling up earth.

“More of them!” Arbeck yelled.

A hand reached down and wrenched him to his feet as the monsters crashed through the jungle all around. He glimpsed Armid’s face, grinning joyfully—expected from an erstwhile war drone. Armid dragged him aside and pushed him down by a tree where Gleeson sat, knees up to her face and arms wrapped around them. Stun fire lit the air—still ineffective—then pulses of ionized aluminum and the glare of a laser carbine. That other weapon firing its explosive bullets began cracking regularly. He saw the autogun scuttling, spewing fire, then rolled over by something large. Stinking smoke gusted across, fogging all around. He tried to penetrate it and find some reason, some negotiation, but the burning killed chemical language while the weapons killed EMR. All that was left was the horrible squealing and grunting. He tried and tried to find clarity. Gleeson pulled close to him, and he wrapped an arm around her—mute communication. The sound of something thrashing, a single concussion flinging chunks of flesh into the air. The firing began to die.

“This is wrong,” said Gleeson. “I know they’re animals, but . . .”

It seemed to key into elements in his mind. He could not communicate with the creatures around him, and that was almost irrelevant now since most of them were dead, but perhaps it was now time to go to the source. He firmly linked to his lexicon and searched for the right words, set internal transmitters to the trinary format of those Gleeson had found in the nacre.

“*Don’t attack,*” he broadcast. “*Not danger us.*”

And then he listened.

“That’s all of them,” said Arbeck, stepping out of the smoke. His envirosuit was spattered with gobbets of purplish flesh and smeared with yellow fluid like pus.

Gleeson abruptly pulled away from Perrault. To Arbeck she said, “Was it necessary to kill them?” Then she turned and looked pointedly at Perrault.

“Stun shots didn’t work. They didn’t work with the spike gibbons, and they didn’t work with the spiders,” Arbeck replied.

Perrault, growing calmer and still listening, nodded to himself. He knew that aug com ramped up between the soldiers during a fight like this, and though he had not sampled its content, he could guess at it. It would be fast, military format, effect of weapons tried, vulnerable body areas, behavioral responses, tactics, logistics—a scream of com almost circumventing conscious consideration. He knew that if there had been an alternative to killing, Arbeck would have used it. But that was not what Gleeson was getting at. He stood up.

“I couldn’t do anything—it was too fast and there was too much interference,” he said, then held out a hand to Gleeson. She hesitated for a moment then grabbed it, and he hauled her to her feet, but nearly dropped her when the talking started.

“*Don’t come,*” said the creature, along with further lengthy communications. He froze as it permeated his mind, his shroud, all that he was. He picked out identifiable meaning, chemical words, intimations of danger and threat.

“I’m sorry,” said Gleeson. “I was being unfair.”

He stared at her, hardly seeing her as his processing crunched out meaning, made connections, elucidated further words. This was almost like the gains he had made with that piece of nacre and, in a moment, he was able to formulate his next reply.

“*We must come,*” he sent.

“Are you okay?” Arbeck asked.

He held up his hand. “It’s speaking to me.”

“What’s it saying?” Gleeson asked, wide eyed.

“Shush,” said Arbeck and drew her away.

"There is danger," was the essence of the next communication from the creature, but it came with so much more he could not, yet, parse. But his vocabulary was expanding, turning toward an exponentially upward curve. Levels of processing integrated, and words and meaning began surfacing like bubbles from a disturbed swamp. He felt the synergistic thrill of it, knowing that the cascade would grow.

"The danger was created by you," he sent.

"To keep you safe," it replied, again along with so much more.

Block of previously unknown language began to reveal more and more meaning, slotting neatly into his lexicon. He began to get detail on the states and the natures of things. He started sending short phrases and every one had its response. A breakthrough came when he could tell it, *"We came from above."*

It replied, *"I know,"* and the communication simply stopped no matter what he sent thereafter.

* * *

An emulation of anger seemed appropriate, just to fit in and retain a human identity with his soldiers and with the two "experts." And Arbeck felt he had good reason to be angry now. The AI had sent them down here with the same regard it might have had for a sub-AI probe. It had told him that to facilitate their safe transit to the surface, he could destroy any orbital weapon that fired on them. It had then rescinded that, and Perrault's insight had given him the reason why. The creature had the power to destroy them and obviously wanted to keep them away. But would it actually take that step or did it have some regard for other intelligent life? Mobius Clean had tested this because the AI knew, just as Arbeck knew, that prior to every strike against their probes, the creature had scanned them intensely. Clean knew it would scan the shuttle and find living intelligences inside. What would it do? Would it kill them to preserve its privacy? Apparently not. It had disabled the shuttle, which ejected its pods. Now it seemed, from a belated telemetry update he had found, it had obliterated the shuttle, perhaps in a fit of pique, but left the pods alone. And now this, now what was happening here.

Arbeck prodded the crushed remains of the mosquito autogun, then surveyed the devastation in the jungle. Six of those creatures lay in mangled ruin. The creature was trying to drive them away by turning the fauna against them. Had Clean expected something like this? Of course the AI had. They were effectively in a trap now, and the only way out was communication with the creature. This had been confirmed by a recent brief communication with Clean:

"It's trying to kill us, and I'm not sure we can get close before that happens. I suggest you make a hole in the orbital defense and send a rescue shuttle," he had opined.

"No—you will continue."

"Just to see if it will kill us?"

"To get answers. Protect Perrault—he is key."

"I think you know more than you're telling me."

"I always do," Clean had replied and cut com.

Arbeck looked over at Perrault. The man had not moved since standing up and was obviously deep into something. He surveyed the ruination again, then came to a decision.

"Armid, get him moving," he ordered.

"That such a good idea?" Armid asked. *"Gonna get nastier."*

"It takes time for it to set up its attacks on us," Arbeck replied. *"Maybe we can get to the masif before it tries again, then set up a base we can defend easily."*

"We're still going?"

Arbeck pointed to the sky. *"No choice in the matter."*

Armid took hold of Perrault's arm, tugged him into motion, and he walked with them but with his mind elsewhere, as before. Switching over to aug com, Arbeck had his soldiers spread to a moving perimeter, checking the jungle all around. Gleeson came up beside him. Despite recent events, she looked better now than she had in the morning. She paced beside him for a moment, saying nothing, then emitted a snort of laughter.

"What is it?" he asked.

“We’re expendable, aren’t we?”

Arbeck knew she was right, but now, because sometimes his mind worked like that, he felt the need to defend the mission here.

“How many intelligent races have we encountered as we’ve expanded out into the Galaxy?” he asked.

“Six or seven,” she replied.

“I mean living intelligent races, not their remains.”

“Oh.” She grimaced. “The prador, an alien survivor of a prador genocide, then there’s the gableducks, and whether or not they’re intelligent is debatable.”

“So just a few.”

“Yes.”

“So this creature is very important and it is worth taking some risks to understand it and communicate with it.”

She nodded. “That’s what the AI thinks, but it’s our lives it’s risking and not its own. This could have been done a lot slower and a lot more carefully, but the AI is careless of our lives because there are trillions of replacements for us.”

Arbeck was about to argue against that, but decided there was no point. It was all a lot more complicated than she made out, and he had no doubt Mobius Clean had incorporated immense layers of calculations to decide on its actions. But still, he was angry too—mostly because the AI had, probably out of necessity, failed to apprise him of all it knew.

“Look,” she said, pointing.

A clear area lay in the foliage ahead where some massive plant, like a tangled fig with deep black marks on its multiple trunks that looked like fissures, had toppled sometime in the past. Through this gap they could now see the massif looming close. He calculated that it would take them only a few more hours to reach it. He then lowered his gaze to another odd-looking tree in the jungle ahead. It had a trunk, then higher up this flattened and spread with nodules protruded from its perimeter. Its hue was striated pastel yellow and pink. As he stared at it, a vertical slot opened below the spread area, and all around this objects like bunches of fronds protruded and retracted. Then the massive thing bowed down and surged toward them like a snake, more of its length issuing from the ground, and he realized those nodules were eyes and the slot a mouth.

* * *

“Go away! Go away! Go away!” it screamed—the chemical strength of its cry so intense he could taste it on his human tongue.

“Don’t shoot,” he said—not sure if anyone was hearing.

The thing thrashed from side to side uprooting trees. It curled down on one and folded it in its flat upper portion and then flung it away to crash in the jungle nearby. It dipped down again and scooped up a great mass of earth and rock and flung it. The stuff rained down all around, and over to one side of Perrault, a boulder fell into a tree, splitting it and lodging head height from the ground.

“Threat display,” he said.

The soldiers had either heard him or were under orders—stupid to come all this way to talk to a creature and then shoot it. Or rather, this small portion of the immense beast. They backed off, weapons pointed to the ground as the thing advanced and thrashed. It then seemed to single out Arbeck and side swiped him, sending him tumbling through the trees. Perrault detected restraint, for it had attacked the one of them least likely to be hurt. That it hit Demarco next was only a confirmation. It then came down on Relson, drove her to the ground and pinned her there. Would it do more?

A second later the radio link opened, and the scream repeated over that for just a moment, then abruptly stopped. He saw Relson struggling underneath the thing, then it abruptly lifted away and hung above her as if studying her intently, those protrusions either side of its slot mouth shooting in and out with a strange wheezy sound. It began retreating, and Perrault detected a huge intense reluctance as new chemicals filled the air. In these were words involved in

procreation. Had it detected that she was a woman, and did it have some kind of cultural block on attacking her? He thought not, because the chemical words for urgency, need, and danger also flooded the air. The radio transmission started again, and he received so much more than before: the whole chemical language flooded into him, codified, linked, sequence markers in place. He studied the mass, shifted it until it slotted neatly against the trinary code the creatures used. Had the creature somehow understood him and what he needed? Because this was a large part of it.

His translation slid up the exponential curve, his components parts of brain, hardware and shroud working in perfect synergy. His lexicon expanded, reshaped and gained a logical structure so, when it spoke again over the radio link, he understood it perfectly.

“Tried to stop you. Cannot without killing. Come—consequences you own,” it said. There was threat and danger implicit there, but also something else he struggled to identify, but then he did: eagerness.

“What consequences?”

“Send me your language. Will accept now,” was its reply, along with a brief transmission in binary code. This surprised him, but then surprise slid away. He had no doubt that the AI had attempted communication before.

“So that’s what we’ve come to talk to?” said Relson, standing up and brushing herself off. “Seems a little unstable.”

Arbeck, standing up from the remains of a tree his impact had shattered, looked over at Perrault. “What’s it saying?”

“That it cannot stop us without killing us, so it is no longer going to try and stop us,” he replied, then added, “But it seems there might be consequences if we go there.”

“Worse than being killed?” Armid asked.

Perrault glanced at the man, or rather war drone crystal mind sitting in a human body, and thought he wasn’t really one to judge on the dangers of dying, since he wouldn’t. Even if something recognized that his true intelligence resided in a lump of crystal inside his skull and smashed it, he would restore from a perpetually updated backup aboard the ship.

“We keep going,” Arbeck said, and once again they set out.

Perrault now studied the recorded binary transmission. It was a piece of a Polity almanac combining written and spoken language along with a 3D image. It seemed, at some point, the AI had needed this creature to know what an apple was. His own lexicon of Anglic was much more detailed, with pictures, 3D recordings, text, and audio. He considered trying to fine it down, to weed out the irrelevant, but it was difficult to know what might be irrelevant to a giant alien shellfish. He began transmitting it all. A few minutes later the creature said, *“Thank you,”* but that was all.

As they moved out Gleeson stepped up beside him. “There’s more isn’t there?”

“Hard to say,” he replied. “I’m still trying to absorb and understand an alien language and the likelihood of misunderstanding is high.”

“You’re not going to tell me,” she snapped.

“Very well. Even though it has done everything to drive us away, I now sense an underlying eagerness for it to have us close along with other . . . feelings expressed in chemical interconnections that I cannot identify.”

“Maybe it’s like the hermit, forsaking company but glad when it comes?”

“Maybe,” Perrault agreed. “It has also asked me to send it a lexicon of our language. It seems that someone tried to send one before, but it refused it.”

“The AI,” she said. “There has always been more going on here than we’ve been allowed to know.”

“Of course. We are essentially extensions of Mobius Clean sent to gather intelligence.”

“And what matter if we get destroyed just like the probes?”

“AIs calculate risk and gain,” he said. “It would not have sent us here if it expected us to be killed out of hand. We do have our value.”

“Maybe you.” She glanced at him, showing some of her previous dislike of him. She then

shook her head and looked down, came up, and forced a smile.

He nodded acknowledgement of her self-control. "You're right of course. There is something here beyond establishing communications, but I've yet to understand it."

She nodded—her concerns now social rather than scientific.

"I'm sorry about my attitude toward you," she said.

He read her in a glance, recognizing her fascination with her newly arising feelings toward him. He kept the conversation light, but sufficiently engaging, with a small part of his mind, while the rest focused on the task within. After an hour or so of tramping through the jungle, the silences got longer but companionable for all that. Finally, she moved on ahead to talk to someone else. He smiled at her back, aware that he would not have seen this change in her had she not wrecked her aug and thus been forced to further engage with the real world. This he felt was something worth remembering, and he told himself that when all this was over he would take off his shroud again, he would reengage with normality. Then, as if it had been waiting for his full attention, the creature contacted him again.

The binary channel now engaged, feeding him back his Anglic lexicon with mating links to the information it had sent before. He altered processing to facilitate the matching of their separate languages.

"*Why do we exist?*" it asked in trinary.

He understood it perfectly. The linking of the two lexicons behind the trinary code almost complete even as he enquired, "*We?*"

"*All intelligent creatures.*" That came through clear too.

"*So we have transitioned from buggers off to philosophy now?*" He was immensely pleased with that. He had absorbed the grouping in science and other disciplines which, by their vast complications in this language, made his speculations about the definition of biotech seem positively infantile. He had also worked out chemical conjunctions for expletives and felt reassured that creatures so alien would use them.

"*It is an important question.*"

"*We are meat machines transporting slow genes into the future, while looking at the stars,*" he said—a reply he had used with many others.

"*Our genetic purpose is to live, to consume, and to breed, and there is nothing beyond that until the advent of higher mind.*"

"*That sums it up nicely.*"

"*You are male and you inject your genetic material into a female, who gestates a new human.*"

"*Yes.*"

"*I too am male, but my biology is more complicated.*"

"*Does your kind arise from oceans?*" Despite all the complex words and meanings he had available, "ocean" was difficult. He described water of vast extent. Almost negligently it sent him the exact word he required before replying. He located it, noting that still some links between the languages had not yet firmed.

"*Yes, we come from an ocean.*"

"*And you are one creature alone?*"

"*I am.*"

"*Are there more of your kind anywhere else?*"

"*Widely scattered and hidden.*"

"*So all you do here is live and consume?*" It was a deliberate jibe in search of revealing responses.

"*My kind lived on ocean floors, and males like me distributed our genetic material to the currents to be taken up by the females. We adapted ourselves to other environments where this became less feasible.*"

"*Easily enough solved by biotechnology as advanced as yours.*"

"*Supposing there is a moral inclination,*" it replied.

"*I don't understand that—you need to elaborate.*"

The creature had no reply for him, so he replayed the conversation while running an analysis of the words used, and their meanings, to ascertain whether or not he might have misunderstood. Though he was translating to Anglic at the front end in his mind, behind that were layers of other human languages, computer code, symbolic logic, and comparisons with the chemical communications of many life-forms, some of them alien. There were millions of places where the whole translation system might be breaking down, even so far as giving opposite meanings to those stated. The Anglic he “heard” and “spoke” was like the surface thoughts of a mind, driven underneath by the much greater mass of the subconscious. Time again slid by as he lost himself in this world. He tinkered, made corrections, discoveries, and streamlined elements of translation, while with a much smaller part of his mind he ran the business of walking through the jungle without falling flat on his face.

Finally, when he realized he had stopped walking, he paid more attention to his surroundings. They had left the jungle about half an hour earlier, crossing an area of ground that had been churned and was free of large vegetation. He blinked, noting new red shoots scattered all across this area, a smaller worm cast over to one side revealing one of those nacre tunnels. Here lay an area the creature had fed upon—denuding it of plants and doubtless of animals. He saw that Arbeck and the others were discussing something, pointing to the surrounding terrain as they did so. He walked over to them.

“You’re back with us?” Gleeson asked.

“For now,” he replied.

“Anything we need to know?” asked Arbeck.

“I may have misunderstood our last exchange, and I am checking. We briefly discussed procreation, and I’ve learned that there are others of its kind on other worlds, but then it said something I did not understand.”

“That being?”

“Its kind were sea creatures who distributed their seed in the seas before moving to the land. I said any problems with that could be solved by their biotech. It replied, ‘Supposing there is a moral inclination,’—I think that might have translated wrong.”

They all looked thoughtful as they chewed that over, then Arbeck pointed again. “Over on that, I reckon. We can set a fence and will have a good view all around.” He turned to a soldier who until now had remained firmly in the background. “Dasheel?”

The man shrugged. “Best option if we are to remain here.”

“Retreat will be more difficult,” Armid opined.

“We won’t be retreating,” said Arbeck.

Perrault studied the flat-topped mound indicated—heavy boulders strewn about its lower slopes. It looked like the kind of place some medieval human might have built a fort. He supposed this made it more defensible in those terms, and would be a good place from which to drive off the kind of animal attacks they had endured. But now it seemed likely there would be no more of those, while the more likely attack would come from a creature massing thousands of tons and residing in the nearby massif and in the ground below.

They set off toward the mound, and Perrault soon found himself scrambling up a slope over boulders. At the top the soldiers cleared some debris then set out the tents. Dasheel began hammering in small posts all around. As Perrault moved out past these and seated himself on a boulder, the man then set up a couple of inflatable tripods and on each mounted pulse rifles. Shortly after this he set out with a handful of small silvery spikes Perrault recognized as seismic detectors. It seemed evident now Dasheel’s expertise, or at least one of them, lay in setting up defensive positions. Now an argument behind. Perrault only half focused on it but knew that Gleeson finally got her way when she set out with Relson and Armid and her equipment, toward the massif. She would continue her studies despite her lack of an aug.

“And now it’s down to you,” said Arbeck, from over the other side of the new camp. Perrault held up a hand to indicate he had heard.

* * *

Gleeson felt her groping for her access to her aug akin to reaching out to grasp something and

finding her wrist ended at a stump, and it hurt too. Though, she had to admit, she was probably being overdramatic. In her long life she had never actually lost a limb. Her greatest injury had been a broken arm, and she soon negated the likelihood of that happening again by having her bones reinforced. As they headed toward the massif, Armid abruptly halted and peered at something on the ground. He stooped and picked it up.

“What have you got?” she asked.

He held up a fragment of nacre.

“Bag it—we’ll check out the intervening ground on the way back.”

He nodded but slipped the fragment in his pocket, probably sensing her urgency to get to the massif so didn’t take off his pack and search out a sample bag. But why, she wondered, did she feel such urgency? Perhaps it came from Perrault, his repetition of the cryptic and threatening communications from the creature, and the knowledge from him that the air was filled with chemical language. It was as if by being made aware of this, she had somehow been sensitized to it. She was breathing words, they were landing on her skin, entering her eyes and nostrils. The air seemed telic, dangerous, and they might be driven away at any moment. Or more likely the odd stuff she was feeling had more to do with aug withdrawal.

They finally reached the foot of the massif. Looking up she could see many more of the nacre tunnels than had been evident in the older one before. This was probably due to erosion and collapses covering those other tunnels.

“Run a grid as before,” she instructed the two. “Keep an eye out for anything we didn’t see at the other one, even if it lies outside the grid. Move fast.”

“Will do, boss,” said Armid.

She stared at him. There was something odd about the guy, but she could not nail it down. Again she felt this kind of feeling had something to do with her loss of her aug. She shook her head and began climbing. She had already examined old nacre and now felt it was time to look at the newest stuff she could get to. It seemed likely this would be around one of the upper tunnels, though that was really just a guess. As she headed up, she peered at some of the lower tunnels and noted spill from them—obviously new. The air here smelled of a decaying tideline, while she noted a steady background noise that itself reminded of the sea. This time there would be no spiders, she felt sure—the creature probably was as averse to others sharing its home as it was to visitors. It also seemed likely that any that did venture here became aperitifs.

Finally she reached the tunnel she had been aiming for and, stooping down, opened up her shoulder bag. She took out the box of remotes and wondered what reaction she might get if she sent them in, then put them away again. That might be too much of an invasion and, anyway, it would take far too long to program them manually. She next took out her hand scanner and held it before her for a long moment, before realizing she had been trying to key into it with her aug. She sighed and began using the controls on the handle to focus on the nacre—an action that gave her an abrupt and sharp feeling of nostalgia. The last time she had used this thing manually had been over forty years ago and, of course, before she got herself an aug.

Structure revealed itself, and this time it was much more even than before. She could see no signs of disruptions, wear, or age. She also began noticing organics. There was stuff here around the contact holes that actually seemed part of the nacre, while here and there lay scraps of fibrous flesh and beads of liquid that certainly were not. She abruptly turned back to her bag, removing a micro vacuum brush and began running it over the surface.

“Gleeson!” It was Armid. Perhaps he had found something exciting, but he would have to wait for her attention.

She finished brushing, then injected what the brush had drawn up into a sample bottle. The result was a few milliliters of yellow fluid. Here, she felt sure, they now had the genome of the creature. Belatedly she cursed herself for not thinking to look for samples when the creature had come out of the ground earlier, or for using the brush on Relson’s envirosuit.

“Gleeson!”

She sighed, stood up to stretch her back, then turned to look down the slope of the massif, and froze.

She simply hadn't heard anything, and she should have. Now between her and the foot of the slope where Armid and Relson stood, the huge protrusions of the creature, like the one they had seen earlier, snaked through the air. Movement behind. She stepped away from the tunnel and looked back into it. The thing filled with flesh, folded like a cauliflower or a human brain. It welled up and then came out, rose up above her, its flat end opening out. She now saw much closer than she liked what she had glimpsed back in the jungle. The nodules were certainly eyes; in fact they looked like the eyes of an octopus. The slot mouth unzipped almost with obscene eagerness and revealed wet convolutions inside. And then, as if in great excitement, frondy protrusions shot out around the mouth, tasting the air she felt sure.

Gleeson just stood frozen, too scared to move. Even so her mind did not freeze, and she continued to study the thing. Its flesh was like that of an octopus or a squid, and the yellows and pinks did bear some resemblance to that of creatures found under one of Earth's oceans. She noted a sheen of slime—probably to aid its transit through its tunnels. What were these she wondered? Were they sensory tentacles extending from some major part of the beast deep inside this massif? Scans had been unable to penetrate deep enough to reveal some central body.

"Gleeson! We have to go back! Arbeck's orders—it doesn't want us here!"

That snapped her out of it, and she looked down at the other two. She felt a brief surge of anger. *Fucking Perrault!* Then she experienced some confusion about her feelings for the man. When they had talked down in the jungle, she'd realized that they were changing. She reached down and took up her bag and scanner, dropped the brush and sample bottle inside, but retained the scanner as if it might be some weapon she could use to defend herself against the massive life-form here. She turned to look back at the nearest tentacle.

"I'm sorry," she said, wondering if it now had any grasp on human words, if it could even hear them.

The thing was quivering, and after she spoke it jerked back a little, and its quivering increased. Stupid to read eagerness in that, or fear, she felt, but there it was. Swallowing dryly she turned away and began to make her way down the slope. Ahead of her the other tentacles reluctantly shifted out of her way. She could see that they were quivering too.

* * *

"*They are coming back, but of course you can see that,*" said Perrault. "*Why do you not want them close to you?*"

Gleeson was off the slope now with Armid and Relson to either side of her and walking back. They got about fifty yards out whereupon Gleeson pointed. The other two moved off and began collecting samples. She turned to look back. The tentacles there were still out, all facing toward her, slightly hooked over. The impression given was of a group of meerkats sitting on their mound.

"*The seas were dangerous,*" said the creature.

Perrault contained his impatience—perhaps this would be an explanation of the creature's urgency to have Gleeson and the others away from it.

"*The seas your kind evolved in?*"

"Yes."

"*I can understand that.*" Perrault thought of the dangers shelled mollusks faced in the seas of Earth. Other hunting shellfish like whelks with their hollow drills to bore holes in shells, to inject digestive fluid and suck out the contents; crabs tearing them open to feast on living contents; otters beating ormers with rocks; the hard-mouthed fish and, of course, the humans. Shelled mollusks sat some way low down on food chains, which was why they produced so many offspring. He checked references, then a section attached to his lexicon. The section on mussels he absorbed for conscious inspection was interesting. The males released sperm into the water to be siphoned up by females, who produced thousands of larvae. These drifted through the ocean as part of the plankton until attaching to the gills of specific varieties of fish. There they encysted and grew, dropping out a few weeks later to attach to some rock and continue their growth into adults.

"Getting some seismic readings," said Dasheel. "Maybe that thing below us is extending out to

hunt?"

"Maybe," said Arbeck. "We don't know what's usual here."

On an impulse Perrault sent the section on mussels in binary to the creature.

"*Our cycle became similar,*" it replied quickly—amazing him with its speed of apprehension. "*This was necessary because of the distances our territoriality put between each of us. In our prehistory we males released sperm as packets only, but more predators evolved to seize these. So we evolved into something similar to these mussels. The sperm packets encysted in hosts and guided those hosts to females, who took in the packets and consumed the hosts.*"

Parasites were ubiquitous both in terran and alien biology, could have vastly complex life cycles of many stages. Perrault did not need to look at data on them to know that many seized control of their host's bodies and minds.

"And then?"

"*The larva the female produced also sought out hosts, and took them to suitable locations and there fed upon them while making their first burrows.*"

"So this negated the predation on your young," he stated, starting to feel very uncomfortable with all this. He groped around for somewhere to take the conversation next. "*I suppose such a technique became difficult when you moved to the land? I expect by then you used your biotechnology for the purposes of procreation?*"

He put his hand down on the rock, yes he could feel vibrations now. Out at the massif those big tentacle things were retracting into their tunnels. Gleeson, meanwhile, was down on her knees digging at the ground with a trowel. She had revealed a short arc of nacre. He glanced across at the other two. Armid was still wandering, staring at the ground, but Relson was down on her knees too, pushing soil aside with the flat of her hand.

"No, we continued on the land as we had in the sea," the creature replied. "*The hosts were land creatures you have already seen—the ones one of you described as pigs. They were perfect for the chore. In fact we adapted some of them to return to the sea for our brethren there.*"

Perrault nodded to himself. The creature had been aware of them since they landed, but now it was evident it had also been more attentive than he had supposed and must have recorded their exchanges. How else had it known about Oaran dubbing their first attacker in the jungle a pig?

"So you weren't so territorial then?"

"Creatures change—it is the nature of life. We became a society."

Until now Perrault's concentration had been on the intricacies of the translation, but he began applying his mind more to the content of the communication. He began to make connections and began to see part of the picture the creature was drawing for him, and it looked ugly indeed. He turned and caught Arbeck's eye.

"Tell them, via aug, to get back here," he said quietly.

"What the hell, Perrault?" Arbeck asked.

Rather than get into detail about sperm packets and the like he said, "It uses land animals as hosts for its children."

Arbeck stared at him for a moment, nodded, then looked out to the three. Perrault watched them too. Armid paused in his wanderings then abruptly turned and ran back toward Gleeson. Relson stood up, peered back toward the massif, then set out at a fast walk back toward the camp. But Gleeson of course had heard nothing. She continued her digging, and now it was obvious what she had found because the curve of nacre she had revealed had almost completed a circle. The mouth of one of the tunnels lay there in the ground. Relson had been revealing similar, too, and now Perrault felt sure they must be all around them. He next realized he had delayed too long. He needed to keep talking as if he hadn't understood the implications of the creature's story.

"Then you went to the stars," he said. "*That must have been difficult for creatures as large as you.*"

"We built our tunnels to the sky and made our vessels, and we explored," it told him.

"Did you take your pigs with you?"

"We spread out to many worlds," it continued, ignoring his question. "But, as our technology advanced our old territoriality reasserted over time. Worlds where thousands of us resided became worlds with only hundreds and then just a few, and ultimately one."

"And that is the stage you are at now?"

"You wish this to be the end of the story?"

"I'm sorry, please continue."

Armid had finally convinced Gleeson to leave her find. They too began heading back, though Gleeson kept pausing to study the ground. After a moment Armid grabbed her arm and hurried her along.

"Though we had changed much and once again become territorial," the creature continued, "our urge to breed remained. It in fact became stronger due to our separation."

"A difficult situation."

"Yes, especially when ones chosen hosts were incapable of traveling between stars."

"A technological answer, surely."

"Yes, but not the one you would wish for. Consider the mentality, the morality of a race of creatures who use other creatures for procreation. Our regard for other life was not as yours. It was the regard of predator for prey. So the answer to the dilemma of breeding when we had found but generally studied from a distance other star-faring races was obvious: here were the hosts we needed to take our seed between worlds."

Perrault could think of no reply as the full horror of it hit him. Until this moment it had been an intellectual slotting together of facts, fragments of conversation, and intimations of danger and intent. The ground was really shaking now, and this was displacing loose earth all around, revealing more nacre.

The creature continued relentlessly: "The biotech changes were easy for us by now and our studies of those other races revealed many ways we could lure them to our worlds. There were failures at first, and some necessary exterminations when we found difficulties in controlling some hosts. But soon we were thriving again, and using those other races to spread us to further worlds."

Something kept nagging at him—something did not feel right about this story—but right then the ground exploded behind Armid and Gleeson and one of those tentacles reared into view. Relson had by now reached the boulders. She turned to go back, but doubtless Arbeck ordered her on, and she scrambled up into the camp. Armid and Gleeson broke into a run, another tentacle breaking through the ground over to one side, while the one behind poured out, now snaking along the ground after them. The soldiers in the camp moved to its edge. Arbeck and Demarco held weapons he had not seen before, and which had obviously been secreted away, disassembled in their packs. These were big heavy things only the two mostly cybernetic men could carry.

"Perrault?" said Arbeck.

He was about to tell them they should all run, but still something was nagging at him. Then, despite his fear, he saw it.

"But where are all of your kind now?" he asked.

During the ensuing long pause further tentacles exploded from the ground. Armid and Gleeson reached the rocks and began climbing up, one of the tentacles not far behind them. Arbeck moved out, pointing his weapon down.

"Perrault."

"Don't fire."

Arbeck glared at him and kept the weapon pointed, but he did not open fire even when the tentacle nudged Armid and sent him sprawling. A beat passed, and then the thing reared up and just hung over the camp, like a question mark. Perrault could see it quivering as the two made their way up and in through the perimeter.

"Creatures change, societies change, moralities change," said the creature. "We began to accept that the hosts we used so badly were thinking and feeling creatures like ourselves. The females desisted from feeding on them when they delivered our seed. Both males and females

chose a form of celibacy by ensuring none of the other races came to their worlds. Disgust at our base drives formed in us a new morality. Over the centuries we began dying and now few of us remain."

"But the desire to breed remains," Perrault pointed out.

"It does," said the creature. "But like all base desires it must be controlled."

Perrault gazed around at the forest of tentacles surrounding them, then watched as gradually, here and there, some of them began retracting into the ground.

The creature had one last thing to say, however: *"You can tell the artificial intelligence that is watching from that ship up above that I have passed its test. I know I can control myself now, and I will talk to it."*

Perrault grimaced, studied Gleeson and the soldiers and knew that when he told them everything, their reaction might not be good. But he would couch it in the best of terms and choose his words wisely. He was incapable of doing otherwise.

Neal Asher was born in 1961 in Essex, Great Britain and divides his time between there and the island of Crete. He's been an SF and fantasy junky ever since having his mind distorted at an early age by JRRR, Edgar Rice Burroughs, and E. C. Tubb. Sometime after leaving school he decided to focus on only one of his many interests because it was inclusive of the others: writing. Over the years he worked his way up through the small presses, wrote the inevitable fantasy trilogy and zeroed in on science fiction. Finally taken on by a large publisher, Pan Macmillan, his first full-length SF novel, Gridlinked, came out in 2001, and now in total he has over 28 books.