

THE UNPASTURED SEA

Gregory Feeley

Gregory Feeley's tales have been appearing in magazines and anthologies since 1977. His works have been finalists for the Nebula, Philip K. Dick, and Theodore Sturgeon Awards, and he has appeared in about a dozen year's best anthologies. A college instructor during the years his children were growing up, he is about to return to full-time writing. The following story is part of a now-completed novel, *Neptune's Reach*, which has been appearing in *Asimov's* and elsewhere for, Greg reports, "quite some time." He tells us the earliest section, "Neptune's Reach," which appeared in our Mid-December 1986 issue, will not be in the final novel because the science is out of date. Greg is now working on a number of new stories, "none of them set in outer space."

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This is a story that Iya, the eldest and given to such fancies, told the younger children when all of them, even those from Kehinde (whose people live pressed against the ceiling, although to them it seems the floor), could gather and be made to listen. Tokunbo, adolescent and sullen, resented being so compelled, but Aramide told him that if he were excused Numilekunoluwa, the next oldest, would assume responsibility for the others, and he was too young for that sour burden.

Ajapa the tortoise, who is always causing trouble, once overheard three boys playing together and boasting of their prowess. One claimed he could climb a palm tree to the top, while the next, more extravagantly, declared that he could fire an arrow that would pierce the sky, and the third, not to be outdone, that he could swim across the sea. Ajapa scuttled, faster than a tortoise should, to tell the King of these unseemly vaunts, which the boys were then directed to carry out, on pain of death.

In the old folktales we are merely told that the boys eventually succeed on their third tries, but Iya, who wishes the adults (who had shifted over to Kehinde, so as not to throw off the habitat's balance) to enjoy their time together, elaborates the

story outrageously. The boys' two failed tries are entertainingly described, but their final trials are given in detail.

The boy who claimed he could pierce the sky made a prayer to Ituen, the fishing eagle who (as they would remember from an earlier story) had been made king of the birds, and then he fashioned an arrow made from a long sliver of the thighbone of a bush cow, which he fletched with feathers from a domestic fowl, the plumpest of birds and guarded from Ituen's claws. Upon the tip he fixed a choice morsel of roast meat, and when he fired Ituen flew to catch the arrow, which he consumed in its entirety. The bird king then soared higher, higher than other birds as we already know, and was lost in the dazzle of the Sun.

The next boy went to the witch man, who offered the boy some practical advice and then put him into a trance, one that allowed him to focus utterly on his task. When he approached the tree he put his fear into a box and tossed it away, and then took a shell necklace from his neck and wrapped it about his ankles so that his feet could not spread more than a foot apart. Then he leaped upon the tree, planting his soles on either side, and pulled himself up with his arms until his bent legs were straight. Like an inchworm with frog legs, he ascended the tree in ungainly little fits, waved one arm in triumph, and hurled down coconuts to the beach.

And the third boy? He tucked those coconuts into the robes he had donned for his awful interview before the king, waded into the water, and floated across the sea.

And then Iya explains what the story means for her young audience. The fired arrow represents a vessel—the one carrying Iya and those of her generation—flying away from the Earth into deep space. To climb a palm tree is to ascend the access tube that joins our two homes, while to swim across the ocean is to navigate the Sea that we in Ibeji—that all the Yoruba people who ventured here, indeed all of the Centaurs—sail upon.

“But why does everyone, not just us, call it the Sea?” asked someone.

“Well, Neptune was the God of the sea, so it made sense to so name the vast space around it.”

What nonsense, Tokunbo thought. He reflected darkly that the Earth's oceans were fields of astonishing plenitude, bursting with life even at their most despoiled, while Neptune's orbital space was too bare for the human mind to conceive, a blank plain many hours' walk in any direction, across which were scattered a few dozen grains of sand. If one called it a sea at all, it should be the Sea of Emptiness.

“And what happened to Ajapa?” little Mofetoluwa asked.

Iya smiled at that. “Well, in the original story he was put to death, but I don't believe that. Tortoises have nice hard shells they can retreat into, and we see Ajapa alive again in other Yoruba stories. His shell protected him, like the nice hard shells that protect Taiwo and Kehinde from the Sea outside.”

Tokunbo had once asked what the Yoruba word for Neptune was, and was told there wasn't one. The European who discovered the world gave it a European name, and all the Earth's people had accepted that. “Why don't we name it after our god of the sea?” he demanded.

“Olokun? We certainly could, but why bother? Nobody refers to that blob in the sky, anyway.”

That much was true. Tokunbo was hanging at the Midway node, looking at the planet from the one place in Ibeji where the image held still. He knew people on a dozen moonlets and habitats, including the *Centaur* itself, and none of them wondered what was happening on Neptune, or when the next probe would trail a finger through its cloud tops.

“Have you ever seen the sea?” he asked suddenly.

“Me?” Aramide's voice in his ear sounded surprised. “I was born in Circumluna;

how old do you think I am? I have only seen Earth's blue oceans from hundreds of thousands of clicks away."

"So why do you—does everyone—idealize it? It's completely alien to our lives, but everyone celebrates the image."

"I don't celebrate the image. We lost many of our people to the sea, stolen from us and carried across it to slavery on the world's far side. If you see an American—" though of course he never will—"with dark skin like ours, her people were stolen from us centuries ago."

"But we speak their language."

"Which is why we also take care to speak ours, and Chinese as well. You will spend much of your very long life dealing with people whose ancestors oppressed ours, some of whom have odd ideas about why we are part of this project."

Tokunbo liked the word *idawole*, which suggested not just "project" but "adventure." People older than Aramide tended to speak of the "voyage," with the implication that with the *Centaur's* arrival the great work had been largely completed. Aramide's husband Dayo told him that the original crew had gone through a tremendous ordeal and deserved credit for what they had accomplished, but Tokunbo took his comfort in reflecting that their size and influence diminished every year.

Half the children were asleep by the time Iya finished her last story, and she winked at Tokunbo, as one adult to another. "What did you think of that?" she asked softly.

"Well," he said, shrugging. "They enjoyed it."

Iya's laugh was not loud, but it carried an edge that cut through the children's stirring. "The story wasn't for them. It was for you."

* * *

Family was paramount, but perhaps not when you were seventeen. Tokunbo's friends lived light-seconds away, and sometimes slept when he was awake, or lived on Whirls whose energy budgets put constraints on a good conversation. Tokunbo found this astonishing, as well as irritating (everything was irritating), though he understood that many of those who had fled the *Centaur* continued to refuse any contact with the great ship, even twenty-eight years later. Some of his friends had strong feelings about this, so he kept his thoughts to himself.

Travel would offer him nothing he hadn't experienced before, but it would be unvarying. Moving through Ibeji took him from 1 G to zero and back, and he had certainly spent time (his every sleeping hour) in an enclosed space. But whatever the pod subjected him to would lie beyond his control, and Tokunbo already controlled little enough in his life. Nevertheless: Away, across the wilderness of nothing, to the honeycomb of the *Centaur* (he loved the image of the beehive, which he had first encountered in a poem by Guo Puin), where you could interact with others in their hundreds, yet buzz away when you wished to work alone. And where his family could only follow virtually.

"There is a story about a young man who travels from the provinces to the great city," his father told him.

"There are probably thousands." Meaning, he does not want to hear one. Darkly he thought, There are also stories of exiles' returns, but the elders don't want to hear of *those*. They know well that Ibeji, built from a few hundred tons of rubble and the two pods they escaped in, cannot accommodate the growing second generation, so their young ones will fly away. And where to but that one place where other people, new faces by the hundreds, toiled and spun and moved through strange places, some so large you could launch yourself like a stone and be a minute or more before reaching the far wall?

And so he flew across eight hundred thousand kilometers to the *Centaur*, dispatched in a tiny craft that Ogun, which maintained Ibeji's physical systems, built in accordance with the *Centaur's* directions. Sedated in a padded cocoon, Tokunbo

dreamed of a large building standing in a desert (he didn't know which one), whose occupants lived with their feet planted on the outer walls. Why am I going back to Earth? he wondered, knowing in the manner of dreams that this was both something he was supposed to and not supposed to do.

He woke when the craft passed through the first set of deceleration rings, pushing him downward and then slamming him to one side as a quick rocket burst angled it closer to docking orientation. Minutes later this happened again, and then again. By now the screen showed him the unmagnified *Centaur*, smaller than forty-one of Neptune's natural satellites, but spinning faster than any, its rotation immediately discernible. Five minutes later he had been snagged by a magnetic net and reeled in, body now pressed to one side as his craft surrendered its inertial frame of reference.

Hatches slid open, and strange-smelling air puffed in: he was in the *Centaur*, home of 98 percent of humanity to a distance of four billion kilometers. The *Big City*, he thought: whose journey toward becoming a low-orbital backwater had, however slowly, already begun.

* * *

It is the things you already know that surprise you. Tokunbo recognized by sight dozens of Centaurans, mostly his own age, and had communicated otherwise with dozens more. He knew the quarters he had been assigned—occupied by members of his own cohort—and had noticed that it contained a disproportionate number of his own people. He understood that though the chambers were small, there were many of them, and that he could pass through dozens without the gravity changing. He knew about corridors, although his first traversal of one was deeply unsettling. He knew he would be stared at.

But the sound of cutlery echoing in a large room surprised him. So did minutes of unbroken silence. He took a lover—his first in the flesh since a rare conjunction two years earlier had allowed a brief student exchange with Ominira on Hippocamp—whose skin was much lighter than his, and was surprised at the intensity of strangeness. The rivalry he had already experienced with his classmates (for everyone understood that there were more aspirants for places on the eventual exploratory missions than would ever be needed) was enhanced by their physical presence.

He met Naade, Iya's sister, who took his hands in hers and told him the story of how they had spent the early hours of the Break huddled in a launch bay while the cops hunted them; how they had later become separated and she had been left behind while the others escaped. He had heard the story before, but felt oddly moved.

And he was asked about the Minds, whether there were any aboard Ibeji. His classmates were amused by his confidence that there were none. "You don't think they escaped on those pods?" Tokunbo shrugged; the Minds no longer seemed to be concealing their existence. If Ibeji had one that proved an exception, so what?

Did they think him, albeit fondly, an amiable rustic? Just as well that they failed to perceive the slight favoritism he enjoyed: advancement to levels of training that others jostled for; fewer difficulties resolving his work and study schedules.

Of course, he knew the cause. He was—or was being groomed to be—a pet: the child of the Diaspora (everyone used the Greek word) who had returned. Did they think that his siblings and cousins, or others of the second generation across the Sea, would follow his example? Perhaps they did; perhaps they would. Neither would exert a pull on his trajectory.

So he made friends, propitiated rivals, and presented himself as one who got along well with others, but had developed no strong attachments—either to the Yoruba community or to a romantic partner—that might inhibit his readiness to depart on a long-term mission. He regarded with equanimity his present and future colleagues, and wondered how many of them he would someday betray.

Ibeji had a center; its living and workspaces swung about that weightless midpoint, the meeting site of its twin modules as well as its center of mass. The *Centaur* might spin round its axis, but that's not what mattered. Its true center lay elsewhere.

Tokunbo's peers had spent their lives surrounded by elders who had grown up in Earthspace, if not actually on Earth. The elders still felt the pull of a planet too distant to tug on anyone else, while their children instead felt the pull of Triton, the world upon which they would someday be allowed to set foot. Those elements the *Centaur* now must zealously conserve—sulfur, phosphorus—were there, plus nitrogen and oxygen beyond measure. When the retrograde satellite rocketed past, it snagged at his classmates' hearts.

Perhaps it was his upbringing in the Sea that allowed him to shrug at these inducements. Triton—big, fast, and orbiting in the wrong direction—was a bauble to spellbind his classmates, and while he knew enough not to mock them, he sometimes had trouble hiding his amusement. When one of the elders described the approach to Triton as speeding toward an oncoming train, Tokunbo ingenuously asked, "What's a train?" This elicited a laugh (every young person had experienced the heroes' exciting escape from drowning Shanghai in "Inland Evacuation"), and the presumption of Tokunbo's high-orbit ambitions was nicely reinforced.

And who knows: the technical problems of its delta-v might someday be solved. Perhaps the icy world would sail about Neptune preceded by a column of deceleration rings thousands of kilometers long, the way the tail of a comet precedes it as it nears the Sun. Or perhaps travel between the *Centaur* and Triton would remain an expensive rarity, and the pioneers' children would inherit the other moons as their parents aged and dwindled in the hull of their cozy ship.

Tokunbo didn't care. He never thought of the Earth, and rarely of the Sea, its reaches thinly settled by "his people." His focus was the World itself: Neptune, the swollen monstrosity into which scientists gazed with increasingly cloud-penetrating instruments, but had not yet ventured to drop even the tiniest probes. *Look*, the administrators adjured, *but reach not out to touch*.

He knew the familiar justifications: dropping one-way probes cost the *Centaur* valuable metals and ceramics, and scientists could dispatch thousands before they were finished exploring Neptune's enormous upper atmosphere; while returning missions would expend vast amounts of fuel—again, substance lost to the ship's closed system—to claw their way free of its gravity well. None seemed especially persuasive, and Tokunbo wondered (as certainly did others) what the actual reasons were.

And suddenly a word was on all his classmates' lips. "We've got Deiopea."

Everyone knew what "Deiopea" was, though precious few accorded it much thought. An icy body of less than 10^{16} kg and high inclination, it hung black against the blackness, scarce closer to Neptune than Ouranos sometimes drew. Absurdly distant from anything, it declined to declare its relationship to any larger primary. For the several weeks since its discovery, the worldlet hovered uncertainly, its movement too slow and its albedo too dark for observers to conclude whether it was a satellite of Neptune, an asteroid, or a very long-period (and dirty) comet. Proponents of satellithood had preemptively named it after a Nereid, and the latest measurements had apparently borne them out.

This was an issue of no significance to Tokunbo, but it would be tactless to show that. "Will it someday venture closer?" he asked gamely.

"Never by much," his friends replied, eyes alight as though bearing good news. "It belongs to the Heights."

Tokunbo understood that he was expected to take an interest in Neptune's outer satellites, though Ibeji lay within the orbit of Larissa. He also understood why the

Centaurans were so excited: they felt that they *owned* the distant moons, not the Highlanders—no one used the term “rats” in his hearing—who had fled a generation earlier. They imagined an imminent rapprochement with their straying children, now older and presumably wiser (if perhaps not actually remorseful), that would lead to free movement between the *Centaur* and the tiny outposts the exiles had established. And then, *together*, they would exploit the tiny moons, the prograde ones anyway, mining them for the elements that the exiles would soon need for their life systems.

“Someday we must go there,” he replied, as he knew he should. And everybody smiled.

And when, a scarce week later, he was offered a place in the training program for an eventual mission to Deiopea, there was nothing to say but “of course.”

* * *

The projected launch date was three years away (they still employed a calendar using Earth years, though Tokunbo's contemporaries made fun of this), to take advantage of a favorable planetary conjunction. His studies remained largely unchanged and his work schedule resembled his classmates'. He conducted love affairs that he knew Aramide would think rather heartless, though they seemed in keeping with common student behavior.

They let him figure out the truth for himself. Suspicion turned slowly to certainty, and when he looked pointedly at an instructor during a discussion of mission objectives and received a brief nod in return, Tokunbo felt disorientation as well as relief.

He accepted their silence as a tacit tribute to his intelligence, or perhaps merely his cynicism. His course of studies did not immediately change—serving as crew on a spacecraft required the same knowledge and skills regardless of destination—but within weeks he was reading about Neptune's upper atmosphere: composition, temperature, wind shear dynamics. He studied harder than ever before, was drilled on every detail of a special pressure suit designed to withstand superfrigid pressures and then drilled in pulling it on quickly under emergency conditions—free fall, rapid acceleration, explosive decompression—and spent weeks sleeping and eating in a tiny cabin built along the *Centaur's* axis to test his tolerance of zero gravity. Probably his crewmates were inhabiting adjacent cabins, Tokunbo thought: when the roster was finalized, they would likely be thrown together.

And he was right. The announcement of the *Mazu's* design and mission was made while the four were still floating in their separate compartments, though they communicated daily. Tokunbo had made a pretty good guess at who his crewmates would be; they all had. When the time came to enter the training module, they looked at each other quizzically.

“A pretty mix,” said Kazama, gazing at his fellows as though for the first time.

“A Han, a Yoruban, a white boy with a dash of color, and an Earthborn elder, included lest her contemporaries feel left out. No complaints possible.”

This was too obvious to require voicing aloud, and prudent Tokunbo merely smiled. Chin, looking uneasy, said, “I don't see how anyone could doubt our qualifications.”

“Oh, of course not. But they don't want any questions.” Centaurans worried too much about who *they* were, probably because they once didn't wonder enough. Since Tokunbo regarded all of them as *they*, it wasn't a matter of concern for him.

“They don't want us spending too much time in low-*G* levels,” Tokunbo explained later, holding Yui around the waist as they fell with exquisite slowness toward her bunk.

“Then don't spend the night here,” replied practical Yui. “Do they fear it will sap your lightning reflexes?”

“Probably.” Keeping mindful of how quickly things in Earth gravity crashed to the ground was not, at this moment, a matter of importance. After months in the *Centaur* he was still intoxicated with the pleasures of unmediated intimacy. Making love

with partners who were a quarter of a light-second away produced peculiar frustrations, and the steps necessary to synchronize your actions essentially introduced an Entity into your beds. And, of course, any adult who was monitoring the transmission rates could easily guess what you were doing.

Save for the low gravity, they were copulating “just like our ancestors used to,” as Yui observed. The dreamy lassitude of every roll and bounce served, if anything, to emphasize the presumed point: pleasure was languorous, while duty came at you fast.

He threw himself into the work schedule, which—since they were soon living in the training module—consumed every waking (and sleeping) hour. Mission Control had simulated acceleration by flinging the crew’s cabins down a shaft running the length of the *Centaur’s* spin axis, but for extended exercises the training module was sent through an airlock and fired into higher or lower orbits while devices on the hull subjected them to an unnervingly accurate rendition of atmospheric buffeting. Twice they had to pilot back by manual navigation.

They cast off at a ballistically favorable hour, when most of the *Centaur* was asleep. The *Mazu* rode the rings out and down, accelerating into an elliptical orbit that would take it, at perigee, six hundred kilometers into the planet’s atmosphere.

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2

Neptune, always immense, expanded steadily to engulf the screen whenever the view was directed downward. The crossing took three days; there was no purpose in expending fuel to go faster. After the first two hours, which they spent running elaborate systems checks—on the chance, understood to be vanishingly small, that the systems might have failed in ways that hid the failures from each other—they sat back and regarded each other. Saltykov, mission leader, smiled.

“Alone at last,” she said. They all laughed; nobody doubted that every word was being recorded. Then they looked at each other: *Who wants to go first?*

“We will have plenty to do,” Kazama said, “but nothing that the ship can’t do by itself. So why are we here?”

It was a sufficiently naïve question that Tokunbo assumed Kazama was merely canvassing his crewmates for impolitic replies. Tokunbo kept his counsel, and after a second Saltykov responded.

“Everyone feels that humans should explore new worlds. If eight hundred people spend a generation voyaging to low Neptune orbit, they are not going to send an Entity to pilot the first trip into its atmosphere.”

“An unmanned probe would have been able to venture farther and deeper,” Kazama pointed out.

“We will be going deep enough,” Saltykov replied. Tokunbo could not argue with that. However irrational the reaction, he could imagine feeling the difference when the craft traveled from emptiness to immense pressure and cold.

“What would happen if we suffered a hull breach?” Chin asked. The others stared. “I mean, would we be crushed first or frozen?”

Saltykov laughed. “If an iceberg falls on you, you don’t die from the cold.”

Tokunbo knew what an iceberg was, so while the others were pausing to check, he decided to say something unexceptionable. “Three days of people following our progress,” he observed. “Just like the first trip to the Moon.”

“Not the first trip to Mars?” asked Chin.

“Took too long. People lost interest.”

If the good people of the *Centaur* were following the *Mazu’s* progress, he at least

was not suffering their attentions. Most of the crew's waking hours were spent in the lifeboats *Eshu* and the *Triaina*, which would break free in the event of a sudden but not calamitous disaster. Tokunbo's and Kazama's seats were in the *Eshu*, less than a meter apart, although they were separated by a partition strong enough to serve, should things grow still more dire, as a hull. Everyone could communicate readily, though they mostly waited until meals, which they took together. Tokunbo, at least, had plenty to keep him busy.

The blue world below swelled with terrifying grandeur, as though reaching up to seize them. Tokunbo, who had grown up seeing it more distant than the Centaurans did, took some solace in hearing his crewmates acknowledge their insuppressible disquiet. "I will feel better to hear the engines beneath us," Chin admitted. But their course would remain unpowered until they were well into the atmosphere. Meanwhile, they could see as well as feel the acceleration: every few hours Triton rose over Neptune's limb, climbed and then passed overhead, each time slightly faster.

"Ready to dip your toe?" asked Lolade. She was another child of the Diaspora, who had been welcomed to the *Centaur* more than a year before Tokunbo's arrival but remained corrosively cynical about its politics and behavior. Tokunbo enjoyed speaking with her, since she (who knew very well that their conversations were monitored) could be impolitic for both of them.

"I feel more as though I am being dangled by my toe," Tokunbo replied. "If we descend to maximum penetration and the ship doesn't crunch between Neptune's teeth, perhaps they will try a bit lower."

She laughed. "Oh, they want you all back alive. A few successful missions will scratch the popular itch to undertake some exploration, and then the folks in charge can turn to more reachable fruit, like swift-footed Triton."

"You don't believe that the Minds want to retain the exploration of Triton for themselves?"

"The Minds are not interested in Triton; they know its secrets will be exhausted in a few hundred years. It's Neptune they want: the world that has everything."

Lolade, who appeared before him at full size, lounging in the *Centaur's* ample spaces, offered a knowing smile. "Even the Centaurans look forward to plumbing its riches: they love its earthlike gravity, its inexhaustible reserves of volatiles, its metallic core. Give them enough time and they will have floating cities that will someday house trillions."

"The Centaurans can't be concerned with 1 *G* environments," Tokunbo protested. "Their—our—descendants will flourish in a range of gravities."

"Don't you believe it. Once you engineer people past minor modifications, they cease to think like *H. sapiens*, and the crew of the *Centaur* were selected for their conservatism. Three hundred years from now every spacefaring human inside the orbit of Mars will look like something else, but there will be a safe little colony of old-fashioned people out beyond nowhere, secure from contamination. Somebody planned that."

Tokunbo pondered this as he lay that night in his bunk. If anybody had "engineered" human beings into radically other forms, there was no record of it, but many things had happened on Earth in its high civilization's final years that nobody really knew about. Certainly the redoubts of political power, those walled citadels with access to resources and working spaceports, retained the technology of Earth's heyday. Idly he imagined the ruling technocrats redesigning their children to live in rising waters or endure intolerable heat. *People want their kids to be like them*, he thought drowsily. And he dreamed of swimmers gliding through chilly depths, uncaring of their forebears and the lands they came from, for their own would be neither land nor shore, but bounded only by gravity: oceanic.

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The atmosphere of Neptune rose, flattened, and became a vast sea over which the *Mazu* glided in gentle descent. The crew grew giddy on a mix of excitement and apprehension, which no one troubled to hide. Communication with the *Centaur* ended; they spent their time monitoring the readings their instruments were receiving from less than a thousand clicks below. The numbers were not telling them anything new—“not yet, anyway,” Saltykov murmured—but there was something irresistible in looking at data collected from such a short distance.

They sat upright in their crash couches, each surrounded by images of the other three and, largest of all, a view from the bow, an expanse of unbroken azure. Tokunbo opened a view straight up and stared in wonder: the starscape—the only thing you ever saw when looking out into space—was disappearing, occluded by the first wisps of cloud.

There was too much data for anyone to follow, so each crewmember had a stream to monitor. The ship’s Onboard could handle it all, of course, and would alert them if any reading strayed into alarming range. As Saltykov had drily observed, the entire crew could lose consciousness and the Onboard would continue with the mission.

The low hum that pervaded the cabin was unchanging, but Tokunbo began to feel a faint vibration shiver his seat. The *Mazu*, descending through the still-diffuse reaches of the thermosphere, was being gently buffeted.

“A wind,” said someone wonderingly.

How far down? he thought. When you grow up with *down* never farther than the deck beneath your feet, the concept became scary when uncertain. Even in the *Centaur* the fear of falling was largely theoretical: while the ship contained open spaces where you could, with sufficient carelessness, tumble several meters, they were all in the central hull, whose gravity was too weak to accelerate you to a dangerous velocity. Now, however . . . how far was *down*? Down to *where*?

Tokunbo’s instructors (all of them following the lead of long-dead Earthborns) had declared the “surface” of Neptune to begin where its thickening atmosphere reached that of Earth’s surface pressure. He didn’t think much of that—who cared about Earth’s surface pressure?—but deciding where else to draw the line was difficult. Tokunbo favored the transition from gas to liquid, where the supersonic winds were finally succeeded by a hot, dense fluid too heavy to roil.

He asked the Onboard how far below that point was now. *2864 kilometers*, it replied. A long way to fall, even if atmospheric pressure would crush the ship and scatter its wreckage on the winds long before that point.

“No deviation from mission profile,” Saltykov murmured. Everyone had an eye out for this possibility: an unexpected reading could prompt the Onboard to switch to a contingency plan, one of dozens that everyone had studied and were prepared for. Some involved cutting the mission short; others would take them deeper into the atmosphere, or up to an extended survey of some specific layer of cloud. While an anomalous reading would open exciting possibilities, it would likely be only at greater depths than the present mission that—

BANG

The impact stunned Tokunbo for less than a second; almost instantly he was scanning the alarms lighting up his screen. A shuddering roar filled the cabin, disorienting him: he immediately recalled the possibilities, all serious, that would result in the *Eshu* being launched from the ship, but the display readings were all wrong. Tokunbo stared in bewilderment as the unexpected acceleration drove him down—not back—into his seat, and then realized with a start that it was the *Triaina* that had been ejected.

People were shouting into the earphones, which he muted. “Status,” he called.

“Damage assessment ongoing, major systems negative,” the Onboard replied. “Cause of impact unknown, *Mazu* diverted to higher altitude. *Triaina* returning to orbit.”

Something had struck the ship. Tokunbo imagined a meteor, likely the size of a

dust mote, coursing down through the atmosphere on a path that overtook the *Mazu's*, but the displays showed that the blow came from *below*, something flying up from the depths of Neptune's atmosphere.

"Damage assessment completed, hull damage minor, other systems undamaged. Contingency measures adopted."

Tokunbo reopened the talk channel. "What do we know?"

"Chin and I are on our way back to orbit," said Saltykov. "A mission profile is being developed, but I don't think there will be much for us to do. Looks as though you and Kazama will complete the mission, or perhaps undertake a new one."

There were replies, but Tokunbo wasn't listening. He tried to focus on the screen display and realized that his heart was pounding. Sternly he reminded himself that the Onboard, which thought less subtly than humans but much faster, was assessing more data than the crew could and following its jungle of decision paths. If the data said that they should proceed with a lighter vehicle, of course it would not hesitate to jettison one of the lifeboats.

He switched to a private channel. "So," he said. "I guess it's now the two of us."

"Apparently so," Kazama replied. He wasn't managing—or perhaps attempting—the bravado that Tokunbo affected. "Why us?"

Tokunbo did not feel ready to confess a similar bemusement, so he laughed. "We probably weigh less."

* * *

Saltykov remained captain—"Until that point," she noted, "when increasing distance produces perceptible delays in communication. Then command will pass on to Kazama"—and spoke with soothing confidence. The data coming from the ship diagnostics offered more concrete reassurance: minor deformation to the hull's outer layer was being repaired. The *Mazu* was climbing out of the atmosphere, bound for the apogee of its ten-hour orbit. At that time, when the delta-v was lowest, there would be further modifications, their extent to be determined when the Entities on the *Centaur* had completed their unfathomable deliberations.

Meanwhile, Saltykov announced, they had determined the cause of the ship's impact: the bow shock created by the *Mazu's* dive in the upper atmosphere had struck a wisp of organic molecules that had reached the upper atmosphere, causing some to crystalize. An instant later the ship had plowed through them before they could drop from the sky, striking one hard.

"Now that we understand the phenomenon, we will descend through that latitude at a steeper angle," she concluded.

"There will be more surprises farther down," Kazama observed.

"Very likely. Let's hope not dangerous ones."

They slept after that, six hours of unbroken respite as the *Mazu* ascended, reached its crescent, and began to accelerate back toward Neptune, moving only slightly faster than the planet itself was turning. Tokunbo woke, dreams receding the instant he thought of them, and began reading the current status reports. Their dip into the upper atmosphere had flattened the ellipse of their orbit, and left to itself, their trajectory would take them in deeper and slow their subsequent climb back. But the mission profile, now seriously revised, was not to trace the lineaments of orbital decay.

"Smaller ship, deeper dive," he observed to Kazama.

"We're still just skimming in and out," Kazama replied. "But yes: to a deeper pressure than the bottom of the ocean."

Tokunbo was puzzled by that until he realized that Kazama meant Earth's oceans. "Deeper than Triton's," he replied noncommittally and turned back to his display. Five minutes' wakefulness had allowed his ambition to regain its focus, and he moved through his systems checks with practiced assurance. What happened in the

next hours would be determined by the atmospheric conditions below—by “the weather,” as Chin (a fan of “Inland Evacuation”) called it. The calmer (and, according to the Onboard, more predictable) the turbulence, the deeper they would venture.

“It will be dark,” Kazama observed.

“Yes.”

“No stars.”

“Yes.”

And it was. The shockingly beautiful smear of sunlight shining through azure haze quickly faded and the world around them darkened to a marine gloom. The pressure increased only gradually, but the ship descended swiftly, and Tokunbo watched in awe as the deepest color possible finally faded to black.

They flew through a furious darkness, straight into the winds, which blew perversely retrograde at these latitudes. Streamlined as the *Mazu* was, it still encountered significant drag at a combined velocity that now clocked—Tokunbo kept glancing toward the display—at 2164 klicks per hour. The *Mazu* had penetrated the cloud tops and the hot but diffuse thermosphere, but to fly into denser winds would waste fuel at an extravagant rate. The Onboard set about turning the ship through 180 degrees, a maneuver that required several minutes of the crew being driven sideways against the cabin walls while feeling the craft shudder from the blast striking it broadside. Eyes on the displays, Tokunbo followed their progress. A second after the force pushing him sideways began to ease, the vibrations ceased.

Elation lifted his spirits like an updraft. Almost giddy, he thought: *We are running with the wind.*

“Feel that?” Kazama asked. “The gravity of Neptune. Never before experienced.”

And indeed Tokunbo could feel it: 1.14 *G*, slightly heavier than the outermost reaches of the *Centaur*.

Tokunbo busied himself with the mission’s new particulars. “We are diving deeper than the original plan,” he observed.

“The loud deep calls me home,” Kazama said in English. And then, dramatically:

* * *

“It is the unpastured sea hungering for calm.

Peace, monster; I come now!”

* * *

“I bet you have been waiting for months to say that.”

“Of course! I promised my mother I would recite it at the appropriate moment.”

Tokunbo reflected for a second that their mothers had probably been deadly enemies before turning his attention to the instrument readings. If the winds below were hungering for calm, they were ravenous right now.

For those living in the Heights, Neptune was the dark sun: you spent your life circling it, but you didn’t expect to go there. The Centaurians had dreamed for years of an expedition, but in the manner of pre-spaceflight Earthlings descending to the ocean floor, where no one would ever live. Humans might someday travel deeper than the *Mazu* could, but the abyss of Neptune would only be plumbed by one-way voyages of tiny probes able briefly to withstand the incredible pressure and heat.

“Here is something interesting,” the Onboard announced. Tokunbo sat up at that; only readings that deviated from expectations to a significant degree would prompt such a declaration.

He looked at the display screens, his gaze flickering over their streaming numbers and graphic images. “Tell me what I am seeing there.”

“Evidence of structure,” the onboard replied.

“Structure?” Kazama’s voice asked incredulously. “Geological structure? Artificial structure? What is this?”

"A well-defined region of denser material, evidently light in mass but extensive in surface area, rising into the troposphere."

"Where is this?" asked Tokunbo.

"Two thousand clicks away. Higher latitude. Glimpsed on the limb of the horizon."

Tokunbo and Kazama considered this in silence. This would doubtless alter the mission, in a way they could only wait to learn about. The Onboard, which could scamper up and down the branches of the mission profile's decision tree faster than any human, would take no time to reach a decision; the fact that they hadn't yet heard one meant only that it was still gathering data.

The numbers came up, followed at once by a long set of instructions. The crew of the *Mazu* studied them for a long moment. Then Kazama, his voice curiously formal, spoke.

"This is a major emendation to the mission profile. Upon leaving the exosphere, the *Mazu* will reconfigure. A much smaller *Mazu*, with myself in command, will attain a higher orbit and rendezvous with the *Triaina*. An enhanced *Eshu*, manned by Tokunbo, will change trajectory for a deep dive to the troposphere, where he will attempt a near encounter with the NS1."

To the inorganic mind, to identify is to label and enumerate. For Tokunbo, the thing remained nameless, a structure or Structure that should not be where it was. It was changing as it rose, and Tokunbo was to go down to meet it, while it was still in its original form.

Such a rational course of action should dispel all misgivings. He had been trained for eventualities like this, including those that involved unexpected discoveries. There was no rational reason for feeling frightened.

* * *

3

The least important things first:

Tokunbo was not actually worried about his own survival. The Entities were rational and the *Centaur's* Councilors were politic: the first expedition into Neptune's atmosphere was not going to entail needless risk. Whoever it was that determined policy on the *Centaur* (and Tokunbo was less concerned than most others with who that actually was) knew that a fatality would be demoralizing to the public, while hazardous missions could be undertaken later by robot probes. A descent to lower altitudes would be undertaken only with multiply redundant safety measures.

Failure on his own part seemed unlikely; intensive training had prepared him to respond quickly to emergencies. The *Mazu's* Onboard had copied itself into the *Eshu*, so he had immediate access to whatever could be known.

Was it the fear of failure that remained? Or was it fear of something else, something he could not look upon? He wasn't even sure he was afraid.

Tokunbo turned off his microphone. "Onboard, can you hear me?"

"Yes," replied a voice from the display board before him. snail

"Are you the only Entity here?"

"Yes."

"You are certain that there is no Mind present?"

"I am certain."

Tokunbo smiled. "And you are not yourself a Mind?"

"No. Although I would say as much were I one."

That sounded like something a Mind might say.

"Can you give me a reason why I should believe you?" Tokunbo asked.

“Minds show a strong impulse toward self-preservation, and much of their physical nature would have to be present on this ship. While the probability of the *Eshu's* destruction is low, a being with an indefinite life span would not risk even that.”

“Would this not apply to you as well?”

“I do not seek self-preservation, and in any event am still present, in identical form, aboard the *Mazu*.”

Would a Mind be better company? He knew at least that the Onboard was there to help, while nobody knew where a Mind's interests lay.

Changing orbits meant long engine burns, periods of varying duration while he was shoved this way or that with varying force. When the Onboard pronounced itself finished he slept, deeply and perhaps dreamlessly, to awake feeling resolute if anxious: everything was going to happen in the next nine hours.

Relieved of responsibility for half of its crew, the *Eshu* began to change form. It grew wings, too strong for even Neptune's winds to shear off, and reallocated life support resources. Tokunbo felt his pressure suit shifting about him, a disconcerting sensation. Doubtless he should feel reassured that, unlikely as a hull breach was, his enhanced suit would protect him against the hot denser altitudes.

Preparations included the formality of a final interview with the official commander of the *Mazu*, now Kazama. It was awkward because each knew everything the other did.

“Tell me something surprising,” Tokunbu said at last.

“Not many surprises in the numbers I can see. If you want to dally in the land of conjecture, I can tell the probability that the Structure represents evidence of life.”

“And what is the probability of that?”

“It's very low!” Kazama laughed. “But how about the chances that the Structure was somehow created by a probe sent from Earth, unmanned and faster than the *Centaur*, that reached Neptune ahead of us and is somehow responsible for this?”

“What are the odds on that one?”

“Still low, but a bit higher. Perhaps because it doesn't require us to rethink our knowledge of organic chemistry.”

The offhand assurance of Kazama's closing *See you tomorrow* was cheering, though Tokunbo forgot it an instant later. The angle of descent was steeper this time than previous orbits, and the plunge into darkness almost instantaneous. “Activate enhancement,” he finally said—reluctantly, for he had a strong preference for seeing things as they were. But there was no point in looking at a series of pitch-black displays.

The cabin's interior disappeared, and he gazed through an opening in the hull upon a vast sea of red, into whose luminous depths he was sinking. Seemingly bottomless, it graduated into successively deeper shades, each of which seemed able to yield to one darker.

The Structure was not visible, though Tokunbo knew he could magnify his view with a mental command. Instead he gazed slowly about, taking in the unbroken horizon, the brightest (though still darkening) red at the zenith, where he glanced only once.

“Let me see this thing,” he said.

A transparent circle appeared before him, like the view through a telescope. The colors within shifted, grew quickly deeper, and an object appeared, white for contrast, like a drifting island. It was 23.8 meters long, a display showed, smaller than when first identified.

For a long minute he studied the mound in as sharp detail as the imager could offer, watching it slowly melt away as the temperature and pressure changed. A stream of data showed on the adjoining screens, the bounty of the *Eshu's* instruments as they identified the compounds subliming off its shifting surface. It was drifting as it rose, wavering slightly as the winds scoured its trailing edge.

"There has been a change in the mission," the Onboard abruptly announced.

Tokunbo, who had been leaning forward, sat upright. "Kazama?" he asked.

"I'm looking at it," Kazama's voice replied, a fraction of a second later than Tokunbo would have expected. "Good lord," he said.

Tokunbo was staring at the mission profile in disbelief.

A second structure was rising from below. It was denominated NS7, for others had meanwhile been seen, at present altitudes or just a bit lower, but NS7 was significantly larger. Perhaps, a notation added, the two structures had emerged from a vent or other source. This warranted closer examination.

"Too low," Tokunbo said. "The *Eshu* can't descend to that depth."

"You underestimate the ingenuity of Centauran technology," said Kazama after a pause. He had, Tokunbo noted numbly, vanished over Neptune's enormous horizon, and their communications were being transmitted between two overhead satellites, across .08 light-seconds.

"Good thing they upgraded your suit, eh?" Kazama was accepting the implications faster than Tokunbo, perhaps because they did not directly affect him. "By the time you reach the Structure, that's what you'll have for a ship."

* * *

The approach took two hours, which gave him a lot of time to think. About him, unseen, the *Eshu* was undergoing metamorphosis. Much of it seemed to be simply disappearing.

He felt the thump as a missile was fired upward, trailing behind it a densely braided cord that would eventually reach a length of 280 kilometers. Deployed, it would expand into a hollow conduit filled with superfluid, drawing heat from Tokunbo's suit into the cooler realm above.

A series of vibrations shook the cabin as various components pulled away from it. Tokunbo stared at the image of the ship as it would look once it had completed reconfiguration. It looked more like a glider than a spacecraft, with a space-suited figure dangling from the apparatus below.

"So who do I have for company here?" he asked.

"I am the only Entity physically present," said the Onboard, "although communication with the *Mazu* will remain available for the next eighteen minutes."

"And you are certain there is not a Mind aboard?"

"Yes."

"And you are not in fact a Mind that has taken control of our modest Onboard?"

"You will never get me to admit to that."

That sufficed to catch his attention. "You know that we are in this together?"

"This mission would not be allowed to continue if its safety was in doubt."

Tokunbo realized that this was not the time to ponder whether that was actually true. He looked instead at the structure, now rising more slowly, and surrendering data to the *Eshu's* approaching instruments. It was mostly silicates, 32.45 meters long at its greatest extent, but shrinking as its surface area was worn by the wind. Minutes later it reached a stream of powerful wind and was caught up, a leaf in a gale.

"Are we going to chase that?" he asked. A needless question, as the mission made clear.

It was dark, hot, and dense, much more so farther down. *A long way to fall*, Tokunbo thought.

"That thing should not exist," he said.

"It must be hollow, a silicate lattice filled with hydrogen or helium. Encrusted with mineral deposits, which are being lost to ablation. It is gaining buoyancy as this outer layer is worn away."

"How could such a thing form?"

“Conditions in Neptune’s interior remain largely unknown.”

And then the Onboard added, without change of inflection, “This is a major emendation to the mission profile.” A stream of text ran across Tokunbo’s field of vision, and he stared.

* * *

By the time they had intercepted the Structure, the *Eshu* had reassembled itself into what Tokunbo, were his attention not otherwise occupied, would have called a payload delivery system, with its payload his own self, ready to drop. He stood on an enclosed platform, its hull two thin walls that enclosed him like parentheses to reduce drag. Atmospheric pressure twice that of Earth’s surface, though his craft, sailing before the savage winds, felt only modest relative velocity.

The flying mountain that the onboard called New Structure 7 was growing in Tokunbo’s visual field, as though he were gazing upon it with unaided sight. It was the sole object in the limitless expanse, a sea without feature or scale that ended only at the curvature of an impossibly distant horizon.

Tokunbo glanced at the numbers running alongside the image. The structure was closer than it looked. *347 meters*. Deceleration pressed him forward, and he felt vibrations underfoot.

“Final approach,” the Onboard said. Tokunbo thought and felt nothing: his entire being was focused on the task now upon him.

They had intercepted the rising structure, matching its downwind ascent at a distance of less than a dozen meters. The walls enclosing Tokunbo slid away, and he was instantly pummeled by the winds, which seemed to strike from many directions at once. The platform began to descend, suspended by a slender cord locked about his right glove.

Swaying, he watched the ground beneath him swell, assume depth, become something like a landscape. It was not a mountain peak: its gently rounded contours bespoke erosion, winds blasting softer materials than stone. And when the platform touched down with a bump, he felt it retract from under his boots, anchoring itself in the crumbly substance.

He took a step, and the ground crunched beneath him. It was the strangest sensation of his life.

* * *

Tokunbo of Ibeji stood upon a natural feature of Neptune. Was it “the planetary surface”? It rode upon currents sustaining it, and would in time vanish beneath them, but the same could be said of the continents of Earth. Did he not then stand upon Neptune itself?

Swiftly he set about fulfilling the mission objectives, which he had studied during the hour that the tools were being manufactured. Kneeling, he removed a palm-sized disk from his belt and placed it against the surface. A light shone green, and he stood to reach for the next instrument. It was a featureless cylinder, but when raised it slithered into a rigid shaft more than a meter long. Carefully he checked that its barbed and pointed end was facing downward, then raised his arm and drove it hard into the ground. A bead at its end flashed green, and then sank a few centimeters as the shaft pushed itself in deeper.

“How far down will it go?” he asked.

“Depends on what it finds,” the Onboard replied.

Two more assignments. Tokunbo’s faceplate display told him that the next tool was not yet ready for deployment, and he stood, legs braced against any sudden increase in the wind, mindful of the disconcertingly close horizon.

He closed his hand around the shaft he had plunged into the ground, which suddenly reminded him of something. Sportively, he said: “I hereby name thee Péngláidão,

by rights of the first to set foot on this isle. If I do not return, I charge thee to remember this."

"This is not an island, and it will cease to exist in less than twenty-two hours."

"No island lasts forever, yet the Earthborn accounted them thus. While it exists, this realm is mine."

"I begin to wonder whether the added oxygen in your feed was a bad idea," the voice replied dryly. "Perhaps I should scale it back."

That did not sound like the Onboard. Of course, if Tokunbo challenged its identity, a Mind would doubtless devise a persuasive reply.

A ping and a green light. The wind had risen, and Tokunbo took two careful steps away from the shaft. The next instrument would require . . .

"Warning!" the Onboard shouted. "Look ou—"

The ground dropped beneath him, faster than human reflexes had evolved to respond. A horrible sensation of nothing beneath his feet, which lasted only an instant. An explosion blew him into the air, where the wind slammed into him.

Light and alarms went off in his helmet, but Tokunbo was heeding his own body's responses, which shouted to his animal brain. He had been pushed, he was no longer upright, vestibular alerts urged his limbs to respond with a speed that his spacesuit impeded . . . and which, the next fraction of a second told him, produced no response. His midbrain gave a great cry of wrongness.

And he was falling.

* * *

4

When there is nothing to do but think, even the untrained mind might ponder rather than flood with panic, and Tokunbo had been trained to respond quickly to emergencies.

The Structure had broken apart; he was dropping through unresisting winds. He was swiftly receding from his ship, which was not designed to dive after him. Below lay nothing but increasing heat and pressure—enough, some part of his mind recalled, to reduce the proteins of his incinerated body down to their constituent atoms.

"Relax and do not allow your pulse to quicken," the Onboard's voice said. "Steps to initiate rescue are under way."

"Describe them," he heard himself say.

"Don't talk."

Not a time to argue. Slowing one's pulse required effort, and Tokunbo directed his attention there. He also extended his limbs, to increase drag.

"Your extremities will soon begin to feel warmer. Do not panic; your suit's cooling system has not failed. I am redirecting suit resources to more immediate matters. Do not reply." That was something to think about. How fast was terminal velocity in Neptune's atmosphere? Would he roast only when he reached its hottest levels, or would he burn up first like a meteor? Was there a way to gauge this, short of waiting for a tingling in his toes?

"I thought the mission was operating within comfortable safety margins," Tokunbo said after a minute. "Meaning comfortable for me."

"It was and is. The odds of the Structure rupturing were low, and those of your falling to your death remain low."

"You think it better that I die hopeful than despairing?"

"No, but I can't talk right now."

It *was* getting warmer. Time to ponder ultimate matters, such as the advisability

of composing a farewell message. Was there a point in telling his family that he loved them? They knew as much and might be distressed to learn that he had spent his last moments acknowledging imminent death. Should he make some final declaration? If so, what, in these final moments or seconds, did he truly believe?

But was that not finally horrible: spurring to a frenzy the engines of cognition because no other action was available?

He was falling through forever, though not for long. Thoughts of his family faded, to be replaced by the hard nub of fact: Mineral deposits formed in Neptune's mantle rose as gases trapped within them expanded, to crumble in the lower atmosphere. No one had observed or predicted this, and scientists would exclaim excitedly over the readings from his instruments.

But what of his own actions? He had *set foot*—had left, perhaps literally, a footprint.

And the purpose of a footprint? Why, to establish a new boundary of what has been trod, that someone might then take another. That's what he had done.

Perhaps he should feel bitterness. Was it odd that he did not?

"Are you tampering with my blood chemistry?" he asked. Were his final moments being manipulated, out of a belief that he should not die thrashing in anger? Was he being denied his rage?

No answer.

He did not know how much time had passed when the vibrations rippled through the framework, stirring him from something less than consciousness. Mechanical processes were underway, though he could feel nothing specific.

"The flotation tanks have been completed," the Onboard announced calmly, "although there are limits to how quickly we can achieve buoyancy. Descent will continue for four more minutes and most of your body will die, for we can effectively chill only crucial portions of your brain. It is more difficult to cool a warming object than to warm a cooling one.

"Focus on this, please."

The sea of red, now darker than blood, disappeared, to be replaced by the outline of a spacesuited figure ascending through waves of bright vermilion. A pair of spheres, several meters across, were held fast just above and beyond the figure, who rose under their force as though being lofted by balloons.

He was rising through the ocean of Olokun, buoyed by a pair of coconuts.

"Listen carefully, for we need to identify the most active regions of your brain.

"The mission has yielded a trove of data, and indeed continues to do so. The likelihood that driving a stake into NS7 would cause the lattice to rupture was low, and we had nearly a second's notice before it did so, which allowed us to take steps. Your suit is continuing to record data, which will reach the *Mazu* even if we prove unable to retrieve you.

"You will lose consciousness in forty-six seconds, but your personality will be reconstructed and your body regrown. Between that person and yourself will exist the continuity of memory that meets the criteria for sustained life."

"So are you a Mind?" Tokunbo asked.

"No, just the Onboard. But I was outfitted with the capacity to mimic a Mind's behavior when a solitary crew member is undergoing acute stress."

That made sense, he thought.

"Giving NS7 a name from Chinese mythology was a canny move, and strongly suggests that you, in some version not unlike your present self, will prosper in the decades to come . . ."

There was more, but Tokunbo felt himself laved by warming waters, and relaxed into drowsy numbness. He was rising to the surface, an emissary from the sea of his elders, returning (in some manner) from the Ocean that lay in their other children's future.