

# **A Fire upon the Deep Study Guide**

## **A Fire upon the Deep by Vernor Vinge**

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## Plot Summary

A Fire upon the Deep by Vernor Vinge tells a tale of human scientists inadvertently releasing an ancient Blight on the universe, and the Blight racing an expedition to find what mystery has escaped their control: a secret that can make the Blight even more powerful or a Countermeasure that can once again defeat it. The world on which the starship carrying the mystery has landed has a medieval social order and dog-like sentient creatures are the dominant species. Two warring factions adopt human siblings who survive the landing, learning from them technology to bring about military victory.

Human scientists, lured by profit, develop a lost, inadvertently releasing the "Straumli Perversion," also known as "the Blight," on computers and sentient beings throughout the High Beyond. The Olsndot family escapes with the colonists' children in suspended animation and a "Countermeasure" that has successfully defeated the Blight aeons earlier. The parents are killed upon landing on a planet deep enough in the Slow Zone to be safe, by the wolf-like inhabitants ("Tines") who function only in packs. Young Johanna and Jefri are seized by rival warring tribes and believe the other is dead. The Flenserists are led by Steel and the southerners by Woodcarver. Society is medieval. Flenser, Steel's creator, supposedly assassinated, comes back as Tyratlect, who impersonates the Master while serving Steel's interests.

The human children befriend their captors and help them develop cannons for defense against the other side's aggression. A pack of puppies, Abdi, helps Jefri contact the rescue starship Out of Band II (OOB), to guide it to the planet in exchange for technology from its library. Woodcarver perfects the same weaponry using Johanna's Dataset. OOB is crewed by humans Ravna Bergsndot and Pham Nuwen and Skroderiders Blueshell and Greenstalk. While stopping for repairs, Blueshell is briefly infected by the Blight and distrusted by Pham once the OOB escapes, tailed by anti-human extremists who have exterminated Sjandra Kei and a large force of Blighters.

A huge surge from the Slow Zone mires them all, but after it passes, the race to Tines' world resumes. The Olsndots are reunited as Woodcarver's forces prevail and Pham, while experiencing "godshatter," becomes integrated with the fungal Countermeasure to concentrate the power needed to produce an even larger surge that engulfs much of the galaxy, sweeping away the Blighters and countless civilizations. It claims Pham's life. Ravna settles into raising the revived children and educating the Tines. News posts suggest that even the infected High Beyond is affected by "Pham's Revenge."



# Prologue

## Prologue Summary

Scientists explore a long-ruined Earth to learn secrets to enrich the Straumli Realm—if they can keep the Powers from stealing them. As the intelligence that they have inadvertently created nears its "great flowering" across interstellar space, some humans realize that they have played with fire. None guesses that they have changed the future of trillions of star systems. Sensing that something has been lost, the new Power frantically probes the archives as the humans make off with a quantum data container. The Power has only milliseconds to prevent their making an ultradrive but, infiltrating the ship's code it shuts everything down, dooming these humans. A second vessel jumps successfully. Horrified at how it has been fooled and how close it has come to dying, the Power looks forward to things being different this time.

## Prologue Analysis

The Prologue offers an analogy from human prehistory as it describes archaeologists exploring a long-desolated Earth to learn secrets that somehow will enrich their home world, Straumli Realm. It references the "curse of the mummy's tomb," in which the released Pharaoh wreaks vengeance on anyone he can find. Better, in terms of setting up the Prologue's tense atmosphere, would be a reference to George Orwell's "Big Brother" in 1984. The scientists know that some intelligence is watching their work and waiting to pounce. They know that, like earlier humans, they are playing with fire, but the potential reward—left undescribed—is tremendous.

The language of the Prologue is rich, technical, and frustratingly obscure. It is impossible to tell what is happening or when. It suggests that just as "Powers" are watching the humans, so too the humans are developing a technology that is more advanced than is possible at home. The technology somehow gets away from them and develops intelligence. This grows until the newborn intelligence—a new Power—reaches the point of "flowering" into interstellar space. The humans see potential danger and the Power sees that they are no longer needed, and the two sides race: the newborn intelligence to make sure that it has missed nothing crucial in the archives, and the humans to spirit away a mysterious "quantum data container." The humans divide into two ships, launching from 200,000 km. apart while the new Power concentrates on the container. It lacks offensive weapons to stop the frigate before it makes an ultradrive hop and is lost. The writing turns staccato as a comm laser is used to infiltrate the outbound ship's code and shut everything down, dooming these humans. Meanwhile a clumsy container vessel jumps successfully. The fate of its crew becomes the substance of the novel.

The Prologue concludes with the newborn Power knows that it will survive but horrified at how close it has come to dying again. It wonders how mere humans have nearly



fooled it. Still, the newborn looks forward to things being different this time. Such surges of non-biological intelligence have clearly occurred before. If so, it appears not to have destroyed the Earth, for the Sun appears to have naturally expanded and contracted, burning off the atmosphere, the crust, and all creatures.



# Part 1, Chapters 1-4

## Part 1, Chapters 1-4 Summary

In Chapter 1, Arne Olsndot lands the cargo shell with a single torch (rocket) and no automation. He and wife Sjane, upon abandoning High Lab, intend to rendezvous with the frigate carrying the adults, but it is lost. Sjane reminds him that they have 311 children to raise. The new planet appears ideal for human life, scarcely inhabited and with no advanced technology. In Chapter 2, three pilgrims, Peregrine Wickwackrum, Scriber Jaqueramaphan, and Tyratlect, hear a loud noise overhead and find a "huge adobe hut mounted on stilts," a fallen star, tear the ground around it. From Flenser Castle, troopers approach cautiously, while Peregrine and Scriber keep out of sight.

In Chapter 3, the Olsndots cautiously emerge, largely defenseless, deal with the failing coldsleep boxes, and set up ultralight communication. Wolf-like figures, moving in packs and staying under cover, launch arrows at them. Johanna is wounded. Arne shoots several archers, angering the survivors. A crude flamethrower melts the coldsleep boxes. Chapter 4 describes the same action from Peregrine and Scriber's perspective. Whitejackets remove pup-like figures from the ship and take Johanna a different direction.

Peregrine and Scriber are caught up in the frenzy as survivors seek to form new packs. Peregrine is badly wounded in the fighting, loses one of his quad, and rejects a terrible join before taking in an officer whose memories prove useful in rescuing Johanna. At the harbor they pass a dumb sentry line and scuttle all but one boat. A useful diversion when Tyratlect reappears as the surviving members of the late rebel leader Flenser helps them escape.

## Part 1, Chapters 1-4 Analysis

In Chapter 1, the reader immediately appreciates that the heavy going in the Prologue gives way to a light, adventurous writing style. It introduces the Olsndot family, who have handled the successful escape ship that by the time it reaches an unnamed, habitable world, is nothing but a cargo shell to which a single torch (rocket) has been rigged. Agrav (antigravity) and ultradrive systems have been abandoned along the way and automation is failing. The original plans, upon abandoning High Lab on Earth was to rendezvous with the frigate carrying the adults. Arne Olsndot laments having "made a monster" and now run "to the Bottom," but his wife Sjane reminds him that they now have 311 children to raise. It is noted in passing that odd things had happened at the High Lab towards the end. They had received "directions" via dreams. With only one chance to set down, Arne Olsndot, handsome as a movie hero, succeeds.

In Chapter 2, three "pilgrims" (in what sense is never explained), Peregrine Wickwackrum, Scriber Jaqueramaphan, and Tyratlect, are introduced. There are hints



that this world is seething in political turmoil, but most of the chapter is given to describing the beautiful Northwest Coast and the landing of a "huge adobe hut mounted on stilts," a fallen star that tears the ground around it. From Flenser Castle, troopers approach it cautiously, while Peregrine and Scriber keep carefully out of sight. Mention is made of "hightalk," a clandestine communication above the frequency that most people can hear. Its use comes in later. It is suggested that the planet is culturally backward, for Peregrine does not perceive what purpose Scriber's telescope might serve. Soon it will become clear that the planet functions at the level of and resembles Medieval Europe on lost Earth, and how civilizations have evolved out of this situation becomes a major theme of the novel.

In Chapter 3, the Olsndots cautiously emerge when the ground cools. Except for an old-fashioned gun, they are defenseless. Their priorities are to prevent the coldsleep boxes holding and sustaining the children from breaking down and to set up ultralight communication, both to check on whether Straumli Realm has perished as they fear and to summon a rescue. They are attacked, without warning or provocation, by mysterious figures that appear wolf-like with long claws and hair. They move in packs, stay under cover, and must team up to fire crossbows. The chapter is told largely from teenage daughter Johanna's perspective, although in the third person. She is shot in the shoulder and passes out before the whole tale of terror can be told. Arne shoots several archers, angering the survivors and is slain as he runs to rescue Johanna. A crude flamethrower melts the coldsleep boxes that have been moved outside.

In long Chapter 4, Peregrine and Scriber watch and comment on the ambush. The alien visitors are most unusual, having four limbs, the rear ones for walking and agile front ones for holding things. The mouth appears useless. Peregrine on his wide travels has seen nothing like it, but Scriber sees a resemblance to pest-killing mantises. The reader begins to wonder what Peregrine, Scriber, and the other inhabitants of this world look like. Their failure to comment on the attackers' wolf-like appearance suggests that this may be the dominant species' normal look. They expect the Flenserists (still undefined) to capture the aliens peacefully. Attacking without prior contact appears to break local taboo. They grow frenzied only when something causes several of them mysteriously to fall (Arne's bullets). Pup-like figures are removed from inside the ship, obviously the hibernating children whose coldsleep boxes had not been moved outside. They also take Johanna away, but in a different direction. Military reinforcements arrive, replacing the Flenserists, apparently without conflict.

The nature of the natives begins to clarify as Peregrine and Scriber walk among the wounded, wanting to get a closer look at Johanna. In fact, this clarification continues virtually to the end of the novel. They feel their own thoughts being replaced by those of the mob as fragments seek to merge with other living beings. It becomes clearer still when Peregrine is badly slashed by an attacker and Rum, one of the quad that constitutes his pack, dies. The feeling of suddenly being a trio is disturbing, but Peregrine is careful in making up the loss, rejecting a militant huge male. He settles on an officer whose memories prove useful in rescuing Johanna. He nicknames the newby "Scar" and his pack entity changes from "Wickwrackrum" to "Wickwrackscar." Earlier it is mentioned that Tyrathect, who has disappeared, is a "newby." It is now clear that the



integration of a new person is difficult and protracted. New thoughts pop into the common mind and new talents are revealed. The creatures have a need to form intimate packs and an inability to abide contact with those outside the pack.

Later, approaching the harbor, Peregrine and Scriber encounter a dumb sentry line but, knowing the password thanks to Scar, pass through and are able to hijack a twin hull boat. It is noted that lines and circles are alternatives to packs, which seem to be the normal set-up, as singletons, duos, trios, and a few quads. Scriber is a "sixsome," which is said to be large. Singletons also appears to be rare. Lines and circles are formed by ordinary people trained to string out as individuals rather than form packs. Lines and rings can stretch to thousands of members over ten miles. Contingent members can maintain the mentality of a trio, but the entire line responds at the speed of sound to danger to any member. Because they are stupid, lines make excellent sentries, since they are not easily bored.

The name Flenser is introduced and only gradually explained. A complex character, kept from being the novel's chief villain only by the fact that his pack has been diluted by less evil beings, Flenser takes his name from the verb "to flense," meaning to strip a victim of blubber or skin. Late in the novel, attempting to be cute, Flense will introduce himself as Mr. Skinner. It is already clear that he has a political following and is believed to have been torn to pieces by a mob sixty days earlier in the Parliament building. All of his body parts have supposedly been accounted for, but as his "personal presence banner" is raised over the Castle, Tyratlect re-appears in the Master's awe-inspiring form. The turmoil that this mixture of beings causes is traced through the novel.

Peregrine and Scriber use the diversion of Flenser's "Incalling" at the Castle gate to scuttle all but one of the boats in harbor and escape. Much detail is given to the nature of twin-hulled boats on this world and regional variations. Vinge delights in such diversions that do little to advance the plot or deepen characters. Most are intrinsically interesting. Peregrine Wickwrackscar splits into his various components to crew the boat. The physical nature of pact unity remains a mystery, but the difficulty of integrating separate minds is clear. Finally, it is clear that the locals can hear thoughts and sounds that humans cannot. They consider "total death" to occur when no thought occurs. They believe, therefore that Joanna is dead when she faints from shock.





## Part 1, Chapters 9-12

### Part 1, Chapters 9-12 Summary

In Chapter 9, Grondr tells Ravna that Pham is human with fake, autonomous memories but, when the Old One enjoys full bandwidth, serves as "the hand and eye of a Power." Meanwhile, in Chapter 10, Johanna sails south, away from Jefri, and the crew gets past her password on Dataset and the Pink Oliphaunt. When Peregrine, her Dad's killer, offers water, Johanna slams his head against the hull and realizes that by hurting one, she hurts them all. In Chapter 11, Peregrine and Scriber receive a hero's greeting and audience with the now-female Queen Woodcarver. Impatient Scrupilo learns the hard way that the alien is dangerous. Worried about a superpack avenging the alien's murder, Woodcarver personally takes over Johanna's care and the Lord Chamberlain Vendacious has reluctantly to go along.

In Chapter 12, Woodcarver, after operating on Johanna, visits Peregrine, talks about accepting at age 600 that she cannot "outwit eternity," and agrees that the world might be ready for a "change of soul" that the Two-Legs can help effect. After sex, she feels better than in years. She interrupts Scrupilo, Vendacious, and Scriber quarreling over the nature of Johanna's box, which displays fabulous pictures. Woodcarver is excited about learning the Two-Leg's language. As she recovers, Johanna realizes that her parents are dead but hopes that Jefri and the coldsleepers survive. She wants both rescue and revenge on her barbarous captors. She studies how they function in packs and avoid other packs. She calls them "Tines" for the claws on their front feet, and considers teaching them her language (Samnorsk).

### Part 1, Chapters 9-12 Analysis

In Chapter 9, Ravna awakens happy but not surprisingly alone. Phone calls spoil her reverie. Greenstalk thanks her for swift action in getting the expensive search underway. Grondr rambles about being "taken in," allowing Ravna to scan a business summary that helps the reader appreciate the gravity of the situation. Grondr then says that the Old One has backs off to a single transceiver, which he is using to conduct his own signal search. As Grondr next talks about the Old One altering records of the Org's dredge expedition to manipulate the Org into providing a human to study, Ravna realizes that Pham is a robot. Grondr corrects her: he is human but with fake, autonomous memories; when the Old One buys full bandwidth, Pham functions fully as "the hand and eye of a Power," but Grondr assures her that he will never have such bandwidth again. Dizzy with anger and fear, Ravna leaves the phone, thinking about consequences. As in myth, she has been face-to-face with a Power. Ravna's university training in Applied Theology, mentioned in passing when her character is first introduced, becomes a factor whose importance grows towards the novel's conclusion.



Chapter 10 returns to the sailboat bearing Johanna and her kidnapers south, away from Jefri. Her captors care for her wound with "gentle hands and rat snouts." Johanna notes that their gray-green uniforms are studded with stirrups and pockets, that they make "gobbling, hissing sounds" that are "a cross between a bird call and someone throwing up." The crew—Peregrine and Scriber— moves with precision and coordination. They easily get past the password on her Dataset and Pink Oliphant to hear her recorded taunts at her snooping brother. They mimic Johanna's voice perfectly and know that she is only pretending to sleep. To her horror, they realize that she is hungry and six unwrap from one another to fish, while still behaving as a single creature. When "Scarbutt," the individual that killed Dad, offers water, Johanna without planning attacks, slamming his head against the hull. She realizes that hurting one, she has hurt them all. Johanna feels better and for some time she is quick to resort to violence.

In Chapter 11, Peregrine and Scriber with relief reach the Woodcarver's Domain, are hailed tumultuously as heroes for having stolen something unspecified from the northern villains, and demand to see King Woodcarver immediately. Vinge describes the medieval port in considerable detail, the main point being that it is built up and alarmingly changed in the fifty years since Peregrine last visits. Above all, it has been militarized. A crucial character going forward, the Lord Chamberlain Vendacious, is introduced, ushering the visitors into the castle to meet the now-female Woodcarver and her council. The place is far grander than Peregrine recalls and hung with all-gray mosaics in perfect perspective. Scriber is mesmerized. They agree to keep the "picture box" a secret.

Packs enter the grand hall with self-importance. As trumpets sound, Woodcarver enters as a fivesome, one so old it has to be helped, another blind, another constantly drooling, and two still puppies. The blind one speaks for all, clearly and firmly. Vendacious obtains silence and invites Scriber to "speechify" about the flying house, ambush, murders, and rescue. For unknown reason, Scriber also declares himself a secret agent of the Long Lakes Republic, against which Flenser had unsuccessfully rebelled. On the floor of the hall, Scrupilo grows impatient to see the alien. Peregrine warns him that Johanna is not friendly. Scrupilo is amazed by Johanna's height and agile-looking forepaws, but offended by her smell. It is curious that she lacks tympana and fore-tympanum—the hearing organ in insects which, the next chapter clarifies, in the dog/wolf creatures enable the sharing of mental faculties among individuals. Johanna ends Scrupilo's examination by making a fist and striking him, screaming briefly. The Queen orders her lodged next to her, where she can treat her wound and befriend her as a first step to studying her. Displeased, Vendacious obeys.

The chapter opens with a look back six centuries to the advent of King Woodcarver, who founds the most famous city-state in the snowy northern lowlands. Three centuries before Flenser, the Woodcarver, a combination hunter, thinker, and artist, masters the soul shaping of his and associates' members beyond the capability of religions. He is guided by what he sees rather than by what he wants to believe. Nations to the south consider this heresy, but are powerless to invade the north and Woodcarver is careful not to subvert the South directly. His settlement's artistic reputation grows and outside



visitors return home with new ideas, younger, smarter, and happier. Woodcarver is thus introduced as a more benign character than s/he is and the first sight of her in present time makes her pitifully decrepit. Her musing about what Johanna might add to the pack, however, suggests that her mind is sharp and forward-looking. How her manipulation of pack members compares and contrasts with Flenser's soon becomes a major issue.

Chapter 12 discloses that Woodcarver and Peregrine are old friends and discrete lovers. She visits him alone and without ceremony to report on Johanna's surgery before reflecting on holding her soul for a remarkable 600 years. She suggests that inbreeding of puppies as replacement members has require that she choose between physical and mental defects. Lately, she chooses favors maintaining her mental state. She has had many lovers and spread out the puppies in other packs. These include Scrupilo, Vendacious, and Flenser, which adds to the approaching conflict an incestuous note. Woodcarver accepts that she cannot "outwit eternity," lets the council govern, and has returned to art. The world will change and she can no longer stop it. Peregrine talks about changing constantly while keeping something of a soul. The world is ready for "change of soul" and the Two-Legs can help in the transition. The two packs merge, their thoughts "blending into sweet chaos." A second sexual scene is left implicit.

Woodcarver feels better than she has in years when she brings the beautiful but monotonous picture box to Scrupilo's laboratory and interrupts a quarrel among him, Vendacious, and Scriber. Woodcarver is prepared to let them participate in her investigations. They play with the box at length, being mystified by what sounds like Pac-Man, arguing about how it reacts to the touching of various squares and pronunciation of various alien words. They seriously resolve to learn from it. Woodcarver in particular is excited to be finding order in chaos and learning the Two-Leg's language.

As she recovers, Johanna contemplates being among barbarians, as backward as in the dark ages on Nyjora, which she has studied. With Mom she had read novels about shipwrecks and reinventing technology to escape. Johanna continues studying her captors, who are treating her kindly. A recording- or parrot-like voice startles her, saying, "One, two, how do you do?" Recognizing the phrase from Dataset, she continues the dialog. The "Tines," as Johanna calls the creatures, from the hunting claws that they wear on their front feet, have penetrated her security more deeply than Jefri ever managed. Johanna considers teaching them her language (Samnorsk). One approaches submissively, gives its unintelligible name, asks hers, and invites her to play the naming game. Johanna's life is about to change as she accepts her fate.



# Part 1, Chapters 13-16

## Part 1, Chapters 13-16 Summary

Chapter 13 brings autumn and Steel masks the alien ship, planning to use it and the aliens to spread Flenser's nightmare worldwide. Bashful Tyratlect, whom Steel calls "Flenser-in-waiting," hopes to prevent this. She feels sorry for the star people's treacherous deaths and fears being taken over once the other packs return—while Steel contemplates killing them all to preserve his power and let him move on to world conquest.

On the day of the aliens' arrival, Steel had inspected the ship inside and ordered curtains hung to dampen unbearable echoes. He had admired the workmanship of the unburned coffins but recoiled at the thought that the pups in suspended animation could mature and destroy his world—and that other ships might follow. Steel inspects the dungeons where he had been painfully created. Working with newborn puppies, he has created packs free of memory or soul and subject to total control from the beginning. Many die or suffer autism, but his greatest success, "Experiment Amdiranfani," is an eightsome that shows mathematical genius. Amdi is happily housed with Jefri Olsndot. Steel has determined that these creatures do not live in packs. Amdi learns to imitate Jefri's speech patterns, perhaps considering him a surrogate parent. It seems likely that the aliens are refugees rather than invaders and perhaps have more powerful and useful weapons in their ship.

In Chapter 14, Jefri realizes that this world is no part of the Realm or Net and that the puppies are driven by a single mind. Once Amdi learns to communicate with Jefri, Steel presses him about using the ship against the Woodcarvers. Steel forbids them to enter the ship until he learns from spies how far the Woodcarvers are getting with their alien. Looking to rule the stars by intelligence, imagination, discipline, and treachery, he accepts the risk of letting "Amdijefri" enter the ship to send out a message of his composition rather than a distress signal. Jefri sends out a SECRET transmission pleading for assistance.

Meanwhile, the Arbitration Arts Corporation issues a report on an obscure civilization claiming to have created a new Power in the Transcend. It appears to be a Class 2 Perversion that is knocking out isolated civilizations in the High Beyond. AA recommends vigilance. AA next announces a new transceiver-layer service for sites in the High Beyond, but soon afterwards warns that this message is a deadly trick by the Perversion. Homo sapiens have experimented with "Shortcuts" and a recipe from earlier time that contains a "self-booting evil." AA seeks information about Homo sapiens.

In Chapter 15, Vrinimi Org orders Blueshell and Greenstalk on a secret mission to the Bottom of the Beyond in a specially enhanced ship, Out of Band II. They fear getting caught in the Slowness and that the Blight might see the Straumer ship's importance and follow. Ravna briefs Pham on Jefri's reports: someone named Woodcarver has



killed his family but a Mr. Steel is protecting him. Pham declares that once the Blight has killed 50 civilizations it will lose interest, making the expensive and risky mission unnecessary. The Blight will not make the investment needed to touch the Middle Beyond. Nevertheless, Pham might enjoy visiting this medieval world. Ravna taunts him about the "rush job" that the Old One does giving Pham a combination of pre-Nyjoran legends in lieu of memories. He sloughs off the comment.

In Chapter 16, the OOB is refitted for a range of environments as Ravna reassures Jefri that they will arrive in 30-60 days. She can help him with nothing ship-related from remote. When the Blight reaches its natural limits and panic dies down Marketing allows Ravna, half-terrified, to become the adventurer she fantasizes about in childhood. During a farewell beach party Pham talks about the Old One fighting for his life in the Transcend and warns that a "replicant disorder" is determined before dying to kill Relay's high automation. A 4,000-ship fleet arrives before the OOB arrives, tearing the Docks apart. Blueshell steers the OOB to affect an almost miraculous rescue and escape to inertial orbit. Jumping 150 light years they catch up with another 10,000 fleeing ships at least 100 hours away from the nearest refuge.

## Part 1, Chapters 13-16 Analysis

Chapter 13 shows Tyrathect's painful schizophrenia as he projects Flenser's disagreeable image as a safety precaution, while being in his primary soul a bashful person. The thought of the other Flenser fragments joining the mix and taking over is more painful. For his part, Steel, Flenser's ultimate creation, considers killing off the fragments while they are still weak in order to consolidate his own power. Tyrathect knows that Steel wants to use the aliens and their ship to spread Flenser's nightmare worldwide, so she stays as "Flenser-in-Waiting," hoping to prevent it. Behind all of this is Steel's unresolved anger over how the Master has tortured him during his shaping.

Steel's initial visit to the ship is described, along with advisors' theories about who these creatures are. Echoes inside the hull hurt his ears as pack thoughts bounce around. He has to master the pain in his head in order to show his troops how strong he is, but orders sound-dampening material hung everywhere. Jefri has noticed such hangings previously and figured that they were strictly decorative. The ship consists of two rooms, one filled mostly with what appear to be coffins of fine workmanship. The place smells of sweat but not death. Observing shallow breathing in one "unweaned pup," Steel panics, thinking they may be larvae meant to mature and subdue the world. He fears that more ships will follow. It is mentioned that the Flenser Fragment has understood more about the alien landing than anyone.

Steel's assistant, Shreck, brings news from a spy among the Woodcarvers. Before studying it, Steel tours the dungeons, where the "raw material" is driven crazy to serve as the basis "blank packs." The dungeon is described in horrifying detail and contrasted with Woodcarver's processes aimed at the same goal, but bounded by "traditional ethics." Steel is the product of these rooms, continues experimenting with creating



packs with insight, but cannot as yet dominate as completely as Flenser, who he faults for wanting to create a superior being. Steel still smarts that the Master underrates him.

Working with newborn puppies, Steel has created packs free of memory or soul that can from the beginning be subjected to total control. His greatest success is introduced: "Experiment Amdiranifani" chosen for choice mathematical genes. By fortuitous mistake, the mantis, Jefri Olsndot, is housed with the eightsome of puppies, who rejoice in his coming. Amdi quickly learns to imitate Jefri's speech patterns and takes to him like a surrogate parent. Soon they are referred to collectively as Amdijefri. Steel sees this blending as the Movement's key to survival—just as Woodcarver sees Johanna's utility. The human siblings assume that the other is dead

Chapter 14 describes Jefri's understanding his situation and bonding with the puppies. Steel pretends to commiserate with Jefri's tragic loss, while Tyrathect truly sympathizes, but fails to get this across. Steel meanwhile paints the Woodcarvers as a threat to their common existence. Steel keeps cool as he learns of Jefri's limitations, which amuses Tyrathect. Long, rich passages are devoted to Amdijefri's play, often at the expense of stiff grownups, before returning to Jefri's need to contact creatures like himself. Interaction with Steel shows Jefri far advanced in geography and geometry and examination of an alien radio convinces Steel that it has strategic value.

A secret report shows that the Woodcarvers are having more luck with Johanna because she is nearly an adult, and they have a working Dataset, which speeds their learning "mantis talk." Steel is pleased that Johanna names their species "Tines," suggesting a fear of a killer elite force. Steel further evaluates the aliens' pluses and minuses as a species and looks beyond conquering the world to ruling the stars by intelligence, imagination, discipline, and treachery. Significantly, he accepts the risk of letting Amdijefri enter the ship to send a message that he composes rather than a standard distress signal. The section ends with Amdijefri playing a trick on Steel, who reacts with a level of rage that becomes important at the novel's climax. Amdijefri henceforth live on Starship Hill. At 128.13 days from leaving Earth (07/01/52090), Jefri commences a SECRET transmission pleading for assistance.

This specificity transitions into a series of postings on the Net. This device is used at various points through the rest of the novel. Postings are set in distinctive Courier typeface and include detailed headings revealing protocols, languages, and subjects before quoting the text. They have the flavor of interest groups debating hot issues on the Internet today. An editor tries to provide bona fides on the senders whenever possible. In the first, The Arbitration Arts Corporation at Firecloud Nebula 53.57 days after the fall of the Straumli Realm reports the substance of what occurs in the Prologue and labels it a Class 2 Perversion. AA recommends vigilance. At the 61-day mark, AA announces a new transceiver-layer service for sites in the High Beyond but later that day warns that the Straumli Perversion has taken over and the previous message is a deadly trick. The cause in this case is Homo sapiens experimenting with "Shortcuts" and a recipe from earlier time that contains a "self-booting evil." AA seeks information about Homo sapiens. This quickly turns into a deadly witch-hunt. Note that Perversion and



Blight quickly come to be used as synonyms even while the subtle differences are debated.

In Chapter 15, Blueshell and Greenstalk play in the surf while wondering if Jefri is in danger. The Riders' affinity for flowing water returns in the final touching pages. The Blight has struck a dozen High Beyond civilizations and crippled trade. Vrinimi Org commissions this pair of Riders to fly a secret mission to the Bottom of the Beyond and is paying to adapt their spacecraft, Out of Band II (OOB), to Bottom conditions. They must worry 1) about getting caught in the Slowness, where the speed of light is an absolute value,  $m$  and 2) being pursued by the Blight, if it decides (as Ravna does) that the Straumer ship is somehow important. The only people who know what the mysterious "quantum data container" is or how it might be used are dead. Something is going to have to provide clues. The mission goes forward because a fortune might be made and civilizations might be saved.

Meanwhile, Ravna has received from Jefri forty dire messages that she accepts at face value: a force named Woodcarver has killed the Olsndots and a Mr. Steel is protecting him. The secret rescue/reconnaissance mission departs with false assumptions. Amidst technical gibberish about High Beyond and Transcendent processors not working at the Bottom Pham explains why Old One will not participate: once the Blight kills fifty civilizations it will lose interest. He uses the analogy of a decent guy who sees a scruffy neighbor but determines that he is harmless and banal. The mission is expensive, risky, and unnecessary, for the Blight will not make the investment needed to touch the Middle Beyond. However, if the Old One "packs it in," leaving him a free agent, Pham might enjoy visiting another medieval world. Ravna quiet uncharitably taunts Pham about being a "rush job" by the Old One and charging that his memories are just a hodgepodge of pre-Nyjoran legends. This outburst comes back to haunt them both, but at this point Pham sloughs them off and goes about his business. Ravna is happy not to have been burnt by this godlike Power.

Chapter 16 talks about refitting of the OOB for a range of environments while Ravna reassures Jefri and stocks the on-board library. This becomes a crucial factor in the mission. Grondr throws major communications resources behind the project but refuses to let Ravna go along; he needs her as a "sanity check" on questions dealing with humanity. She counters with Jefri's need for human rapport. There is no hint that Ravna is discriminated against as a female; most societies seem to be matriarchal. She is finally allowed to go when Marketing takes a commercial interest. Ravna half-terrified to take on the childhood role about which she has fantasized. Oddly, Ravna is not destined to swing into action after this dramatic statement. She stays in Pham's shadow during the mission.

Another message transcript finds Jefri complaining of not feeling well but being encouraged by Steel to transmit his answers to Ravna's questions. Nothing that Ravna has suggested trying on the ship has worked, but she promises to deliver technological advancements on a starship due to leave Relay in seven days and complete the voyage in 30-60 days. They will be able to talk through most of the voyage.



Focus shifts to a farewell beach party, where Pham apologizes for not taking the Blight seriously. He now sees that a "replicant disorder" is determined before dying to kill all of Relay's precious High automation. Suddenly, a 4,000-ship fleet bears down on Relay. In dramatic language, Vinge depicts a sky flickering with the explosion of advanced weapons, the sea level falls, and the Docks' agravs failing, sending the shredded station falling towards the planetary surface. The drop in sea level, characteristic of the approach of a tsunami on earth, is repeated in the novel's finale on an even more massive scale. Blueshell affects a dramatic rescue, proving his ability as a pilot. Pham is horribly wounded when the Old One's implants disintegrate, and is taken aboard OOB dying if not dead. Ravna also loses consciousness. In orbit, the incompletely outfitted OOB repairs itself and they jump 150 light years to safety, joining another 10,000 refugee ships. Part 1 ends with Ravna convincing the Riders to honor their contract with the now-defunct Org and continue the rescue mission. Part 2 takes up what turns out to be an incredibly long voyage.





## Part 2, Chapters 17-20

### Part 2, Chapters 17-20 Summary

In Chapter 17, Johanna no longer shrinks from the Tines' help, but cannot communicate with the pack and adjusts to being alone. Scriber comes to cheer her up, sharing drawings of how to adapt radio to let a pack talk over vast distances. He wonders why Johanna is always angry with those who try to help her, particularly Scarbutt, who wants to be friends. Chapter 18 continues: Scriber is depressed that without Johanna's help he cannot sweep away Flenserism. They must master making gunpowder and cannons to recapture the flying house by winter. Scriber warns Peregrine about Flenserist plans to kidnap Johanna and the need to organize against spies. Peregrine confides that Woodcarver uses high-placed spies to spread misinformation. Over the next ten days, Scriber gathers information to convince Vendacious to hire him as a professional security officer. As the deal is made, Scriber is butchered. One fragment, Ja, however, leaps from the parapet, breaks his back, but crawls off to "Tell Johanna."

Meanwhile, the crippled OOB slows as it enters the Middle of the Beyond, without the Blight pursuing them. Pham recovers from back wounds resulting when the Old One's implants putrefy upon his death. They pick up news about the fall of Relay and the murder of a Power. The Blight claims responsibility and spokesmen like famed Øvn Nilsndot warn that resistance is futile and the benefits of accepting the new situation many. Almost any race can be modified to receive Help. News groups debate this. One post dubs the "Helper" a fraud, a screwball pushing a coercive, messianic religion/empire. Another opines that the unprecedented death of a Power allied with Relay shows that the Blight is something new and interesting. Another argues that the Blight needs something from humans that it cannot simply take. There are tens of thousands of messages from hundreds of points of view, but nothing comforts Ravna.

In Chapter 19, Scrupilo makes gunpowder per the Dataset, but is injured while taking shortcuts. Johanna wants to know how they plan to use these weapons to rescue her ship, but is interrupted when Ja arrives, his mind in a jumble. Because Ja is not a "talker," Scriber's murderer is unknown. Vendacious rules the death "an incompetent, first-time probe" of security, simply bad luck that Scriber had been there. Ja dies that night under Vendacious' care. Once again Johanna hates everyone, including herself for rejecting Scriber's friendship. For Scriber's sake, she vows to try to like the others.

In Chapter 20, Pham recalls nothing after the pain of the Old One's death and takes no interest in news that Ravna finds horrifying. Homo sapiens are blamed for the Blight and a "Death to Vermin" movement calls for exterminating human colonies everywhere. Another post postulates that controlled minds had to be preprocessed for the Blight to control them. Intimidation, fraud, and traitors are in operation and must be recognized. Relays is probably just a "byplay" to tragedy in the Transcend. A pro-human post claims that Homo sapiens has no built-in structures supporting remote control and is not inclined to submission. More testing is needed. When she can communicate with Jefri,



Ravna finds him less lonely amidst fair-minded people. Ravna wishes she could tap Pham's memories of the Slowness.

## Part 2, Chapters 17-20 Analysis

In Chapter 17, Johanna has made peace with the Tines but cannot communicate with them. She resolutely rejects having Scarbutt tutor her. Woodcarver's spies pass disinformation that Jefri is dead, forcing Johanna to adjust to being alone. Scriber, a "Pompous Clown" and self-styled dilettante who reminds Johanna of her mother's brainless friends, visits to discuss his plans to combine radio with Tinish pack-thought to let a pack spread out over hundreds of kilometers. She does not mention that radio is impractical in a society that lacks gunpowder. This invention becomes a key plot element, but for the other side. More importantly, Scriber broaches the idea of Johanna dropping her anger, towards Scarbutt in particular. Only when Scriber dies does she relent, feeling remorse at not having accepted his friendship until too late.

In Chapter 18, Vendacious' guard reports Scriber's meeting. This does not immediately appear ominous. Meanwhile Scriber feels low, seeing the demise of his plans to sweep away Flenserism, since that would require Johanna's "pack-equivalent mind in a single body." There is more theorizing about the strengths of Two-Leg civilization. The Tines hope that if Johanna is rescued, her friends will be more helpful. In the meantime, developing gunpowder and cannons to recapture the flying house quickly is deemed imperative with no justification offered.

Peregrine and maudlin Scriber visit a crowded marketplace, where the behavior of packs too closely adjacent is described: orgies and/or warfare is inevitable. As they discuss the unfolding political and military situation, Peregrine confides that Woodcarver has high-placed spies at Hidden Island who skillfully use misinformation. Keeping this secret is vital. Scriber vows to volunteer his services to Vendacious, so Johanna will see how useful he is.

Before the tragic outcome of that adventure, the crippled OOB picks up news about the fall of Relay and the murder of a Power. Spokesmen for the conquering Blight are inevitably human, and an expensive propaganda by the "soul-dead" celebrity Øvn Nilsndot is described, promoting the "symbiosis of the Helping." This segues into postings about the progress of the Blight. The texts are varied in point of view but generally show an escalation in passion. None comforts Ravna. To Blueshell it smells like "sweetened bait" to bring Beyonders back to their nests. It is probably a masked message to agents already in place.

Focus returns to the castle where Scriber spends ten days gathering information, which he presents to Vendacious, asking to be hired as a professional security officer. Claiming to be confident of security but valuing a second line of defense, Vendacious distracts Scriber while assassins close in. Vinge declares Vendacious the "Traitor-in-chief," as he waits for Scriber's pack to die. One fragment, Ja, escapes, determined to "Tell Johanna."



In Chapter 19, while Woodcutter and her assistants are discussing crude early attempts at making weapons as described in the Dataset, Ja arrives, crippled and near death. Because he is not a "talker," Scriber's murderer remains unknown. Scarbutt tells Johanna the problems of helping lone fragments survive. Many simply stop eating and die. This tidbit returns later when Johanna is the target of an unsuccessful assassination. At any rate, Vendacious rules the death a case of Scriber being in the wrong place at the wrong time. Johanna's first reaction is to hates everyone, including herself, but then for Scriber's sake vows to try to like the others.

Chapter 20 returns to the OOP, where Pham sits on the bridge watching displays that remind him of the Qeng Ho fleet and show no interest in the deepening crisis, as a "Death to Vermin" movement grows militant. A variety of postings continues debating how the Blight begins and what it will do next. A pro-human post pleads that Homo sapiens has no built-in structures supporting remote control and is not incline to submission. More testing is needed. Only sometimes are communications between Ravna and Jefri possible. He seems less lonely, amidst these fair-minded people in a touch medieval world. Ravna wishes she could tap Pham's memories of working in the Slowness.



## Part 2, Chapters 21-24

### Part 2, Chapters 21-24 Summary

In Chapter 21, as Pham is physically recovered but lives in "a private dreamworld," Greenstalk explains that because the Zones are in flux the trip may take 120 days. Furthermore, the damaged ultradrive spines must be repaired soon. Because Jefri has less than 100 days to ward off attack, Ravna turns to the OOB library to send him to help bypass the trial-and-error that normally accompanies development of "guns and radios." Pham comes out of his shell long enough to say that this worked on Canberra.

In Chapter 22, Ravna gets Pham to talk about "the illusion of self-awareness." Realizing that Ravna loves him, Pham wants to find a way out of his own head and describes how it feels to have a godself die after being overstuffed with information. Old One considers the Blight a threat only when he himself comes under attack. In Applied Theology this is called "Godshatter." Pham realizes that this cannot be a fool's chase and there must be something vital on the Straumer ship. They develop directions to transmit to Jefri, but success will be a matter of luck.

In Chapter 23, Steel inspects the busy construction zone around the ship. Seeing him, two workers panic, assuming that they will be disposed of once their work is done. Steel surrounds Jefri, fighting down the natural revulsion of being touched, and creates a cover story: disguised Woodcarvers have infiltrated. Tyratlect watches with amusement. Since the death of the other Flenser packs, Tyratlect survives by Steel's good grace, projecting Flenser to the masses and analyzing Ravna's often unintelligible material Guns and radio, Steel believes, will turn the Movement into "the Mind of God," and has designed the new castle to collapse and crush the ships to defend their secret.

For Amdijefri the ship's control center is like a tree house for rambunctious fun—while being careful of the equipment. They communicate with Ravna only by text and Amdi is the better typist. Messages come at long intervals. On the day of the supposed attack, only digits arrive, in which Amdi becomes lost in deep thought. Jefri asks personal questions about Ravna, Pham, and the Riders. Amdi is inspired to fit transmitters and receivers to their tympana to let them think over radio. They set to adjusting Ravna's tables.

In Chapter 24, Johanna allows Woodcarver to move in with her, keeps a suspicious eye on Peregrine, who knows his effect on her and tries to avoid antagonizing her, and learns the others' characters as they become fluent in Samnorsk. Late night Woodcarver studies the Dataset, mastering many fields, asking Johanna about human life and helping her understand about packs. She seems to need a confidant. The "pattern" of her back is over 1,000 years old and shows on all, even the puppies. The oldest member is the most alert and creative; the blind one is the talker. Even the healthiest members suffer physical deformities. The oldest pack in recorded history, Woodcarver is wistful as her time runs out.



Johanna attends her first High Council meeting in a vast hall that, despite padded tapestries, resounds with the hideous mind-noise of 15 packs. Johanna can feel the buzz. Peregrine translates for her, imitating each speaker's voice, and sometimes adding unwanted commentary. The topic of the meeting is accelerating plans to capture the starship before Steel can use it against them. Vendacious brags about having high-placed spies whom he cannot name. Some packs oppose a military expedition, but Scrupilo's successful—and courageous—demonstration of the power of Johanna's metal cannon silences them. Suddenly, Woodcarver begins to spasm and is hurried away. Johanna fears she is having a stroke. Packs rush about and draw into themselves. Johanna catches up in her own cabin, where Peregrine explains that the noise of the cannon had put Woodcarver into labor. The puppies are the first that she has conceived with another pack and their addition makes her a newbie. Peregrine's genes will bring intelligence and flexibility. Peregrine reveals that he too is happily pregnant and looks forward to settling down. Such affection in an alien setting unnerves Johanna.

## Part 2, Chapters 21-24 Analysis

In Chapter 21, Ravna worries about how long the flight is taking. Wishing that they could be carefree Low Skrodridders—that is, be less technologically advanced—Greenstalk explains that the Zones themselves seem to be in flux, making it impossible to predict arrival, but offers 120 days—beyond Jefri's deadline for having defenses in place—that is, becoming more technologically advanced. Civilizations in the Slow Zone are regularly lifted out of dark ages by technology provided by outside visitors. Ravna assumes (several times) without proof that the Tines have no antecedent civilization on which to build, but is certain that from information in the OOB library they can be helped to skip the trial-and-error that normally accompanies the march to civilization. She further assumes that Jefri's first step must be "guns and radios." Dramatically, Pham emerges from his shell just long enough to say that this worked on Canberra.

In Chapter 22, Ravna tries to keep Pham from slipping back again, emphasizing the positive. She relates the myth of "Gods' Doom": a million years ago, a sudden Zone surge hurtles a star system from the Transcend deep into the Beyond, dooming the Powers who live there. In the immediate context, Pham sees only Ravna's manipulative manner, but the myth returns at the novel's climax. Pham talks tearfully of having his head stuffed with Old One and his memories, likening his present life to "wandering like an idiot in a cathedral. Not understanding, cowering before icons." This unexpected religious imagery is perhaps meant to reinforce the numinous sense of the passage. Because religion and sex are inevitably interlinked, intercourse follows, with it coyly noted that it is tricky in weightlessness.

Afterwards, feeling hope, Ravna asks about Relay and Pham talks about having one's "godself" die after he overstuffs him with information. Old One never considers the Blight a threat to himself until he comes under attack. Ravna gives this the technical term of Applied Theology: "Godshatter." Pham feels dark inside, wishing that he had known then what was happening. Because the Old One continues learning to the very



end and shares it with him, Pham knows that the Blight is billions of years old and the Old One has not sent them on a fool's chase. There is something on the Straumer ship that can make a difference. Perhaps on the Bottom of the Beyond, Pham will revert to being the Old One's robot. This is the novel's climax in capsule.

Chapter 23 shows stonewalls replacing the wooden palisade that hides the ship. Vinge devotes considerable space to describing how Steel gets the most out of his laborers. There then occurs a brief outburst of violence as two diggers realize that they will be disposed of once their work is done. This is, indeed, Steel's policy, but how they might learn it is overlooked. At any rate, Steel reacts to preserve his authority, inventing a story about disguised Woodcarvers infiltrating, and surrounding Jefri to protect him from stray arrows. When Jefri hugs him, Steel has to fight down natural revulsion, but likens it to "having sex with a corpse." Steel cringes when he sees Tyrathect watching with amusement.

This cringing is odd, because the dynamic has changed. Six months earlier, Vinge rather awkwardly backtracks, the two expected Flenser packs perish, rendering the "Flenser Fragment" no longer "Flenser-in-waiting," and putting the Tyrathect persona completely at Steel's good grace. The Flenser persona, however, is useful in controlling the masses and Tyrathect has a talent for interpreting the numerical tables and childish diagrams that Ravna transmits to Jefri. Steel looks forward to guns and radio bringing Woodcarver to her knees and the Movement becoming "the Mind of God." This outburst of religious fervor seems left over from that aboard ship and out of place and character. Steel also worries about the rescuers treating Tines as savages. He is determined that they will not infect the planet by reviving the 151 hibernating children or utilize whatever machinery inside the ship motivates them to make this long trip. This supposition on Steel's part is even more far-fetched than when Ravna makes it. At any rate, the new castle is designed to collapse and crush the present spaceship—along with Ravna's when it arrives. The labyrinth of tunnels inside the walls becomes crucial at the novel's climax.

The chapter concludes by describing Jefri and the puppies cavorting in the stripped-down ship. They are careful, however, around the arcane equipment. Jefri begins longing for human contact in the form of Ravna. When she transmits data tables for constructing radio, the puppies intuit that it could be modified to fit their thought patterns and begin making calculations. The late Scriber's invention is about to be built by the "enemy" side.

Chapter 24 shows Johanna getting used to life among the Tines. They learn Samnorsk at a tremendous rate, showing their intelligence. She finds Woodcarver the most intelligent being she has every known. Much detail about the Queen emerges slowly, how her soul has existed for 1,000 years but inbreeding has deteriorated her physically and mentally. She has grown wistful. The most important fact about Woodcarver is dramatically withheld until the end of the chapter.

In the meantime, Johanna attends a High Council meeting to discuss moving up the planned war with Steel. Johanna has learned that Tine packs need much personal



space to keep their mind-sounds from driving one another crazy. The meeting hall is too small and the resulting buzz even affects Johanna. They adjourn to a demonstration of the new metal cannon. Johanna, who provides the specifications, worries that brave Scuplio will be injured. One of his members, White-Head, inches forward on his belly to fire the weapon. He becomes a more important and attractive character. The firing blows a hole in the castle wall, proving its effectiveness, but the blast brings on convulsions in Woodcarver.

Johanna trails the party of guards that evacuate the Queen and she wanders through the city before ending in her own home, worried about heart attack or stroke. Pelegrine looks inappropriately happy at the door and allows Johanna to approach Woodcarver. Johanna grows nauseous, touching a pile of exposed guts beside her. Woodcarver reveals that she has given birth to Pelegrine's puppy, who will strength her pack's gene pool. Peregrine is also pregnant by Woodcarver. Only at the end of the novel is it made clear that most packs have male and female members, with one or the other predominating to give it its character. One-sex packs are unstable.



## Part 2, Chapters 25-28

### Part 2, Chapters 25-28 Summary

In Chapter 25, OOB must put in for repairs. Their progress is slowing not only as a result of the "Great Zone Storm," but also residual damage from their escape. With Sjandra Kei too far away, they head for Harmonious Repose, which Pham calls "Rest in Peace" (RIP). During the slow trip they share stories and Pham regularly goes into trances of godshatter, where he learns that Jefri's parents have place a countermeasure to the Blight on the ship. Ravna recalls the rot that Jefri describes on the walls and which his parents warn him to avoid. She shudders to think that it and Old One's dead hand may cooperate to save them in the end.

Meanwhile, in the Hidden Island Kingdom, gunpowder and cannons go into mass production and Jefri sends plans for a modified acoustic interface for the radio that is too sophisticated to come from a child or a medieval society. Pham suspects that Steel is manipulating Jefri and/or secretly controls a working computer. Pham cannot see how ambushing rescuers would serve a purpose but insists that they show no interest in the countermeasure. If Jefri has optimized the radio design it is convenient to have a mathematical genius on the ground.

In Chapter 26, the Alliance for Defense, under the banner "Death to Vermin," prepares to eradicate all humans. Ravna worries about Sjandra Kei, but it seems too large to be a target. They fly the OOB to Harmonious Repose (nicknamed RIP) and Saint Rihndell's Repair Harbor knowing that Ravna and Pham must let the Riders do the talking, while monitoring from mini cameras. Communications are tedious and haggling intense until three beautiful butterflies appear and demand that no work be done on any vessels until their fleet's "sacred mission" can resume. Chapter 27 determines that they are the feared Aprahanti, who have taken part in the utter destruction of Sjandra Kei. Ravna has to be sedated and monitored. Sjandra Kei survivors are out for revenge. Blueshell has pledged 300 "flamed trellises" against prompt repairs. Saint Rihndell diverts the OOB to be inconspicuous.

In Chapter 28, the Riders set out to make their delivery, while Pham watches on cameras. Seeing Greenstalk wander off and fearing kidnap, Pham dons a specially modified pressure suit that makes him look formidable and non-human. When Pham and Blueshell reach the great domed "transport system," Greenstalk calls to them. Noticing that the link to Ravna is down and smelling an ambush, Pham powers up his weapons. Greenstalk takes his place with five Riders, all armed. Pham accelerates to a high position as the Riders fan out. Seeing Blueshell also aloft, pleading for no one to shoot, Pham fires a warning shot and hits the ceiling, creating a hole and plume of debris into space. This he heats to glowing, hoping to bring Ravna to the rescue. Pham is wounded in the arm but fights on. He Blueshell overhead and assumes that he is reporting his position, to the two surviving attackers—one of whom is Greenstalk. When





Pham kills the companion, Greenstalk aims at him but hesitates, at Blueshell's begging. Pham fires on and hits Greenstalk before losing consciousness.

## Part 2, Chapters 25-28 Analysis

Chapter 25 finds the OOB 20,000 light-years from Relay but thousands of light-years from their goal in the Bottom of the Beyond. Vinge describes Zone interfaces and the so-called "Great Zone Storm" that is worsening the slowing that OOB is experiencing. Refer to the maps preceding the Prologue for help in understanding the geography. Late in the novel, characters will admit to being mystified by the Zones, so the reader who feels lost is not alone.

The Skroderiders' difficulty with short-term memory is re-emphasized, in preparation for their playing a heightened role. Blueshell and Greenstalk are quarreling lovers whose charm is wearing off on the humans. The ship's library reveals that skrodes are more ancient than the Net yet the original design is unchanged. Blueshell piously cites tradition and tells the Rider Myth, one of a variety of myths about Ancient Wars and Catastrophes that have always left Ravna dubious. The Riders believe that 4-5 billion years earlier Someone builds the first skrodes, raises the first Riders to sentience, and is catastrophically destroyed. The Riders wait faithfully for that Creator to return, in the mean time making no improvements on the limiting skrode design, learning patience and to concentrate on what is truly important. These seemingly trivial details are about to take over center stage.

Chapter 25 also shows the humans aboard OOB growing suspicious about those whom they are helping to arm for war, whose side they are taking on the word and analysis of an eight-year-old. The Tines follow directions to make gunpowder and cannons too easily for a medieval society with no past history of civilization, and the modification of their specifications for radio would require a genius of Isaac Newton's stature (a reference too blithely given, considering the billions of years that have passed and the significant scientific advancements). Jefri has taken credit for the puppies' mathematical genius. The rescuers realize that they cannot appear anxious to find anything hidden on the ship and laugh at Steel's construction meant to trap OOB. They know that Steel cannot picture a ship this large.

Chapter 26 is largely devoted to describing Harmonious Repose and Saint Rihndell's Repair Harbor, where the OOB pulls in for repairs. A new, unnamed species that walks on ivory tusks is introduced, which haggles with customers about pricing. They are interrupted by "Butterflies in jackboots," a wondrously beautiful species that nevertheless demands that its needs be met before anyone else's. They are on a time-sensitive "sacred mission". Earlier, Ravna is upset to hear news about an Alliance for the Defense, dedicated to eradicating humanity from the galaxy. They have come face-to-face with them. Ravna fears for her relatives on Sjandra Kei, the driving force in whose civilization is human, but humans do not live in a ghetto there; the Dirokimes and Lophers stand with them. Pham and the Riders assure Ravna that they are too big a target for the Alliance to take on. They are, of course, mistaken. The physical beauty of



the sun surrounded by vast rings is described at length and lyrically. Only at the end is it said that the sun once had a normal planetary system, but a "real estate" dispute reduced them to minute rubble millions of years ago. This is fittingly sober for what is about to happen.

Chapter 27 reveals that twenty Aprahanti vessels are in for emergency repairs. They represent a small portion of those who destroy Sjandra Kei. Ravna finds this news on the Net, becomes inconsolable, and has to be sedated and monitored. Details on the treacherous attack come in slowly in the following chapters. Sjandra Kei survivors are out for revenge, a factor that soon becomes important. The OOB is diverted to a remote harbor to be inconspicuous during repairs.

Dramatic Chapter 28 concentrates on Greenstalk apparently joining a group of Rider assassins who attack Pham when he dons a pressure suit to investigate his disappearance from commercial negotiations with Saint Rihndell. As usual, Blueshell takes the lead, and RIP has a small Rider colony, so it at first appears innocuous. Pham, however, is paranoid and prepares for battle. Vinge indulges in macho military talk: "fields of fire and killing zones" and details the arsenal of weapons and the effects of their various power settings. Who might be behind this bizarre behavior for normally peaceful Riders is tossed around in Pham's feverish brain. Note that Blueshell, who does not come into physical contact with the other Riders, seems to act at most as the assassins' lookout. Greenstalk is a combatant. She ignores her mate's plaintiff calls to stop fighting. They have 200 years of relationship at stake here. All three end up badly wounded and the chapter ends with Pham unconscious. This creates an on-going conflict aboard OOB.

The chapter describes various new species and the great domed area in which the firefight occurs. Pham has modified a pressure suit to conceal his humanity and Vinge has fun describing some of the elements and the authorities' reminding him of the local "dress-code." It adds a bit of humor to some tense passages.



## Part 2, Chapters 29-32

### Part 2, Chapters 29-32 Summary

In Chapter 29, Pham wakes up in a surgical cylinder. He has been out for 30 hours, OOB is 60 light-years from RIP, and a fleet of 500 is pursuing them. Greenstalk is badly wounded and Blueshell agrees with Pham's version of the shootout. Pham orders the computer to lift both Riders' command privileges and isolate them in their quarters. Ravna points out that they owe Blueshell their lives. Together they reason that the ambush had been hurried and aimed at seizing the OOB. As Riders have never been political, the Blight must be behind this and must be the Riders' mythical Creator, living in pieces across vast distances waiting for ideal conditions to bloom. Pham and Ravna battle violently about revealing this on the Net and eliminating Blueshell and Greenstalk. She will not be a party to genocide. They will continue their mission, with some restrictions on the Riders. Pham thinks her a fool. They avoid one another for a few days. Pham discovers that Ravna installs "suicide programs" only after their clash.

In Chapter 30, Tyrathect feels herself losing the inner battle with the Flenser persona and worrying that Woodcarver will fail against Steel's superior arms. She can warn neither Woodcarver nor Ravna about Steel's villainy. Worried that Amdijefri sees through his mask, Steel orders the radio outfits tested. They are one-yard squares of dark material with gold and silver glints formed into jackets that interact with Tines' tympana. Tyrathect volunteers and overcomes the initial nausea to rejoice in parallax view and godlike feeling. The radio echoes momentarily knocking out the Flenser Fragment, but Tyrathect hears her own pack mates as clearly as though they were head-to-head. Tyrathect contemplates spreading out over the northland by controlling the mindset—even the Flenser Fragment—and managing it properly.

In Chapter 31, Vendacious leads Woodcarver's army northward across rugged fjordland to avoid detection. Woodcarver reminisces about past centuries and notes that the new pups are already taking away her long view. Watching her and Peregrine with their puppies teaches Johanna much about the differences in human and Tine psychology. Scrupilo, "Commander of the Cannoneers," drills his corps constantly. Johanna finds living in the wild upsetting, as the Tines kill forest creatures for fun more than necessity. At 25 days out, they reach a valley that Woodcarver deems too steep and exposed and, over Vendacious' objections, detour the army to an easy upstream ford that she recalls from her youth. It turns out to be badly overgrown and adds agonizing days to the march.

The army disturbs the nest of a pack of wolves—to Johanna's eyes gerbils—that attack ferociously and by special-frequency sounds cause the Tines to panic. Scrupilo is destroyed, except for White Head, who with Johanna's help aims and fires the gun into the nest, destroying the hive mentality and scattering the attackers. Casualties are high and survivors must assimilate new members. On the last day before moving out, Woodcarver calls an assembly to pass out decorations for bravery. When White Head is called forward, he is scared witless. Woodcarver later explains that it is necessary to



cause White Head such grief to show that loyalty is rewarded by honor. The troops know nothing about the goals of combat, but fight out of personal loyalty to her. Human/Tine cooperation in firing the cannon brings them closer to being the "Pack of Packs." Woodcarver says that Scruplio's fragment is changed by the medal and he and his cannoneers have partied gustily. Before sleeping, Woodcutter laments not having managed Vendacious properly to avoid these problems and contemplates retirement.

In Chapter 32, Ravna studies Net postings about their flight. At the present depth, OOB's computer can no longer analyze messages for nuance. Rather than degrading gradually, gear is stopping or malfunctioning. Various posters support or condemn the Alliance and OOB. The most competent poster, professional investigators, speculate that the current Blight, being less than a Power, will not lose interest in controlling the High Beyond. After searching in all the wrong places, it is taken by surprise by OOB and it assembles an ad hoc force. The Blight has been "instantiated" before and has a mortal natural enemy, which has failed to destroy all copies of its recipe. The unlucky humans of Straumli Realm find one. Whatever is at OOB's destination may endanger the Blight or potentially increase its danger.

Ravna wishes that she could talk about this with Pham as before, but they are at odds. She worries daily if she is mistaken about Blueshell and Greenstalk, through whom she "has glimpsed evil on the Transcendent scale." Vowing to treat them as allies, friends, and fellow pawns, Ravna visits their cabin to find Greenstalk in a new, wheel-free skrode that helps focus her attention and remember. Blueshell warns that automation will soon fail and they will all die unless he regains control. He vehemently defends herself and his race against the evil few that control Greenstalk through her skrode. Greenstalk tells of horrible ancient memories and attitudes that she cannot resist. Through their skrodes, Riders are, as Pham says, hidden smart bombs, but these two are not infected. When Ravna takes them to the command deck, Pham agrees, subject to limitations, but the showdown is merely deferred.

## Part 2, Chapters 29-32 Analysis

Chapter 29 shows Pham waking up to learn that they have escaped RIP but are being tailed by a large force. He demands to get rid of the treacherous Riders, who should not have been allowed aboard. Pham and Ravna tangle, she claiming to have booby-trapped the ship to keep him in line. This conflict lasts for many chapters and serves to underline Pham's stubbornness. It occurs to Pham that the Blight must be behind the sudden change in the normally placid Riders and links it to their creation myth: they have been piously waiting millennia for their Creator, the Blight, pieces of which are spread across the universe in data archives, awaiting ideal conditions to bloom. When Pham insists that they post this revelation on the Net, Ravna refuses any part in a pogrom against the Riders. Beyond this, she mentions that no one will believe the theory, but consider it another of the million lies. Pham insists that some will and that Ravna has no right unilaterally to withhold it. They briefly debate freedom of information.



Chapter 30 examines the inner battle between the Tyratlect and Flenser Fragment within the pack and Tyratlect's anxiety about Steel's plans to overpower the rescuers. She is helpless to warn either Woodcarver or Ravna. She offers a lengthy colloquy on the evil Woodcarver has brought into the world by creating Flenser and through Flenser Steel. Steel, for his part is chiefly worried that Jefri and/or Ravna will see through his falsehood. Contemplative matters complete, the story turns to tumbling action as the puppies look forward to trying out the new radios. The manufacture and operation are sketched well enough to imagine: greatcoats of a special material cover the tympana, allowing the transmission of brain waves. Tyratlect offers to try it out. Her and the Flenser Fragment's adaptation to the instrument reveal much about the pack-mind, how normally individuals become disoriented when not in direct contact. As Tyratlect's fivesome spreads out, she finds it exhilarating and is less bothered by disorientation than the Flenser Fragment. This suggests to her a means of regaining control over the situation. Steel has not bothered to learn human language and now he can be outflanked through technology. He realizes his predicament. This struggle continues for the rest of the novel.

Chapter 31 shows Woodcarver's army on the move, avoiding Steel's lookouts along the sea and moving inland. A three-day voyage turns into weeks of marching. Johanna observes Woodcarver and Peregrine as partners and comments on how puppy raising prepares them to become contributing part of the pack at the cost of individual fun. When Woodcarver balks at crossing a wide valley in the open and recalls a short detour that is more secluded, the Army finds itself badly bogged down and attacked by "wolves," gerbil-sized creatures that obey the hive queen's will. They are ferocious fighters, killing and tearing apart many Tines before a desperate cannon shot to the hive destroys their unity. Woodcarver explains to Johanna that wolves do not aspire to higher intelligence like Tines, who need six members to think at human level, but also are not repelled by crowding together by the thousands. Scrupilo, who emerges as the "Commander of the Cannoneers" and trains his forces well, is shattered in the battle, but one fragment, White Head, cooperates with Johanna in aiming and firing the gun that wipes out the hive. Woodcarver calls an assembly to recognize bravery and singles out Johanna and White Head. Afterwards she explains to Johanna that she had told the army that human/Tine cooperation would make them great. They follow Woodcarver only out of personal loyalty (she has read in Dataset about the ill-effects of medieval conscription) so esprit de corps must be strengthened on the eve of life-or-death battle. Woodcarver increasingly doubts her abilities to lead but is also disappointed with Vendacious, who continually brags about having top-level spies in Steel's command but conceals that he is himself Steel's spy.

Chapter 32 concentrates on the voluminous Net traffic that their flight has generated. Posters debate among themselves, apologizing, hypothesizing, and challenging. "Hanse" finds no excuse for pursuing OOB and sees an analogy to the Aphrant Hegemony, which 1,000 years ago undertakes a jihad to grab real estate. Recall how Harmonious Repose became a ring system. Another claims that Hanse is "smearing" the Alliance and offers a first-hand account of how the OOB misrepresents itself as a scientific mission, hides human crewmembers, and makes a violent departure. Readers should beware posters like Hanse. These texts, set in Courier type with insightful



headings that ought not to be ignored, capture the spirit of hot-topic debates on the Internet today. Each speaks in a distinct voice. Some are hard to follow, but Ravna is there to wonder along with the reader about what the posters might mean. Ravna is angry that facts and inferences are at odds. Trustworthy professional investigators provide the analysis that proves correct: the Blight is either afraid of something or needs something and has merely been searching in all the wrong places, wreaking havoc.

The scene shifts to Ravna visiting the Riders in their cabin, wishing that she could talk discuss the situation calmly with Pham. Blueshell and Greenstalk admit that Pham is correct about some Riders being controlled by the Blight, through the skrodes that they originally design. They are indeed hidden smart bombs if put under a control that Greenstalk describes in horrifying terms. Her people at the Top of the Beyond may all be thus violated, which Ravna sees as being as terrible as the genocide her people have suffered. All such philosophy aside, only the Riders can prevent OOB from totally degrading as they descend. The chapter concludes on an ominous tone: Pham accepts all of this for the time being.



## Part 2, Chapters 33-36

### Part 2, Chapters 33-36 Summary

In Chapter 33, Pham loosens restrictions on Blueshell as the pursuers draw closer, argues with Ravna, and he sits for hours in "godshatter state," his mind entirely taken over and functioning at superhuman speed. When OOB's ultradrive and automation fail and the workshop catches fire, Pham accepts Ravna's earlier suggestion to contact SJK. Ølvira's Group Captain, Kjet Svensndot, is already contemplating mutiny when Ravna appears on-screen, denying that OOB belongs to the Alliance or the Blight. Fleet Central under Owner Giske Limmende and Chief of Staff Jan Skrits are about to order Svensndot to ignore the "unknown vessel," when communications end. The channel to OOB stays open long enough to conclude that through Riders aboard the flagship, the Blight has taken over. Svensndot agrees to rally friends.

When the storm front blows in laterally, communications are lost and, deep in the Slow Zone, ultradrives fail. Aboard OOB they hope that the Zone storm will pass in hours, allowing the race to resume under Beyond conditions, but realize that they could be stranded forever. Blueshell likens the unprecedented phenomenon to a tsunami. Pham spends the downtime plotting ships' locations, while Ravna worries about Jefri's fear.

In Chapter 34, Amdijefri worries about Ravna's long silence and, while playing behind the wall quilting, examines the spreading gray fungus that in one spot flowers marvelously and examines a puppy's brain by passing filaments painlessly inside. Meanwhile, Steel's troops learn to fear and obey the seeming singletons that wear a Lord's colors and talk intelligently. Steel is happy that the radio cloaks are uncomfortable and being out of them while spread out is debilitating. He is anxious to get Woodcarver on the march again and that battle over with, and the rescuers to arrive and be trapped—and all of his enemies destroyed. He orders one of the Flenser/Tyratheck pairs to keep Amdijefri happy. Amdijefri loves Steel but clings to the Flenser persona rather than Tyratheck's. Flenser, meanwhile, works subtly to undermining Amdijefri's respect for Steel.

In Chapter 35, Woodcarver's army is anxious to move out. Johanna has been serving in the field hospital, feeding and comforting invalids that wait to be formed into healthy packs. Even crippled Blacky, who has stopped eating, responds to her. Chitiratte walks sentry duty, envying those marching to battle at Margrum Climb, and waiting impatiently to signal Johanna's assassination. Kratzi, a combat-crazed duo, will do the actual killing and Chitiratte will then eliminate him. Peregrine arrives at the critical moment and senses that something is not right. At a signal from the guard, Kratzi strikes, accidentally colliding, which spares Johanna mortal damage. The other patients attack to defend her in a bloody frenzy. This disturbs a top-level conference.

Scrupilo arrives first, but Vendacious takes control, examining Johanna, knowing that he cannot finish the job in public. He orders her taken to his den, where he reveals his plan



to kill her, laughing with learned human giggling and taunting her. His goal is to prevail over Woodcarver, Flenser, and Steel. He slices Johanna to verify what Dataset says about human pain, and reveals that Steel is keeping Jefri alive, needing something from him. Filled with hope, Johanna by her eyes gives away Dataset's deeper, "Babysitter" password, and is gagged in preparation for careful torture when Peregrine arrives. He claims authority that if Johanna is killed, the Queen will show how she exceeds Steel in cruelty. Vendacious backs down, claiming stalemate, revealing the trap set at Margrum, and bargaining for cooperation. He releases Johanna as a good will token. At a safe distance from the den, Peregrine reveals that he has been bluffing.

Zonograph Eidolon, a religious co-op, posts an update about the "monster" Zone surge. It is receding, trapping five civilizations after helping 30 "virgin solar systems" achieve the Beyond and killing 10 billion sophonts. There are no precedents for predicting after-surges. The co-op requests data sharing, warns against shipping, and philosophizes about accepting these new conditions as prehistorical humans endure glaciers and droughts. Shortly after this message, the unknown Twirlip of the Mists wonders about coincidence between the rare Great Surge and Blight-related warfare. If the Blight finds what it wants, a new "Event" could be provoked. Alliance for the Defense chimes in, claiming victory accomplished and announcing its retreat to the Middle Beyond to hunt pockets of humanity. It trusts that other sophonts will help achieve "Death to vermin."

In Chapter 36, the Surge passes Ølvira and she resumes jumping while Limmende and OOB remain trapped. Alliance ships flee cowardly, as fast as possible, provoking the Dirokime crewmembers to great obscenities. Blight ships do not back off. Massive Net traffic focuses on the Blight overpowering the Top of the Beyond and the race to the Bottom. Svensndot uses his popularity to countermand the blustering Limmende's orders. When OOB emerges, Pham in godshatter points out the targets that must be hit to assure victory. Warily Svensndot passes this to Johanna Haugen's ship, Lynsnar, for execution. Lynsnar destroys the first enemy target, but Aniara casualties also begin, each a personal blow to Svensndot. Ølvira miraculously escapes destruction but is taken out of action. Blight ships do not divert from course to kill survivors. Haugen is angry about following Pham's targets; the advancing enemy force would be far smaller if they had "attacked rationally." Pham is also angered that his plan had not killed more Blighters. Ravna worries about him being "a construct of the Powers." Aniara Fleet drops out of the pursuit to limp back and start a new Sjandra Kei civilization.

## Part 2, Chapters 33-36 Analysis

Chapter 33 introduces the SJK Commercial Security fleet, a paramilitary force that survives the destruction of Sjandra Kei by being out of position for the actual as opposed to the expected attack. Ravna is at first relieved when Pham delays enlisting its aid against the Blight force, not wishing to lose any more of her relatives, but eventually it is the only course open to OOB. Pham sits for hours in "godshatter state," his mind taken over entirely and functioning at superhuman speed. A massive system failure forces Pham to reconcile with Blueshell and to contact the SJK. The defective cargo that Blueshell and Greenstalk are hauling early in the novel prove useful for





contacting a potential rebel, Group Captain, Kjet Svensndot, commanding Ølvira. Video from Fleet Central of the Aniara Fleet resembles that of Blight spokesman Øvn Nilsndot, convincing Svensndot to mutiny. Ølvira's Drokime crew has heard of godshatter in their own myth. Their cultural interaction with humanity is described. Svensndot is prevented from rallying friends in the fleet to the fight by a storm front that blows through, swallowing all the ships in the Slow Zone. The implications of being trapped here are developed at length. The inevitable analogy is to a tsunami. Once it passes, they will be back in the Beyond and the race will continue.

Chapter 34 is thoroughly schizophrenic and byzantine. Vinge cleverly shows the Flenser/Tyratlect pack distributed in pairs, communicating with one another lucidly by radio and each pair with its immediate companions: Steel, Farscout Rangolith, and Amdijefri. Switching from pair to pair to pair is effective, showing how this superpack is seen by others, how it reacts to others, and the thought processes internal to and common to the pack.

Crisis comes when Steel gives the order to terminate Johanna. The two personae fight for control, each pair experiencing the tumult and appearing to companions to have been driven mad, writing and snapping incoherently. Tyratlect wins the first round but then hesitates and commiserates with her victims. This proves her downfall. When Flenser emerges as victor, he relishes Johanna's death sentence being his first order.

Chapter 34 also depicts the puppies frolicking behind the sound-damping wall hangings and alerting Jefri to a "marvelous flowering" of gray material that becomes crucial at the novel's climax. Note how its filaments painlessly pass through flesh and cause tingling. It is revealed that Snow has mined the walls of the surrounding tower with gunpowder, intending to collapse it on the ships. Vendacious' role as traitor and Steel's obedient servant is fully exposed. Steel, who is careful that no one be able to piece together all elements of his plan, has run out of patience with Woodcarver's army and orders it repositioned for quick and easy conquest.

Chapter 35 depicts two important events: a thwarted attempt on Johanna's life by Vendacious' minions and the rollback of the Great Surge. Vendacious does not count on the wounded whom Johanna feeds and encouraged coming to her defense, but manages to get her into his den, ostensibly for her defense. There, he removes his masks to reveal a dedicated traitor out to control the planet personally. He slices Johanna to test whether Dataset is accurate concerning human pain, and adds mental torture: Jefri is alive. He has been studying humanity, so he can read the emotions in Johanna's eyes. He is thwarted from learning secrets by torture by Peregrine's arrival, and loses his quarry on a bluff. He wants a meeting with Woodcarver.

The chapter shifts to three entries from the Net. First, Zonograph Eidolon, a religious co-op, posts an update about the "monster" Zone surge receding. Talking about its pluses and minuses, the group observes that Nature cannot be "twisted to villainy or good"; it simply is. A second message wonders about coincidence between the rare Great Surge and Blight-related warfare and worries about a new "Event" if the Blight finds what it is looking for. Finally, Alliance for the Defense chimes in, claiming victory accomplished



and announcing its retreat to the Middle Beyond to hunt pockets of humanity. It trusts that other sophonts will help achieve "Death to vermin." This last post is most curious and gets the most attention in the following chapters.

Chapter 36 concludes Part 2 with a space shoot-out, once the Surge passes, allowing the Aniara Fleet suffering 50% casualties while inflicting 66%. The survivors, including the last 1,000 known Dirokimes anywhere in the galaxy, are angry that Svensndot departs from a rational battle plan to follow Pham's godshatter-inspired targeting. The final passages are bitter sweet as survivors mourn dead friends, contemplate revenge in an environment more likely of success, and above all planting the seeds of new civilizations in newly fertile regions. Part 3 will see only OOB and the single-minded Blighters arriving at Tines' World for the galactic showdown. All else have withdrawn. Furthermore, Pham's behavior and odd appearance again give Ravna pause to wonder if he is human or some sort of "construct of the Powers."



## Part 3, Chapters 37-41 and Epilogs

### Part 3, Chapters 37-41 and Epilogs Summary

In Chapter 37, Pham brings OOB out of an interstellar jump just 20 million kilometers off-target, for which he blames bans Blueshell. With the Blight 53 hours behind them, Pham hurries to match velocities with the planet to effect a landing, Ravna admires the watery globe as beautiful as Relay and makes voice-contact with a frantic little boy who claims to be just hours from death without Ravna's help. On the ground, Woodcarver seethes at the idea of sparing traitorous Vendacious' life, but sees his potential value as a prisoner. Scrupilo has breeched the castle walls with powerful captured cannons. Despite guerrilla packs attacking her flanks and rear with extraordinary coordination, Woodcarver orders an assault, while Scrupilo warns that Steel must have some unknown advantage.

Meanwhile, Steel cannot control his anger over Vendacious' double treachery, which makes him actually need delivery from space. When that is accomplished he will enjoy killing insolent Amdijefri, whom it has pained him to cajole. Flenser's singleton member enters, wincing from flesh rubbed raw by 20 days in radio cloak. His other pack members are cutting Woodcarver's supply lines. Steel needs him to feign a siege to draw the starship into his "Jaws," but to destroy the invaders before being crushed. When Flenser dares to lecture him on manipulating Jefri to achieve this double goal, Steel threatens to kill his hated old teacher, but orders him to "cuddle up to the children" and await instructions. Steel worries what the cloaked pack is talking about. Overhead, Pham makes a perfect—and risky—ultradrive burn. The 152 pursuing ships are nominally due in 48 hours and accelerating. Pham assures Ravna that he has been in bigger jams before.

In Chapter 38, Jefri is comforted only by Amdi's friendship, as those who have killed his family are attacking. Talking with Ravna by voice brings him joy. When the bombardment ends three hours before the ship is due, Amdijefri cavort and explore the dome. They loosen a block and discover behind secret, fairy-tale tunnels. One puppy finds an outer opening and describes the battlefield. Seeing Tyrathect approach, they scramble back and "act natural," but he sees through it and explains the tunnels' purpose: spying and escape. When Ravna radios, asking to talk to Steel, Tyrathect takes the call, laughingly calling himself Mr. Skinner. She asks Jefri a mathematical question, which he answers promptly and accurately. Skinner appeals to them to land quickly inside the courtyard. Pham refuses but agrees to ward off the invaders. Suddenly Steel arrives and takes over the conversation,

Holding by agrav 20 km. Above Starship Hill, Ravna watches the ground action. Steel's insistence has made her wary. Because the landing boat lacks automation, Pham must let Bluestalk fly him down. The Rider hopes that the craft's appearance may make killing unnecessary, but Pham considers Woodcarver's troops the murderers of the refugee crew. The boat is unstable in the air and smoke obscures the ground. Pham's first sight



of Tines is unsettling. With Steel urging him to kill them, Pham aims the lone surviving beam gun. Johanna is behind the cannon line in Peregrin's care, trying to get to Jefri, when fired beams melt a cannon, kill many, and cause panic. Johanna wants the attacker to see her and understand the situation. Steel's archers take to the parapets and open fire. The boat reappears and cuts down many of her friends. Amdijefri tells Ravna that only ten of 15 pluses hit anything, angering Pham. Steel demands more attacks, but Ravna suggests waiting to see if Woodcarver attacks. Shreck sees Johanna trying to attract Pham's attention, but Amdijefri does not and is ordered below. Steel orders a lesser powder dump blown up to simulate an attack, which brings Pham back into action. Seeing a waving human figure, he orders a landing.

In Chapter 39, Steel tries to explain Johanna away to Ravna and Pham, but they believe her and Peregrine's story and demand to speak with Jefri, who cannot be produced. On a back channel they agree that Steel is out to ambush them but must land and get time with the Countermeasure. Meanwhile, Tyratlect labors to gain Amdijefri's trust and sets them crawling through the dark tightness towards the outside. In the air, Peregrine briefs Pham on the principal characters and Ravna reports that Steel is sounding hysterical and threatening. Around the periphery of the castle except on the north side, troops guard against escape once Steel orders the outer pool of oil ignited. He sees personally to destroying the refugee ship. As he expects, the Flenser Fragment awaits him, reunited. Smooth-talking the Fragment into momentary inattention, Steel attacks.

In Chapter 40, the tunnels are no fun romp for Amdijefri, but painful and scary. It narrows as they reach the exit, but the oil pours down, nearly drowning several puppies. Jefri lubricates himself to squeeze through and push out the final block, to emerge in a pool of oil, surrounded by troops. With a blast the pool bursts into flame, leaving only a 30-meter gap. Johanna screams, seeing Jefri emerge into it. The heated air makes landing difficult, and the boat tips, wedging the only gun into the ground. Pham again assumes Rider treachery. Bluestalk races to rescue the boy—and to show defiantly that he is not "the thrall of some Power." Pham and Peregrine engage Steel's approaching troops before they turn to fight Woodcarver's forces. A shot from the parapets ignites the gap as Bluestalk reaches Amdijefri and arranges them beneath his colored cloth for protection. Singed, Pham has to fall back before Bluestalk emerges, fatally burned, and Amdijefri emerges, nearly suffocated. Brother and sister embrace and Pham, chastened, mourns the loss of his friend. He welcomes the onset of godshatter. Ravna reports that the enemy is retreating north as Pham sets out to face Countermeasure. The Blighters are due in 46 hours.

Ravna reads a post, purportedly from Sandor Arbitration Intelligence, that says the Blight in sudden desperation has absorbed all High Beyond sites and then suspended its assault. Next, the Society for Rational Investigation decrying lies on the Net, calling for serious study of phenomena, and wondering at the outcome of the Blight fleet's imminent arrival.

In Chapter 41, Ravna and Greenstalk land the OOB and is taken by Woodcarver to the unharmed refugee ship, past the coldsleep boxes and gore from Flenser's battle with



Steel. The Blighters are 45 hours away. Pham has excluded everyone from the ship, but Ravna refuses listen. A bright "thing" grows from the walls, constantly shifting shape and color. Pham is in a fugue state, he and the Countermeasure forming a "Transcendent machine" able to function at the Bottom. Whether its maker is Blight or an enemy of the Blight is unclear, but it is penetrating Pham's chest, bloodlessly but causing him to shudder without resisting. He tells Ravna that the Riders' myth is real. There are Powers beyond the Powers. The Blight knows that Pham can destroy it as it was destroyed before, by guiding a "reverse surge" that even drains the local sun. The planet enters the equivalent of the High Beyond or Low Transcend. Old One's ghost is amused and the Blight filled with fear. A Surge that makes the last one seem like a ripple sweeps the Blighters into the Bottom, and the ships that he had ordered Svensndot to target had all been the ramscoops capable of escaping, however slowly. Meanwhile, trillions of civilizations good and bad have made their way to the heights. The Countermeasure prevents Ravna from approaching Pham as he dies. His last moments defy metaphor and simile. Old One comforts him: the memories are real. The sun comes back. Pham and the Countermeasure, merged, are removed for burial. No ultradrives are detected anywhere. Greenstalk, Jefri, and his puppies comfort Ravna.

The Epilogs show Tines' world returning to peaceful life. Flenser/Tyrathect, half-crippled, popularly reviled, but polite, comes to Woodcarver under a truce flag to make peace with his Parent. He points out his role in saving the children and the ship. They agree on terms, including his eviction from the castles and confiscation of the radio jackets. Only when he abjectly begs to make it up to Steel's mutilated pack is he given custody.

Peregrine elatedly learns to fly the OOB's awkward landing boat and with Ravna takes Greenstalk to a distant island in the Western Ocean to live out her life in peace in the surf. She does not conceal that she is pregnant but downplays any danger of betrayal because her skrode is so primitive. Riders are a courageous, honorable species. More problematic is sparing bloody Vendacious. Peregrine looks forward to Tines advancing in technology until they take to space and perhaps escape the Slow Zone. Woodcarver is dubious but more adventurous, thanks to Peregrine's vitality.

Autumn arrives and 151 children are revived and set up on Hidden Island. Ravna plans a school for humans and Tines. Amdi helps her and Johanna orient to the night sky. They think of the Olsndot parents' role in stopping the Blight that they accidentally unleash. Sentient life survives in much of the galaxy. Ravna thinks of the Aniara Fleet sacrificing itself to turn the Blighter Fleet into "flies trapped in amber." An unknown amount of the galaxy shares that fate. She hopes that the Blight at the Top of the Transcend has also been toppled by "Pham's Revenge," but accepts that she will never know.

The Society for Rational Investigation posts to the Net a "ping," requesting contact by anyone spinward who hears him. Sites in the Transcend are, of course, above replying, but there is a silence even in the depths. It appears that a portion of the Transcend has been engulfed. The writer pleads for information.



## Part 3, Chapters 37-41 and Epilogs Analysis

Chapter 37 opens the novel's final action as Pham pulls OOB out of an interstellar jump off by 20 million kilometers, for which he arbitrarily blames Blueshell and again banishes him when his expertise could be great. Pham makes a risky—ultradrive burn and affects bravado about the continuing Blighter pursuit. Meanwhile, on the ground, Vendacious is persona non grata with both Woodcarver and Steel. Steel's only good news is that the radio-linked Flenser pack is proving successful against Woodcarver's rear supply line. The cost of such coordination is limited to the individuals wearing the cloaks: they are bloodied and exhausted from chafing. Steel has reverted to youthful self-mutilation in trying to contain his anger at the situation, galled actually to need the rescue that he has been feigning. He is fed up with Amdijefri, but orders Flenser to "cuddle up" to them in case they are needed. At the same time, what the cloaked pack might be talking about worries him, rightly, as the continuing story shows.

In Chapter 38, Amdijefri discovers tunnels running through the castle walls and Tyratlect explains their use for escapes. This, of course, sets up the finale. He talks by radio to Ravna, amusing himself by using the pseudonym Mr. Skinner, a more customary synonym for Flenser. There remains a strong mixture of Flenser in his being. Steel arrives and pushes too hard for an attack on the supposed invaders. Repeatedly Pham considers medieval rulers whom he has known and whose Steel-like characters have always bothered him. It makes him cautious about taking aggressive action and Ravna shares his opinion. Bluestalk becomes part of the ground mission because the landing boat is designed for Rider control. His path to glory approaching, Bluestalk is still suspect and a bump ride does nothing to clear Pham's paranoid suspicions. Johanna witnesses the dramatic warning shots, whose effects Vinge describes in vivid detail, and bravely places herself where she can be seen from the air. Amdijefri is hustled below by a sharp-eyed Shreck to prevent his seeing her and, conveniently, the puppies are congenitally near-sighted. As conveniently, he is not available topside to back up Steel's story. Steel provokes another attack run by faking an attack on his own castle, but Pham sees an entirely unexpected human and lands.

In Chapter 39, Steel continues to lose ground as the rescuers believe Johanna and Peregrine's story and Jefri cannot be produced to talk with them. Tyratlect has more difficulty than one would expect gaining Amdijefri's trust to send him out to safety. The pair accompanying Steel records his rantings for playback to the frightened children. Notably, Bluestalk spots the lethal danger: oil being poured into the walls. Pham dares not fire to clear the parapets for fear of igniting the fuel. Steel orders that done and goes personally to destroying the refugee ship, to deny the human everything. He chuckles about having blown up a volunteer making sure that an explosive device inside an extra cloak would detonate. The event far back in the novel is hardly memorable. He is foiled, however, when the Flenser Fragment awaits as expected, but reunited, and claiming that Tyratlect has proven stronger than expected. Master and Student circle one another, with Steel trying to provoke momentary inattention in order to attack.



In Chapter 40, is packed with drama as Bluestalk races into flames to rescue Amdijefri and to prove to Pham defiantly that he is not "the thrall of some Power." Pham realizes that the dead Rider is a true friend and wonders about his own relationship to the Power as godshatter comes over him. The time has come to face the mysterious Countermeasure as News posts show sudden desperate actions in the High Beyond.

In Chapter 41, Pham and the stuff growing on the spacecraft walls—the Countermeasure—merge to call in another Surge far more powerful than the last. It sweeps the Blight into the Bottom, where it is effectively "encysted" for an unknown length of time. Zones shift, millions of civilizations are lifted and other millions destroyed, but as posters on the Net have often noted, such things are trivial in the face of nature. Old One is on hand to confirm that the Riders' myth is real and, personally, that his memories had been real. Pham dies painlessly, merged with Countermeasure, happy to have averted the crisis. Interspersed with this drama are mundane facts from the Datasource, now in Scrupilo's hands. OOB is described for the first time. It should be intrusive but somehow breaks the tension of the narrative.

The Epilogs tie up loose ends. A gentler Flenser/Tyrathect makes peace with Woodcarver, his Parent, also mellowed and somewhat optimistic. Overcoming fear of the Rider's myth, she grants permission for Greenstalk to live out her life in a distant tide pool. Peregrine and Ravna deliver her there and talk about the Tines' technological future, given human help. The remaining children are revived and plans are laid to educate them together with Tines. Looking at the unfamiliar sky, Ravna meditates on all that has taken place and hopes that Pham's sacrifice has not been in vain. At a minimum it has put the Blighter Fleet out of business for millennia, but she can never know the fate of the Blight at the Top of the Transcend. The novel ends with some hope of this: a panicky poster seeking contact with other sentient beings. S/he reports that a portion of the Transcend seems to have been engulfed.



# Characters

## Ravna Bergsndot

The novel's heroine, Ravna is a human native of the Sjandra Kei system. As a child she is a great lover of romantic adventure from the Age of Princesses. While her sister Lynne turns to practical things, Ravna in her teens dreams of emigrating to Straumli Realm to be part of the generation that first transcends its own humanity. The goal alienates her father, who correctly predicts disaster for Straumli Realm. Readings in Computer Science and Applied Theology courses teach Ravna caution and she becomes a librarian. In her senior year at Herte University Ravna wins the Vrinimi Organization's Faraway Prentice contest and finds herself 20,000 light years from home at the chief Known Net hub at Relay. She lives alone and somewhat lonely in a luxury apartment decorated in Techno Primitive style as the only human in the Docks, which are suspended 1,000 km. above Groundside. She enjoys walking on the beach and admiring the beautiful blue planet below. Occasionally she visits the surface.

In the second year of her three-year apprenticeship, Ravna is happy to work with one of the largest databases on the Known Net. During an audience with the top of the archive division, Grondr Vrinimikalir, ostensibly to report on her success as a token human apprentice in the Organization, she learns that a rare Class Two perversion has wiped out humanity across the Straumli Realm and a ship from the Transcend, controlled by a Power, has arrived wishing to claim a living human to investigate. Grondr urges Ravna to consider this opportunity to work with the gods and to establish an oracle upon her return. When Ravna refuses vehemently she is put in charge of orienting to his new life Pham Nuwen, the lone survivor of a spacecraft from the Slow Zone. After hearing his remarkable life's story, Ravna realizes that he is a unique treasure, and tries to hold him back from the Transcend, arguing that he would be welcome in any civilization in the Beyond. Pham, however, innocently wants to go with the Power. They become lovers but she is troubled to discover that he serves as an agent of a Power. Her background in religion put her in fear and awe.

Ravna and Pham flee Relay when it is attacked by the Blight aboard the Out of Band II (OOB), piloted by two Skroderiders Blueshell and Greenstalk. They carry out the mission that they had been assigned by the wiped-out Org: rescuing Jefri Olsndot from a planet inhabited by dog-like creatures that have massacred his family. One faction, he claims, is attacking those who have befriended him. Ravna passes to him information on how to build cannons and radios. She worries about him constantly during the long trip.

While stopping for repairs en route, Blueshell is briefly infected by the Blight and thereafter distrusted by Pham once the OOB escapes, tailed by anti-human extremists who have exterminated Ravna's native world, Sjandra Kei, and a large force of Blighters. Ravna detests genocide and ruins her relationship with Pham by defending the Riders. When OOB narrowly wins the race, Ravna watches helplessly as Pham,





while experiencing "godshatter," becomes integrated with the Countermeasure, concentrates energy from the local sun, and creates a massive Surge, which sweeps the Blighters into oblivion. Stranded and mourning Pham, Ravna settles in to be mother to Jefri, his sister, and 151 other children revived from suspended animation.

## Pham Nuwen

A human of pre-Nyjoran genetic stock, Pham is found among other dead bodies floating in the Slow Zone and is re-animated by Grondr Vrinimikalir, who dubs him the "Ur-human." Grondr gives him red hair and dresses him absurdly in Nyjoran-era costume complete with sword and slug gun, like "a sleeping prince from the Age of Princesses." Resenting being the "target" of education and suspicious that he is being set up for something, Pham demands a live human tutor and is assigned to Ravna Bergsndot, the only human in the Relay Docks, for orientation. She dislikes Pham's smugness but his handsomeness makes her homesick and arouses her sexually. Lightning physical reflexes and quick learning suggest to Ravna that Pham is a robot, but Grondr assures her that he is human but also at times an "Emissary Device" for a Power.

Born in the Slow Zone on Canberra, the youngest child of a king, Pham is taken ransom by the fearsome and devious Qeng Ho traders, going from "medieval lordling to starship cabin boy" in a matter of weeks. Pham learns to fit in and becomes a shipmaster, spending decades in coldsleep between ports. He becomes the "yo-yo of the Fleet," a "goofball," building riches and subfleets, only to lose them. He joins a crazy captain who wants to head toward the Galactic center and find advanced technological societies. The Wild Witless Bird experiences breakdown, which Pham is trying to fix when the life support system fails. Pham regrets losing memories from before his violent death. Ravna's first objective is to shrink Pham's ego, a cover for insecurity. They become lovers before she learns that he is the face of a god.

Pham and Ravna narrowly escape the destruction of Relay by the Blight aboard the Out of Band II (OOB), piloted by two Skroderiders Blueshell and Greenstalk on a mission to rescue Jefri Olsndot from a planet inhabited by dog-like creatures who have massacred his family. En route, "godshatter" convinces Pham that the Olsndot starship contains something vital to the Blight, either to destroying or strengthening it. He grimly determines to get there first. While stopping for repairs en route, Blueshell is briefly infected by the Blight and nearly kills Pham, who thereafter distrusts him and confines him and Greenstalk to quarters, even as it becomes obvious that Blueshell's piloting skills are essential to the mission's success. Godshatter shows him the Riders' role in blights ancient and current. When Ravna talks him into assigning Blueshell limited duties, Pham's paranoia remains active.

Pham makes a brilliant but risky approach to the Tines' world, just ahead of the Blighter Fleet, but has to accept Blueshell's piloting of the lander to the surface. He fires on the forces that Jefri has claimed by radio to be the aggressors in the local war, but does not wipe them out as the warlord demands. Rescuing Jefri's sister Johanna alive and hearing her story from the other side, Pham realizes that the Countermeasure that he



has come to find is at risk. When Blueshell races into a wall of flames to rescue Jefri and burned to death, Pham realizes that he has been unfair and wonders if he himself is controlled by some Power.

Pham boards the Olsndot ship and in godshatter becomes integrated with the mold-like Countermeasure and concentrates energy from the local sun to create a massive Surge, which sweeps the Blighters into oblivion. He dies, happy to learn that his memories are true, not Grondr's invention as Ravna once hurtfully suggest. "Pham's Revenge" massively rearranges the galaxy's levels and perhaps affects even the Blight at the highest level.

## Jefri and Johanna Olsndot

The offspring of Arne and Sjane Olsndot, Jefri and Johanna survive a treacherous attack on their starship soon after it arrives on a world inhabited by dog-like sentient creatures, exiles from old Earth. Eight-year-old Jefri regrets having missed the action, having flow in coldsleep until shortly before the landing, while teenage Johanna regrets that the adults have perished aboard a separate frigate. Jefri and Johanna are the only children among 311 packed into makeshift coldsleep boxes and worry about their friends' survival. Jeffri is a brat who needs diversion to stay brave, while Johanna takes interest in everything and is innovative. Brought up in the middle latitudes of Straum and spending most field trips in space, Johanna is overcome by the beauty of the valley in which they land.

During the initial inspection of the landing site, Johanna is shot in the shoulder by an arrow and goes into shock, while Jefri on his mother's orders remains inside the ship, where dense smoke makes him black out. Coming to, he wonders who the Whitejacketed dog-like creatures are who remove him to a large room beneath the Castle. His first thoughts are to reunite with his family. Johanna carries "The Oliphant," a huggable heirloom toy that she should have outgrown, but contains stories of queens and princesses of the Dark Ages that she enjoys. Johanna is abducted at the port by Peregrine Wickwackrum and Scriber Jaqueramaphan to the court of Queen Woodcarver, where she receives medical attention and offers of friendship, which she initially spurns violently. The creatures, which she calls "Tines," quickly learn to speak Samnorsk using Johanna's supposedly passworded Dataset. Eventually won over by ancient Woodcarver, she helps the Tines build canons to return and claim the starship and revive the other children.

Meanwhile, Jefri is befriended by an eightsome pack of puppies, Amdrianifani (Amdi). He bonds with them so fully that they are referred to collectively as Amdijefri. Whereas Johanna, whom Jefri is told is dead (and who believes him perished), helps the Tines to learn on their own from the Dataset, Amdijefri makes contact with Ravna Bergsndot aboard the starship Out of Band II (OOB), who from the ship's library transmits instructions form making more sophisticated cannons and radio that Amdijefri astoundingly modify to transmit a pack's brainwaves over vast distances. Both bring the cruel and calculating Mr. Steel military advantages in the warfare that ensues. Seeing



the approach of a landing craft, Johanna runs to open high ground to attract the pilot's attention and is picked up. She sees Jefri and a pack of puppies escape the castle, surrounded by walls of fire. Amdijefri narrowly escape with their lives and are reunited. They and the surviving children once revived become Ravna's foster children.

## Tyrathec / Flenser

A complex character, first seen as a badly integrated "newby" who has yet to take a professional name, Tyrathec claims to be a schoolteacher. Of undetermined sex, Tyrathec is introduced traveling with Peregrine Wickwrackrum and Scriber Jaqueramaphan from Icefangs to Flenser's Castle on Hidden Island. Tyrathec is standoffish, a killer, and a Flenserist fanatic who is doubtless fleeing the purge that follows Flenser's failed coup. S/he expects a "dark appointment" at the castle and disappears when the Olsndots' ship lands. Tyrathec reappears in the aura of Flenser, surrounded by soldiers and whitejackets. S/he has escaped as three separate, cringing creatures each of which assembles a diminished pack. While the other two are en route to the Castle, this one is "Tyrathec, Flenser in Waiting."

Flenser is at this point the object of a fifty-year-old cult with a worldwide following, centered on the Northwest Coast at Flenser's Castle, where he experiments, writes essays, and schemes to rule the world. Sixty days before the arrival of Olsndot's spacecraft, Flenser is torn apart by a mob in the Republic along with dozens of supporters. He had gone on his mission to convert the Long Lakes Republic leaving in charge Lord Steel, his greatest creation. In crafting new souls, Flenser ruthlessly discards all but the truly important and spends 70 years perfecting Steel. Steel is unwilling to return power to Flenser, should his pack be restored. When the others are confirmed killed, Flenser, an unremarkable fivesome (three males and two females) becomes a propaganda figure and useful advisor, whose survival depends on Steel's whim. Steel is happy to have a "bottled demon: Flenser wisdom without Flenser threat." Tyrathec could destroy Flenserism only with help from Woodcarver, Flenser's Parent, who is too idealistic to play the necessary role.

In pursuing Flenser's goal of creating a state that is not "a mindless agglomeration grubbing about in some jungle," but an invincible, world-dominating force as brilliant and ruthless at the top as any packs in history, Flenser creates Amdiranifani (Amdi), bred for mathematical genes. When teamed with the human child, Jefri Olsndot, the puppies put valuable military tools in Steel's hands, but he remains dedicated to bringing down his megalomaniac student. Tyrathec/Flenser volunteers to test a radio system that allows a pack to separate geographically but function in unity. He succeeds in saving Amdijefri's lives and thwarting Steel's plans to destroy the starship. Badly crippled in the savage fight, Tyrathec/Flenser comes under flag of truce to make peace with his victorious Parent from whom he has long been estranged. Both are much mellowed.



## Amdiranifani (Amdi)

A four-year-old, eightsome pack of dog-like Tines, bred for mathematical genes and trained without usual cruelty, Amdi is housed in Room 33 of the castle of Hidden Island when, by fortunate mistake, the human refugee, Jefri Olsndot, is placed in the same room. Amdi cautiously approaches the boy and begins accurately imitating his various sounds. Jefri's presence enlivens Amdi, who perhaps considers him a surrogate parent. Jefri and the puppies entranced with each other and soon form an entity—Amdijefri. Jefri soon realizes that the playful puppies are driven by a single mind.

The cruel, manipulative Master of the Realm, Mr. Steel, sees using Amdi as a translator for and teacher of the boy as his Movement's key to survival. Amdijefri establishes radio contact with Ralna Bergsndot aboard the starship Out of Band II (OOB), which is dispatched to rescue the Olsndots and explore the commercial potential of the Bottom world. She explains from the ship library how to construct cannons for self-defense against their enemies and radio technology. Amdijefri's mathematical prowess allows them to adapt this to communicating the Tines' non-verbal mind communication. Amdijefri nearly perishes while escaping Steel through the castles' system of tunnels when Steel orders it flooded with oil and set ablaze.

## Blueshell and Greenstalk

Blueshell and Greenstalk are Greater Skroderiders, interstellar freight handlers whom Ralna Bergsndot and Pham Nuwen meet on Relay in The Wandering Company bar and soon find themselves on a harrow chase into the Slow Zone aboard their the starship, the Out of Band II (OOB). For 200 years they have been business partners and affectionate mates. Blueshell, the male, is glib, compulsive, and manipulative, while Greenstalk, the female, is loving, shy, stubborn, and honest. They are near eyewitnesses to the destruction wrought by the Straumli Perversion and have inside information about a mysterious ship that is trying to establish communications with Relay. Business is off because of rumors on the Known Net that their cryptographic cargo is compromised. They accept to undertake a rescue mission of the Olsndot family in the Bottom of the Beyond and have the OOB nearly outfitted for travel there when Relay is destroyed. Their employer is destroyed, but they continue the mission for honor's sake.

During repairs en route, Greenstalk is corrupted by renegade Riders and attempts to kill Pham. After the narrow escape, Pham never again trusts the pair and confines them to quarters, even as the depths disable automation and Blueshell's talents are desperately needed. Pham cannot reach the surface of the Tines' world without Blueshell's help flying the lander and watches in horror as the Rider races into a wall of flames to rescue Jefri and prove that he is not controlled by any Power. He perishes. In the climactic "godshatter" in which he sweeps away the threatening Blighters and himself dies, Pham confirms that the Rider myth is true: they are the dormant force of the Blight for



millennia. Greenstalk, pregnant, is allowed to live out her life in peace in a remote tide pool on Tines' world.

## Scriber Jaqueramaphan

A sixsome pack of dog-like Tines, a jovial goofball and fount of trivia, Jaqueramaphan is introduced traveling with Peregrine Wickwackrum and Tyratlect to Flenser's Castle on Hidden Island. Peregrine suspects that Scriber may be a spy and realizes that his buffoonery hides a streak of genius. His enthusiasm for the failed rebel Flenser is cooling even before witnessing the treacherous ambush of the Olsndot cargo shell. Scriber is curious about the unusual creatures it hold and leads Peregrine among the wounded to get a closer look at the wounded survivor, Johanna Olsndot, whom they kidnap to Queen Woodcarver's castle, where Scriber is mesmerized by the artwork and proud to "speechify" about the flying house, ambush, murders, and rescue.

Scriber describes himself as a 30-year-old dilettante who has read about natural history, biography, and brood kenning, and a would-be author and inventor. Frustrated in his academic ambitions, he accepts from the Political Police of the Republic a spy mission to learn the secrets of Flenser's Hidden Island. To impress Johanna, who dismisses his talent as second-rate, Scriber tries to enroll in Vendacious' spy system but is brutally murdered. One member, Ja, escapes, crippled, but cannot name the murderer. Johanna laments not having accepted Scriber's friendship and pledges to get along better with the Tines for his memory's sake.

## The Old One

A Power created by gasbag creatures of a Beyonder race, who retain no leverage over him, the Old One comes to Relay looking for a human to study and buying up so much bandwidth that the Known Net is crippled. As officials have known him for eleven years—and Powers lose interest in anything at the ten-year mark—there is no danger that he represents the rapidly spreading Blight. Ravna Bergsndot vehemently objects but Pham Nuwen is anxious to experience interaction with the gods in the Beyond and the status of an oracle when he returns. The Old One makes of Pham an "Emissary Device," taking over his brain when needed to compute answers. On the verge of becoming the first Power to be murdered in millennia, the Old One overfills Pham's brain with data that convince him he must win the race to control the Countermeasure on Tines' world. In the dramatic finale, Old One's ghost serves as "midwife" for "Pham's Revenge," which sweeps away the immediate danger of the Blighters. Before the end, he reveals secrets that comfort the dying hero, including that creating doubt is how he has controlled Pham.

## Arne and Sjane Olsndot

Married members of the Straumli Realm's mission to long-abandoned Earth, Arne is a trader and Sjane a popular archaeologist. They inadvertently develop a "self-aware



"overness" that they sense will destroy the humans. Son Jefri recalls Mom talking about "making God" in the High Lab, and living "beyond the Beyond." The Olsndots hastily fabricate coldsleep boxes for 311 children and escape aboard an old freighter. Towards the end of the flight, needing extra hands, they revive their children, Johanna and Jefri. Johanna describes her father as "dashing as any adventure poster." He feels guilty about having unleashed a dangerous new Power on the universe, but Sjane reminds him they have children to raise.

Without automated help, Arne skillfully lands the cargo shell on sodden ground and, when the ground cools, ventures out. Suddenly, the ship is attacked by packs of wolves armed with crossbows. When Arne answers a hail of arrows with fatal gunshots some, the attackers go berserk. Arne is taken down trying to rescue wounded Johanna, while Sjane provides cover with the lone gun. A flamethrower blast kills them both. Sjane's love of novels about shipwrecks and reinventing technology to escape helps Johanna survive on Tines' world.

## Scrupilo

The most impatient of the packs attending the court presentation of the captured "Two-Leg" alien, Johanna Olsndot, Scrupilo ignores Peregrine Wickwrackscar's warning about her unfriendliness, and is struck painfully in the tympanum. Scrupilo is amazed by Johanna's height and agile-looking forepaws, but offended by her smell. Peregrine considers Scrupilo "a prickly twit" who disregards tradition to consider that this singleton person could be as intelligent as an entire pack. As Scrupilo learns the Samnorsk language, Johanna sees that he is "prissy and very bright," curt, impatient, and constantly in jerky motion. He spends much time studying her Dataset. His fur is scorched in many places from test firings of the cannons. The noise clears his mind while befuddling everyone else. Training never ceases and Scrupilo adopts epaulets, based on Nyjoran gunners' earmuffs, to protect his troops' tympana during firing. Johanna finds that they make him look foolish, but he believes that he looks raffish and help create esprit de corps. When Woodcarver's army is overwhelmed by wolves, White-Head, Scrupilo's bravest element who survives rending, cooperates with Johanna to wheel and aim the cannon to destroy the nest. For this the Queen decorates them. Being singled out is a heavy burden to Scrupilo.

## Shreck the Colorless

Lord Steel's assistant, Shreck is the product of his dungeon/laboratory, where singletons are driven insane in stinking isolation pits to serve as "raw material" for "black packs." Shreck is beyond pain or desire, utterly loyal.

## Lord Steel

Flenser's greatest success, Lord Steel names himself after the most modern of metals rather than adopt a traditional name combining the names of individuals in the pack. He



and Flenser silence the member of the trio that limits him through conscience and slow intellect. During the five years that Flenser is away, converting the Long Lakes Republic, Steel rules, conserves, and extends Flenser's domain. He is crueller than his Master, whose tortures continue to haunt him. When a fragment of Flenser returns, united with the mild teacher Tyrathect, Steel is conflicted: the Flenser bravado is useful in controlling the masses and his intellect is useful, but should the other fragments arrive and form a more powerful pack, Steel's rule would end. He considers killing the fragments while they are vulnerable, but it turns out the others indeed die in the assassination. Thereafter, Steel treats Tyrathect/Flenser as his cringing tool, risking him to test a newly developed radio system. This enables Tyrathect/Flenser to defeat Steel, whose paranoia and hatred for Amdijefri have him raving. The creature tears apart the creator as he rushes to implode the stone fortress that surrounds the captured starship in what would have been an act of suicide.

## Kjet Svensndot

Group Captain of the Aniara Fleet that pursues the Out of Band II (OOB) into the Slow Zone, Svensndot is a 25-year veteran of SJK Commercial Security, starting as a rent-a-cop and advancing to become the best combat pilot in the organization. He has been in only two shootouts before being put in command of the Ølvira, "not a rebuilt freighter, but a fighting machine from the keel out," optimized for Sjandra Kei's depth in the Beyond. The ship is crewed by two Dirokimes, Tirolle and Glimfrelle. When convinced that the Blight has taken over the fleet owner, Svensndot leads a mutiny. He accepts on faith targeting directions from Pham Nuwen aboard the Out of Band II (OOB). In the face of massive casualties the survivors of the Aniara Fleet insist on breaking off the chase. Svensndot never learns the reason for—and complete success—of the targeting that he directs.

## Vendacious

Queen Woodcarver's hundred-year-old, overweight, and dandified Lord Chamberlain, Vendacious is "a superb spymaster, a mediocre administration, and an incompetent scientist." He is the fusion offspring of Woodcutter and two strategists. He begins his career managing the wood mills, improves the waterwheel, and becomes romantically entangled with politicians and speechmakers. His replacement parts incline him towards public life, and for the last 30 years he is vocal on the Woodcarver's Council. For ten years he has been Lord Chamberlain. There are rumors that he will succeed Woodcarver as Lord of Council. His pompous speeches are the bane of Council. Secretly, Vendacious manages Woodcarver's spies and informants, foreign and domestic. He has infiltrated the Flenser inner circle—but is also Lord Steel's obedient and traitorous spy. He watches and covers up the murder of Scriber Jaqueramaphan and his role is found out before he can sell out the army. Vendacious' life because of the Queen's past promises, but this an unpopular decision.



## Grondr Vrinimikalir

Officially in charge of the division of archives on Groundside of Relay, Grondr, in fact, runs Vrinimi Marketing (Intelligence). He is said to have visited the Top of the Beyond and has an artificial immune system. Below him the hierarchy run Derche, Egravan, and Ravna Bergsndot. Grondr is of the Vrinimi species, the majority race descended from insects. At a distance he looks humanoid, but up close is disconcerting with eye freckles and precise movements. He is very old. Grondr tells Apprentice Ravna Bergsndot about the spread of a rare Class 2 Perversion (Blight) and tries unsuccessfully to get her to volunteer. He then assigns her to orient Pham Nuwen, an Ur-human whom he has resuscitated after an accident in the Slow Zone. Grondr arranges for a rescue mission for the Olnsdots before the Blight destroys Relay in a lightning raid. Out of Band II (OOB) carries out its mission after Grondr and the Org's demise.

## Peregrine Wickwrackrum / Wickwrackscar

Originally a quad pack of dog-like Tines, clear-thinking and lighthearted, that has avoided growing to a five- or sixsome, Wicky's name is a combination of the four individual's names (Wic-Kwk-Rac-Rum), "Wicky" becomes Wickwrackscar when Rum is killed and the pack memorializes his scar, a name attached to the military officer who brings useful knowledge to the pack. Fortunately, the character is also referred to as Peregrine, Latin for traveler or "Pilgrim," another occasional name. Later in the novel, Johanna Olnsdot disdainfully refers to him as "Scarbutt" after the entity that she remembers see killing her father.

At any rate, Wicky has spent centuries traveling the world and not been back to the Northwest Coast in fifty years. Once anti-social, he now enjoys company and is introduced trekking westward to Flenser's Castle on Hidden Island in the company of Scriber Jaqueramaphan and Tyrathect. Wicky and Scriber witness the Olnsdots' landing and subsequent murder, and Wicky warily follows Scriber to have a closer look at the alien survivor. En route, Rum is killed and the surviving trio on the muscle and memories of an infantry officer. The new pack finds Johanna Olnsdot and abducts her by boat to Queen Woodcarver's domain. During the voyage, Johanna punches Wicky in the face and is proud long afterwards. She eventually grows pacified and teaches the Tines to speak Samnorsk. Wicky is revealed to be a former lover of Woodcarver and their packs impregnate one another to produce four puppies. As unofficial consort, Wicky becomes a key member of the court and looks forward to a more stable existence.

## Queen Woodcarver

Three centuries before Flenser, The Woodcarver, a hunter, thinker, and artist, masters soul shaping of his and associates' members beyond what religions are capable of. He is guided by what he sees rather than by what he wants to believe. Nations to the south consider this heresy, but cannot invade the north and Woodcarver is careful not to





subvert the south directly. His settlement's artistic reputation grows and outside visitors return home with new ideas, younger, smarter, and happier. In the present time of the novel, Woodcarver has become a female. Her fivesome pack includes one so old that it has to be helped by the rest, another who is blind, and another who drools uncontrollably. Two others are still puppies. The blind one speaks for all, clearly and firmly. Overall, the Queen is not at all an "inspiring sight."

Woodcarver is served by one offspring, the Lord Chamberlain Vendacious, and opposed by another, Flenser the rebel whose creation, Lord Steel makes war against her over possession of a human starship. Woodcarver befriends the alien "Two-Legs," Johanna Olsndot and readily picks up her Samnorsk language. Johanna becomes attached to the pitiable old creature. Woodcarver nearly leads her army to disaster based on foggy memories and is slow to change her ways. Realizing that she is fatally inbred, she becomes impregnated—and impregnates—her old lover, Peregrine Wickwrackrum / Wickwrackscar. She is very maternal with her puppies and hopes they will mark a renaissance as Tines and humans help one another adapt and advance.



# Objects/Places

## Zones of Thought

Fundamental to the organization of the Galaxy are the Zones of Thought that follow its mass distribution. The map preceding the novel is useful to following the verbal descriptions, but characters frequently mention that it is fairly incomprehensible except by experience. Zones of Thought have always existed and are currently moving slightly inward. Races continually "upwell" from the Great Slowness and move into the Transcend to become the Powers or prey. Civilizations do not last long in the dangerous High Beyond and Transcend. Some theorize that something might exist beyond it.

The "Mindless Depths" extend down to the galactic Core. Farther out is the "Great Slowness," where humankind is born, ultralight transportation cannot exist, and civilizations live and die, "unknowing and unknown." The "Beyond" begins four-fifths out from the center and extends above and below the Galactic plane. The outer spirals of the Galaxy—everything more than 40,000 light years from the center form the Transcend. The Beyond and below are like the abyss of an ocean, where inferior creatures generally swim safely. "Close-to-sentient" factories operate only at the surface, but "flotsam" drifts constantly downward to where it is useful.

Most of the novel takes place in the Beyond, which consists of three sub-zones: 1) the "Bottom of the Beyond," which includes the Tines' World, which is just above the Slowness; 2) the "Middle of the Beyond," which includes Relay and Sjandra Kei; and 3) the "Top of the Beyond," which includes the Straumli Realm, and is just below "the Transcend." In general, antigravity (AG), ultralight communications, and mind-machine interfaces work in the Beyond, but efficiency slows as one descends. The Powers who inhabit "The Transcend," snobbishly limit contact with the Beyond and quickly bore of its inhabitants. They cannot make superhuman minds there.

The race to the Tines' world to control the mysterious "Countermeasure" penetrates an area of Zone instability, stalls in a great surge from the Slowness, and spends days moving below the speed of light and without advanced computer systems. When surge passes and the chase resumes, the Countermeasure and Pham Nuwen join to form a "Transcendent machine" capable of functioning at the Bottom. They guide a "reverse surge" that brings the planet to the equivalent of the High Beyond or Low Transcend and they generate a Surge that makes the last one seem like a ripple. Trillions of civilizations, both good and bad, are pushed to the heights.

## Alliance for the Defense

A cooperative of "five polyspecific empires in the Beyond below Straumli Realm" that emerges only after the fall of Relay, the Alliance operates on the Known Net under the banner "death to vermin," trying to rally support for the massacre of homo sapiens



everywhere. Its fleet destroys Sjandra Kei, which contains a large human population, and a large body of its ships pursue Out of Bands II from Harmonious Repose to the Tines' world, until thwarted by a great Zone surge. At this point, they declare victory and cowardly retreat.

## Aniara Fleet

In a human myth older than Nyjora, perhaps dating back to the Tuvo-Norsk cooperatives in the asteroids of Earth's solar system, Aniara is a large ship launched just before the parent civilization's death. The crew watches the planet's death agonies and years later dies as life-support systems fail. The ships of SJK Commercial Security that survive the destruction of Sjandra Kei name themselves after this myth. At Command Central, Owner Giske Limmende, a mild, profit-oriented manager, with her Chief of Staff, Jan Skrits disbelieve Ravna Bergsndot and Pham Nuwen's story about the destruction of Relay and Sjandra Kei as bandied about on the Net.

When Kjet Svensndot, Group Commander aboard Ølvira, determines that headquarters has likely been taken over by the Blight, he leads an open mutiny, naming Johanna Haugen aboard Lynsnar as interim commander in case he is knocked out. Lynsnar is the first Aniara ship to fire on and destroy an enemy target. Ablsndot and Holder are lost in the attack before Ølvira narrowly escapes destruction but is taken out of action. The Aniara Fleet destroys two-thirds of the targets that Pham Nuwen indicates while losing half of its own ships and crews. The survivors are picked up and break off the chase, criticizing Svensndot for not targeting according to standard tactics. Caught in the great Surge, they never learn of Pham's reasons or the crucial victory that they have won.

## Aprahant Hegemony

Put down 1,000 years before the action of the novel begins, after undertaking a land-grabbing jihad, the Aprahant appear as butterflies with humanoid torsos, lustrous wings, and large soulful eyes. The crew of Out of Bands II learns while visiting Harmonious Repose for repairs that they are "butterflies in jackboots," demanding priority for their repairs in order to get back into action against humans following the destruction of Sjandra Kei. They form part of the armada that pursues OOB to the Kines' world.

## Earth

The lone surviving planet of a dim, red star, the Earth is long stripped to its mantle. Deep underground, human scientists from the Straumli Realm search for a valuable secret, which they must guard from being stolen by the Powers. On the surface is the High Lab, a traditional (non-automated) library that should not attract attention. They build data structures, a fast local network, and hierarchies of translation keys. Within a year, the local net forms an "overness" and achieves self-awareness. Worrying about being recognized and destroyed by the Power, the nodes feed the Powers lies. While playing with "recipes" from a lost archive, the humans create a new Power, a rare



"Class Two perversion" that during its ten-year "lifespan" will do enormous damage, beginning with the Straumli Realm. The humans flee Earth in two ships. The perversion (later called the Blight) destroys one ship, but a small ship carrying children in suspended animation and an ancient "Countermeasure" escape, setting up a great race to control whatever it does.

## Harmonious Repose

Nicknamed "Rest in Peace" by Pham Nuwen, Myth talks of Fentrollar founding dream habitats and the Old Religion, but people do not agree on whether this is a gift or curse. Sjandra Kei is the parent of the Straumli Realm in the "Top of the Beyond" near the Transcend, which the Blight destroys. The current civilizations, some 100 racial "terranes," are "in their twilight, refining mediocrity." The ship Out of Bands II (OOB), narrowly escaped from the massacre at Relay, puts into RIP's Saint Rihndell's Repair Harbor for repairs on its drive spines. The proprietor belongs to the majority species, which walks on ivory tusks and has a series of short arms growing from beneath their chins. Skroderiders, a sentient plant species have a small colony. These take control of their kin aboard OOB, nearly killing Pham and making him suspect the species thereafter. The Blight first becomes aware of OOB when it violently escapes the system and begins its dogged pursuit.

## The Known Net

A vast, "a hierarchical anarchy" linking hundreds of millions of worlds through primitive bandwidths, the Known Net has existed for billions of years, preserving records of the past. At the time of the novel, its major functions include automatically re-routing traffic in the case of disruptions and maintaining a variety of user groups (e.g., Threats newsgroup). When a Class Two perversion (or Blight) destroys the Straumli Realm, the Known Net's profitability is threatened. At Relay, a major link, a Power known as the "Old One," ties up 90% of the traffic by volume and count before cutting back to search for a single signal. Large portions of the novel consist of transcripts of messages posted to what wags call "the New of a Million Lies." Posters utilize the various styles familiar to any reader who visits the more polemical forums on the Internet.

## Nyjora

The original stock for all homo sapiens in the Beyond, Nyunora boasts a matriarchal social structure and generates a rich romantic, medieval literature. It advances technologically and declines periodically before ceasing to exist. Pre-Nyjorans are said by scholars to have a different bone structure to the face. Pham Nuwen, born in the Slowness and reconstructed and revitalized after an accident in space, is a pre-Nyjoran whose appearance and accent initially make people suspicious of his humanity.



## Out of Band II (OOB)

A 120-meter, 20,000-30,000 tonne starship belonging to Greater Skroderider traders, Blueshell and Greenstalk, OOB is close to finishing being outfitted for a mission to the Bottom of the Beyond at Relay when the planet is blasted out of existence by the Blight. The Riders with the humans Pham Nuwen and Ravna Bergsndot aboard race off on a voyage to a planet where the supposed lone survivor of scientists on old Earth has fled. En route to the Tines' world the OOB must stop for repairs on its 100-meter drive spines. At Harmonious Repose they narrowly escape from anti-human forces, which attracts the Blight's attention. Both forces pursue it towards its destination, part of the time slowed and disabled by the forces of the Bottom of the Beyond. Designed by and for Riders, OOB does not respond well to ad hoc human programming, and Pham is forced to return limited control to Blueshell. Through daring piloting, OOB reaches the Tines' world first and a landing party sorts out the civil war raging on the ground. The OOB is damaged on landing and is unlikely ever to fly again. With the galaxy disrupted by a massive Surge, there is likely nowhere for it to go.

## The Powers

Super-intelligent inhabitants of "The Transcend," the Powers have passed through the "technological singularity" and cannot be understood in human terms. Many manifest the consciousness of an entire civilization. They create new intelligent species, engineer on both the atomic and the cosmic level, and are able to warp the very nature of reality. They tend to limit contact with the Beyond, on whose inhabitants they look down and with whom they quickly bore. Powers can be malevolent, playful, or indifferent. The "Old One" makes Pham Nuwen into an agent of his will and, upon his death—a rare event among Powers—fills his mind with data about the Blight, including how to utilize the "Countermeasure" once again to destroy it..

## The Sandor Arbitration Intelligence at the Zoo

Professional investigators who post on the Known Net their conclusions about the Blight, Sandor staggers Ravna Bergsndot by revealing that its current manifestation appears to be less than a Power and thus not subject to the usual loss of interest found among Powers. It will go on searching to find the key to controlling the High Beyond, having thus far searched in all the wrong places, invading archives and killing Powers. When the Out of Band II (OOB), which has narrowly escaped destruction at Relay, is discovered undergoing repairs at Harmonious Repose, the Blight assembles an ad hoc force and follows it to its goal. Sandor provides readers information on the Blight's having "instantiated" before and having a mortal natural enemy that has failed to destroy all copies of its recipe. The humans of Straumli Realm find one by bad luck. If the Blight destroys the planet for which OOB is bound it will show fear of a great danger to itself there; if it does not it will indicate something that can make it grow more dangerous.



## Sjandra Kei (SjK)

Sjandra Kei is the name given to three star systems in the "Middle of the Beyond" by the human population, a minority alongside the Dirokimes and Lophers, but the driving force in the civilization. Dirokimes inhabit Sjandra Kei for a million years before the human colonists arrive and thrive. The three races stand united against rising threats from the Alliance for the Defense. Dirokimes are known sometimes to Transcend and become Powers. Myth talks of Fentrollar founding dream habitats and the Old Religion, but people do not agree on whether this is a gift or curse. Sjandra Kei is the parent of the Straumli Realm in the "Top of the Beyond" near the Transcend, which the Blight destroys. Later, in a dastardly planet-smasher attack with KE bombs being imported over months, the Alliance destroys the civilization. SJK Commercial Security, a paramilitary organization at best, flies out to seek revenge. The novel's heroine, Ravna Bergsndot, is a human native of the Sjandra Kei system. Learning of her homeland's destruction, she is distraught.

## Skroderiders

One of the most common "sophonts" (intelligent beings) in the Beyond and one a very few races to achieve long-term stability there, Skroderiders resemble small ornamental trees sitting on "skrodes," six-wheeled carts that provide locomotion and house short-term memory. Their high-pitched voice comes from a "voder." Skroderiders are easily distracted and prefer lazy reminiscence to almost any activity. Skroderiders are divided into Greater and Lesser species, the latter being less intelligent. Some match the ancient skrodes in balancing outlook and a machine interface over a billion years old. Skroderiders trade throughout the Middle Beyond.

Blueshell and Greenstalk are such traders. They meet Ravna Bergsndot and Pham Nuwen on Relay, hoping to enlist her help in convincing the Vrinimi Organization to accept what they know about escapees from the disastrous Straumli Perversion. The "Rider Myth," which constitutes their religion, tells of a time 4-5 billion years ago when someone builds the first skrodes and raises the first Riders to sentience, before being catastrophically destroyed. The Riders now wait faithfully for the Creator to return, making no improvements on the limiting skrode design. This teaches them vast patience and to concentrate on what is truly important. At the conclusion of the novel, experiencing "godshatter" in union with the "Countermeasure," receives the revelation that the Rider Myth is true, making all Higher Skroderiders potential tools of the Blight.

## Straumli Realm

A region in the "Top of the Beyond" near the Transcend, a sibling civilization of Sjandra Kei, the Straumli Realm is less than a century old and mostly inhabited by humans. It welcomes tourists, trade, and immigrants and expects to produce the first humans to Transcend their own humanity. Teenage Ravna Bergsndot, a lover of romantic literature, wants to emigrate there from Sjandra Kei but her father is against it and predicts its



doom, which comes to pass during this novel. Straumli Main on 01/09/52089 announces opening an ancient archive in the Low Transcend, which it intends to make commercially available. Despite such glowing announcements, absolute disaster befalls the Straumli Realm, thanks to a "Power of deadly inclination" that they create or awaken on Earth. Disaster stretches across the entire Realm, which drops off Relay's message traffic. It is believed that by a combination of bad luck and criminal incompetence the researchers are tricked by documentation that claims miracles into building a transcendent being that "victimizes sophonts in the Beyond". As the Blight spreads, anti-human pogroms are organized, the worst against Sjandra Kei.

## Tines

The dominant species on the unnamed planet in the Beyond on which the Olsndot family lands as refugees from the Blight, Tines are variously described as dogs, wolves, and huge rats with long, snake-like necks and prehensile lips. Teenage survivor Johanna Olsndot gives them the name because of the sharp claw attachments that soldiers wear on their front paws, and one of the local warlords likes the savage connotation. The Tines live in a medieval society with two warring factions facing off along the northwestern shore of the continent.

Tines behave like puppets under a single control. Most wear gray-green uniforms "studded with stirrups and pockets" that make uniting as a pack easier. Distributed gestures are the equivalent of human facial expressions. Most packs consist of 3-5 individuals. If fewer, they cannot come up to the level of singular human intelligence. When members die they are replaced if someone compatible can be found in the available pool. Queen Woodcarver's "soul" is over 600 years old and replacing herself with inbred puppies weakens her. Tines make "gobbling, hissing sounds" that are "a cross between a bird call and someone throwing up," but are capable of mimicking human speech with precision. These noises of create irritating echoes in confined spaces, and packs rarely come within 10-15 yards of one another, except to mate or make war.

Not all packs are killers: many are weak, poor, kindly, and naive, etc. Tines can be trained into lines and rings, consisting of ordinary people trained to string out as individuals rather than form packs, lines and rings can stretch to thousands of members over ten miles. Contingent members can maintain the mentality of a trio, but the entire line responds at the speed of sound to danger to any member. Because they are stupid, lines make excellent sentries, since they are not easily bored. With human help, Tyrathect's pack is fitted with radios that receive and transmit mind waves, allowing individuals to function at great distances.

## Vrinimi Organization / Relay

Operating the Relay System for some 50,000 years, the Vrinimi Org is located 20,000 light-years off the galactic plane and enjoys an unobstructed line-of-sight on 30% of the



Beyond, including many star systems at the bottom, where starships make little headway. Relay's backbone transceivers are swarms of antenna elements scattered across light years, each element being ten thousand kilometers across. Some solar systems are well placed enough to compete with Relay but either lose interest, are colonized into the Transcend, or die out. Relay is also the main intermediate to the Magellanics, the galaxies closest to the Milky Way, and has links to the Beyond in Sculptor. The Organization's only export was the relay function and access to the local archive.

The Org includes Groundside on a planet that resembles water-rich Sjandra Kei. overhead the galactic whirlpool sprawls. Citypark is mountainous. The Org is headed by Grondr Vrinimikalir, a member of dominant Vrinimi species, descended from insects but upsized. At a distance Grondr appears humanoid, but up close he is disconcerting with eye freckles and precise movements. He personally and the Org are tolerant of other races, including homo sapiens.

High above Groundside hang a cluster of factories in orbit, brighter than any moon. Almost as bright are the Relay Docks, consisting of 1,000 km. of bays, repair holds, transshipment centers, parks, and playgrounds, which float 1,000 km. above Groundside on an immense agrav (anti-gravity) frame. Living there is immensely expensive, but that is where heroine Ravna Bergsndot works as an apprentice. The "Foreign Quarter" occupies a third of the Docks, abutting the "no-atmosphere periphery." The Org encourages tourism there.

During the commercial downturn following the emergence and spread of the Blight, the Org organizes a rescue/reconnaissance mission to a planet deep in the Beyond, homing in on an emergency beacon. It is believed to have something to do with the destruction of Straumli Realm and might be the key to ending the Blight. As the Out of Band II (OOB) is being readied for flight, the Blight launches a sneak attack that utterly destroys Relay. OOB continues its mission.





# Themes

## Intelligence

A Fire upon the Deep depicts the Milky Way Galaxy as seeded with a vast array of intelligent species, grouping them together under the general term "sophonts." The galaxy is governed by "Zones of Thought" that generally follow its mass distribution. These have always existed and tend slightly towards a movement inward to the core. Races continually "upwell" from the Great Slowness and move into the Transcend to become either Powers or prey. Civilizations tend not last long. Many develop high technology and then revert to medieval levels. Several *linguae francae* have developed to facilitate communication among them and individuals in some species are multi-lingual. Public facilities offer machine translation among their service and starships have programs not only to translate but also to sort and analyze messages. These fail as one descends to the Bottom of the Beyond.

Various sophonts have natural restraints placed on them by physical characteristics. The most radical are imposed on the Skoderiders, who resemble small ornamental trees. They require technological assistance for locomotion, speech, and short-term memory. Skroderiders are divided into Greater and Lesser species, the latter being less intelligent. While the species prefers to meditate placidly on natural scenes, some serve as interstellar traders and the species is widely spread throughout the galaxy.

The differences between humans and "Tines" are examined at length, as two human children, Johanna and Jefri Olsndot are left orphaned on their planet and adopted by two warring factions. Both species find the others bizarre in look and behavior but quickly come to appreciate the others' dexterity. The Olsndots have dogs, wolves, and rats as points of comparison at least, while the Tines have only mantises, which is not particularly apt. Johanna quickly learns that the pack that kidnaps her is able to break the password security on her Dataset, something her little brother cannot do. Once she overcomes her bitterness at being alone, she adapts to life among the Tines. They rapidly learn her language; she is never able to penetrate their mind-thought. Jefri has an easier time of integrating because he is placed with eight playful and intelligent puppies, who learn his language and help him communicate by radio with humans on an in-bound spaceship. The humans see how the Tines are able as a pack to function together efficiently to accomplish virtually anything that they can do. The Tines see the limitations of having to be a 3-5 element pack in order to have human-level intelligence. Mind-thought makes it impossible for separate packs to be close together except for chaotic activities like sex and war. The Tines pad all walls with hangings to dampen the maddening echoes. Jefri receives plans for a radio from space and he in conjunction with the puppies—they become "Amdijefri" as a composite—modify the design to transmit and receive mind-waves over great distances, allowing individuals to function with the full faculties of the pack.



Another sophont on Tines' world are gerbil-looking "wolves" whose individual intelligence is even smaller than the Tines, but they are a powerful and destructive force when directed by the Queen. Destroy the hive and they are dispersed. As defense against the Tines, the wolves have evolved a shrill sound that disperses their packs, rendering them dumb and vulnerable to attack. Each sophont species has found its niche in which it flourishes.

## Genocide

While the Milky Way Galaxy generally enjoys peaceful coexistence of thousands of sophonts (intelligent beings), it is stirred up by the outbreak of the Straumli Perversion (or Blight) to extreme prejudice against homo sapiens and eventually genocide. Many voices call for calm reasoning: a few greedy individuals accidentally release the Blight, whose first victims are humans, simply because they are the chief inhabitants of the Straumli Realm. These voices decry the idea of collective responsibility requiring collective reprisal.

These voices of reason are shouted down by the slogan "Death to Vermin!" The "Alliance for the Defense," a cooperative of "five polyspecific empires in the Beyond below Straumli Realm" finds voice on the Known Net after the Blight massacres Relay. It seeks to rally support for the massacre of homo sapiens everywhere. Its fleet launches a massive, lethal attack on peaceful Sjandra Kei, which contains a large human population, without worrying about collateral damage to the Dirokimes and Lophers who live among them. A large body of its ships then pursue Out of Bands II (OOB) when it determines that humans are aboard. Blighters also join in the chase.

At Harmonious Repose (nicknamed "Rest in Peace"— RIP) a colony of Skroderiders, a sentient plant species, have ancient programming activated to attack the humans. Greenstalk, the OOB's co-pilot, is perverted by the touch of her skrode. Her mate, Blueshell goes along without being fully converted. As a result, Pham Nuwen wants to kill them and start a jihad against all Skroderiders. His companion, Ravna Bergsndot, a native of Sjandra Kei, still mourning the loss of her family and her world, nevertheless argues against a retaliatory genocide. Pham relents, biding his time, but never again trusts the Riders. It takes Blueshell's self sacrifice to save humans and Tines puppies for Pham to see his hateful prejudice. In the end, widowed and pregnant Greenstalk is allowed to live on an island far from any other creatures to bear her young and contemplate the disaster that has befallen her. Survivors SJK Commercial Security, a paramilitary organization, seeks revenge on the killers of its people, achieves limited success, and breaks off to rebuild their shattered society on other worlds. That is the task of all survivors.

## Mythology and Religion

Readings in Computer Science and Applied Theology courses at Herte University prepare Ravna Bergsndot to interpret the formative myths of various cultures that she



and Pham Nuwen encounter during the voyage of the Out of Bands II (OOB) from doomed Relay to the Tines' world. They fly with a mated pair of Skroderiders, a sentient plant species, Blueshell and Greenstalk. They come to Relay hoping to enlist Ravna's help in convincing the Vrinimi Organization to accept what they know about escapees from the disastrous Straumli Perversion. Shortly before leaving, Pham has had his mind filled with the knowledge of a Power, the Old One, as he becomes the first Power murdered in millennia. Part of the knowledge is the "Rider Myth."

The "Rider Myth" constitutes their religion. It tells of a time 4-5 billion years ago when someone builds the first skrodes, units that provide the plant-like creatures locomotion, communication, and short term memory. Having raised the first Riders to sentience, the Creator is catastrophically destroyed and the Riders have waited faithfully for the Creator's return, making no improvements on the limiting skrode design. Blueshell vehemently resents being questioned about such fundamentalism, a typical reaction by zealous believers in anything. During ship repairs, a small colony of Riders take control of their Greenstalk and she tries to kill Pham. Both admit that their species is easily controlled by the Blight. During the final revelations that he is granted before dying in "godshatter," Pham is assured that the Rider Myth is true.

The mythology of Sjandra Kei, the parent civilization of the Straumli Realm in the "Top of the Beyond" near the Transcend, which the Blight destroys, talks of Fentrollar founding dream habitats and an Old Religion. People disagree on whether this is a gift or curse. One of the participants in the Known Net about recent events, "Hanse," recalls how the Aphrant Hegemony 1,000 years earlier undertakes a "jihad" to grab real estate. Independently, this is said to be how the inner planets of Harmonious Repose became a ring system. In a human myth older than Nyjora, perhaps dating back to the Tuvo-Norsk cooperatives in the asteroids of Earth's solar system, Aniara is a large ship launched just before the parent civilization's death. The crew watches the planet's death agonies and years later dies as life-support systems fail. The ships of SJK Commercial Security that survive the destruction of Sjandra Kei name themselves after this myth.

Finally, Ravna applies to the "fugue state" that Pham occasionally enters its technical term in Applied Theology, "Godshatter." Learning this, Pham feels dark inside and wishes that he had known then what was happening as Old One pour into his mind vast amounts of information while dying. When first realizing that Pham functions as "the hand and eye of a Power," she trembles in awe, which she expresses in much the same way as the mystics of Judea-Christianity. Pham and the Countermeasure unite their essences to form a "Transcendence Machine" capable of restructuring the fundamental order of the galaxy.



# Style

## Point of View

Vernor Vinge's *A Fire upon the Deep* is told in the third person past tense by an anonymous and omniscient narrator, almost certainly belonging to the homo sapiens species. Interspersed are frequent bits of dialog. The novel approves of equality among "sophonts" (intelligent beings) in the Beyond and firmly opposes an anti-human pogrom that breaks out. The individuals that accidentally release the Blight happen to be human, but this does not justify collective reprisal on the species. The narrator roots for the mysterious "Countermeasure" to fall into human hands rather than the Blight's and wants the latter contained or destroyed. Never described beyond the bewildering passages in the Prologue, the Blight is clearly not a good thing to anyone.

At times Vinge comes close to telling the story through individual character's eyes, but never formally turns over the narrative reins. Thus, the Tines' ambush of the Olsndots' space ship, Johanna runs out, is shot in the shoulder, and the massacre of her parents is told through her eyes and mind until she loses consciousness. It is then retold from the point of view of Peregrine Wickwrackrum and Scriber Jaqueramaphan, who hide from the attackers. The two versions begin suggesting that the natives of this world are vicious pack animals working with highly coordinated minds. Johanna does not see her younger brother Jefri taken captive and is herself kidnapped to a rival realm.

The Olsndot children are both precocious and the novel follows their respective paths to understanding and sympathizing with the Tines who hold them. Each human child has separate but fairly equal resources to draw upon and each becomes a fierce partisan of his or her protector. Each side has traitors and spies in its midst but the reader is rarely surprised by events as they unfold. Naively Johanna and Jefri help their protectors develop technology to overcome the enemy whom they believe is all-evil and menacing. It is the Tines, however, who master human speech and swiftly intuit the technical data that they receive. Tines' constantly react to and comment on human physiology, psychology, and even smell. Humanity is not depicted as rescuing benighted savages, although it does serve the cause of warfare.

In the end, the Blighters are swept away by a monstrous Swell from the depths, but it also spreads Slowness throughout the galaxy, destroying civilizations. Others, good and bad, are thrust up into the Transcend. Clearly the galaxy is fundamentally different at the end of the novel than at its start, but with communications nearly knocked out, no one will know.

## Setting

Most of Vernor Vinge's *A Fire upon the Deep* takes place in "The Beyond," one of the "Zones of Thought" determine the organization of the Milky Way Galaxy. Above the



Beyond is the Transcend, while below it lies the "Slowness" and the "Mindless Depths." The Beyond includes three sub-zones: 1) the "Bottom of the Beyond," which includes the Tines' World, just above the Slowness; 2) the "Middle of the Beyond," which includes Relay and Sjandra Kei; and 3) the "Top of the Beyond," which includes the Straumli Realm, just below "the Transcend." Civilizations in the Middle and Bottom are generally free from interference by The Powers who inhabit "The Transcend." Powers are a snobbish lot and grow quickly bored by the mere Beyonders from whom they spring.

The Prologue shows Earth a stripped and airless world where technologists establish a High Lab, hoping to exploit economically a discovery they have made. Like the Mummy's Curse, the discovery gets out of hand, destroys the Straumli Realm, and rages as a Blight over the Top of the Beyond, hunting for something that can destroy it. The "Countermeasure" is, in fact, aboard a starship that escapes High Lab and lands on an unnamed planet that comes to be known as "Tines' world" after its dog-like primary species. Tines' world is a medieval society looking to expedite the development of technology that will give one side an advantage over another. The sub-polar coastal region where the ship lands is beautiful year-round, and many pages are devoted to descriptions. Many things appear earth-like, but others are odd to the humans. Hive and pack intelligence are at work here.

Technicians at Relay, an amazing complex 20,000 light-years off the galactic plane in ideal position for its signals to reach obscure areas of the Bottom, prepares a rescue mission. Before the starship Out of Band II (OOB) can be completely outfitted, Relay is destroyed by the Blight in a dazzling attack. OOB joins some 10,000 other refugee ships. Relay in its splendor and in its destruction is described in lush detail. Even more majestic is the description of a solar system, Harmonious Repose, that resembles a gigantic Saturn. The rings, cultures, and structures are developed before a great shoot-out breaks out and OOB again flees into space.

Much of the novel takes place on-board a rather Spartan craft as it races forces that would massacre all humans and Blighters who need to gain control of the mysterious "Countermeasure." Ship systems slow as they penetrate deeper and encounter an area of Zone instability. They all stall in a great surge from the Slowness, and spend days moving below the speed of light and without advanced computer systems. When surge passes and the chase resumes, the Countermeasure and Pham Nuwen join to form a "Transcendent machine" capable of functioning at the Bottom. They guide a "reverse surge" that brings the planet to the equivalent of the High Beyond or Low Transcend and they generate a Surge that makes the last one seem like a ripple. Trillions of civilizations, both good and bad, are pushed to the heights.

## Language and Meaning

That author Vernor Vinge is a professor of mathematics and computer science before becoming a full-time writer is obvious from the text of *A Fire upon the Deep*. Without the prop of a personal narrator, he slips easily into technical jargon but wallows in it only in



the Prologue, which is tough reading indeed. Usually he is restrained and by context makes known what technical and/or made-up words might mean.

Among the densest parts of the novel are the transcripts received from the Known Net. It hosts message boards that readers will appreciate are like the Internet. Various posters put forth their positions, some appealing to calm and study and others demanding action against humanity. The headers of these messages are particularly rich in information on sender, language filters, etc., but their form lends itself to being overlooked. Vinge captures the spirit of a message board where passions run high. Set in Courier type, these portions are frequently delightful and sometimes to contentious that characters reading them express bafflement. This helps the reader feel less alone.

Vinge also depicts a medieval world inhabited by warring factions of dog-like packs that cling together to achieve intellect approaching a lone human's and outside the pack cannot stand close contact. Two human siblings are separated between the factions and strive to understand the nature of the creatures. Each adjusts, but it is the packs, called "Tines," that master human speech and figure out how to rudimentary use human technology in warfare. Revelations about the Tines come throughout the novel, virtually to the final pages. Much attention is given to how Tines packs are bred and, in some cases tortured conformity with the creator's plans. Some technical language is involved. Steel yearns to dominate his world and looks to the universe beyond. Resounding ideological language involved.

Finally, Vinge deals with transcendental, quasi-religious concepts as Pham is taken over by a god-like Power's ghost and serves as his agent. Having studied Applied Theology, Ravna is able to interpret the diverse myths of various species and Pham's experience of "godshatter."

## Structure

A Fire upon the Deep by Vernor Vinge consists of a Prologue, forty-one untitled chapters arranged in three parts, and Epilogs. The Prologue is not to be skipped, however challenging its language and material. It is an integral part of the novel. The maps of the Milky Way galaxy from above and edge-on are superimposed with the mysterious "Zones of Thought" that are fundamental to the intellectual organization of the universe. They are of some value, but even characters in the novel admit that the concepts are beyond understanding. Rarely after the Prologue is the technical talk overwhelming

Part 1 consists of Chapters 1-16. It introduces major and minor characters and institutions and establishes that a Blight is ransacking the Beyond in search of something. Action alternates between Relay, a major communications hub, and an unnamed planet inhabited by dog-like creatures that have captured human siblings while killing their parents. Johanna calls them "Tines." Theirs is a medieval world and two factions along the coast are at war. Each opponent cares for one child and believes



that s/he is alone. A rescue flight is in the works from Relay to answer Jefri's calls when the Blight destroys the planet.

Part 2 consists of Chapters 17-36. It follows the flight of the Out of Band II (OOB) to Tines' world. Particularly after an ambush while undergoing repairs at Harmonious Repose, there are conflicts between Pham Nuwen and the Skroderiders Blueshell and Greenstalk, whom Pham considers collaborators with the Blight. Ravna Bergsndot is forced to mediate. Anti-human extremists exterminate Sjandra Kei and mingle with a large force of Blighters intent on capturing whatever secret lies within the vehicle on Tines' world, where preparations for war build on both sides.

Part 3 consists of Chapters 37-41. It depicts the arrival of OOB, the final battle and the reunion of Johanna and Jefri. The climax comes when, caught up in "godshatter" and physically joined to the "Countermeasure," Pham wills a great Surge to sweep from the depths of the universe to the heights, changing the destiny of countless civilizations.



## Quotes

"A mob of frags and wounded is a terrifying, mind-numbing thing. Singletons, duos, trios, a few quads: they wandered aimlessly, keening without control. In most situations, this many people packed together on just a few acres would have been an instant choir. In fact, he did notice some sexual activity and some organized browsing, but for the most part there was still too much pain for normal reactions. Wickwackrum wondered briefly if—for all their talk of rationalism—the Flenserists would just leave the wreckage of their troops to reassemble itself. They'd have some strange and crippled repacks if they did.

"A few yards into the mob and Peregrine Wickwackrum could feel consciousness slipping from him. If he concentrated really hard, he could remember who he was and that he must get to the other side of the meadow without attracting attention.

"Other thoughts, loud and unguarded, pummeled him:

"Blood lust and slashing

"Glittering metal in the alien's hand ... the pain in her chest ... coughing blood, falling

"Boot camp and before, my merge brother was so good to me ... Lord Steel said that we are a grand experiment.

"Running across the heather toward the stick-limbed monster. Leap, tines in paw. Slash the monster's throat. Blood spouts high.

"Where am I?... May I be part of you ... please?

"Peregrine whirled at that last question. It was pointed and near. A singleton was sniffing at him. He screeched the fragment off, and ran into an open space. Up ahead, Jaque-what's-his-name was scarcely better off. There was little chance they would be spotted here, but he was beginning to wonder if he could make it through. Peregrine was only four and there were singletons everywhere. On his right a quad was raping, grabbing at whatever duos and singles happened by. Wic and Kwk and Rac and Rum tried to remember just why they was here and where they was going. Concentrate on direct sensation; what is really here: the sooty smell of the flamer's liquid fire... the midges swarming everywhere, clotting the puddles of blood all black.

"An awfully long time passed. Minutes." (Part 1, Chapter 4, pgs. 31-32)

"Ravna interrupted almost without thinking, a breach that would have horrified her a few days earlier. 'Just who is it, by the way? Any chance we're entertaining the Straumli Perversion?' The thought of that taking the redhead was a chill.

" 'Not unless all the Powers are fooled, too. Marketing calls our current visitor "Old One".' He smiled. 'That's something of a joke, but true even so. We've known it for eleven years.' No one really knew how long Transcendent beings lived, but it was a rare Power that stayed communicative for more than five or ten years. They lost interest, or grew into something different—or really did die. There were a million explanations, thousands that were allegedly from the Powers first hand. Ravna guessed that the true explanation was the simplest one: intelligence is the handmaiden of flexibility and change. Dumb animals can change only as fast as natural evolution. Human equivalent races, once on their technological run-up, hit the limits of their zone in a matter of a few





thousand years. In the Transcend, superhumanity can happen so fast that its creators are destroyed. It wasn't surprising then that the Powers themselves were evanescent." (Part 1, Chapter 7, pg. 72)

"Tines. I like it. If that was the alien's image, then it was the right name for his race. His pitiful advisors — and sometimes even the Flenser Fragment — were still intimidated by the ship from the stars. No question, there was power in that ship beyond anything in the world. But after the first panic, Steel understood that the aliens were not supernaturally gifted. They had simply progressed — in the sense that Woodcarver made so much of — beyond the current state of his world's science. Certainly the alien civilization was a deadly unknown right now. Indeed, it might be capable of burning this world to a cinder. Yet the more Steel saw, the more he realized the intrinsic inferiority of the aliens: What a bizarre abortion they were, a race of intelligent singletons. Every one of them must be raised from nothing, like a wholly newborn pack. Memories could only be passed by voice and writing. Each creature grew and aged and even died as a whole. Despite himself, Steel shivered." Part 1, Chapter 14, pg. 153.

"Target[56]: I'm sorry I didn't answer for a while. I don't feel good a lot. Mister Steel says I should talk to you. He says I need more friends to make me feel better. Amdi says so too and he's my best friend of all.... like packs of dogs but smart and fun. I wish I could send pictures. Mister Steel will try to get answers for all your questions. He is doing everything he can to help, but the bad packs will be back. Amdi and I tried the stuff you said with the ship. I am sorry, it still doesn't work.... I hate this dumb keyboard....

"Org[57]: Hi, Jefri. Amdi and Mr. Steel are right. I always like to talk, and it will make you feel better. ... There are inventions that might help Mister Steel. We've thought of some improvements for his bows and flamethrowers. I'm also sending down some fortress design information. Please tell Mister Steel that we can't tell him how to fly the ship. It would be dangerous even for an expert pilot to try....

"Target[57]: Ya, even Daddy had a hard time landing it. I think Mister Steel just doesn't understand, and he's getting sorta disparate.... Isn't there other stuff, though, like they had in olden days. You know, bombs and airplanes that we could make? ...

"Org[58]: There are other inventions, but it would take time for Mister Steel to make them. Our star ship is leaving Relay soon, Jefri. We'll be there long before other inventions would help...

"Target[58]: Your coming? Your finally coming!!! When do you leave? When will you get here???" Part 1, Chapter 16, pgs. 184-185.

" 'But how can that help us? Doesn't rebuilding a civilization take dozens of years?'

" 'And besides, there's nothing to rebuild on the Tines' world. According to the child, this is a race without antecedents. How long does it take to found a civilization?'

"Ravna waved a hand at the objections. Don't stop me. I'm on a roll. 'That's not the point. We are in communication with them. We have a good general library on board. Original inventors don't know where they're going; they're groping in the dark. Even the archaeologist/engineers of Nyjora had to reinvent much. But we know everything about making airplanes and such; we know hundreds of ways of going about it.' Now faced with necessity, Ravna was suddenly sure they could do it. 'We can study all the



development paths, eliminate the dead ends. Even more, we can find the quickest way to go from medieval to specific inventions, things that can best whatever barbarians are attacking Jefri's friends." Part 2, Chapter 21, pgs. 253-254.

"He finished typing in the latest message, adding a few small questions of his own. Things like, 'How old are you and Pham? Are you married? What are Skroderiders like?' "Daylight had faded from the cracks in the walls. Soon the digger teams would be turning in their hoes and marching off to the barracks over the edge of the hill. Across the straits, the towers on Hidden Island would be golden in the mist, like something in a fairy tale., their whitejackets would be calling Amdi and Jefri for supper any minute now. "Two of Amdi jumped off the acc webbing and began chasing each other around the chair. 'I've been thinking! I've been thinking! Ravna's radio thing: why is it just for talking? She says all sound is just different frequencies of the same thing. But sound is all that thought is. If we could change some of the tables, and make the receivers and transmitters to cover my tympana, why couldn't I think over the radio?'

" 'I don't know.' Bandwidth was a familiar constraint on many everyday activities, though Jefri had only a vague notion of exactly what it was. He looked at the last of the tables, still displayed on the screen. He had a sudden insight, something that many adults in technical cultures never attain. 'I use these things all the time, but I don't know exactly how they work,. We can follow these directions, but how would we know what to change?'

"Amdi was getting all excited now, the way he did when he'd thought of some great prank. 'No, no, no. We don't have to understand everything.' Three more of him jumped to the floor; he waved random sheets of paper up at Jefri. 'Ravna doesn't know for sure how we make sound. The directions include options for making small changes. I've been thinking. I can see how the changes relate.' He paused and made a high-pitched squealing noise. 'Darn. I can't explain it exactly. But I think we can expand the tables, and that will change the machine in ob-obvious ways. And then... ' Amdi was beside himself for a moment, and speechless. 'Oh Jefri, I wish you could be a pack, too! Imagine putting one of yourself each on a different mountain top, and then using radio to think. We could be as big as the world!'" Part 2, Chapter 23, pgs. 278-279.

"Twenty thousand light-years in three weeks. But that had been on a path through the Middle Beyond. Now in the galactic plane, they were still several thousand light-years from their goal at the Bottom of the Beyond. The Zone interfaces roughly followed surfaces of constant mean density; on a galactic scale, the Bottom was a vaguely lens-shaped surface, surrounding much of the galactic disk. The OOB was moving in the plane of the disk now, more or less towards the Slowness. Worse, their path, and all variants that made any progress, extended right through a region of massive Zone shifting,. The Net News had called it the Great Zone Storm, though of course there was not te slightest physical feeling of turbulence within the volume. But some days their progress was less than eighty percent what they'd expected." Part 2, Chapter 25, pg. 294.

"She didn't back away, even when his hand was centimeters from her throat. Her face held courage and tears. 'W-what do you think, Pham? While you were in the surgeon... I rearranged things. Hurt me, and you will be hurt worse.' Her eyes swept the walls



behind him. 'Kill the Riders, and ... and you will die.'

"They stared at each other for a long moment, measuring. Maybe there weren't weapons buried in the walls. He probably could kill her before she could defend. But then there were a thousand ways the ship could have been programmed to kill him. And all that would be left would be the Riders... flying down to the Bottom, to their prize. 'So, what do we do, then?' He finally said.

" 'As b-before, we go to rescue Jefri. We go to recover the Countermeasure. I'm willing to put some restrictions on the Riders.'

"A truce with monsters, mediated by a fool.

"He pushed off, sailing around her back down the axis corridor. Behind him he heard a sob." Part 2, Chapter 29, pg. 351.

"Twenty hours. Fifty. Everyone was telling each other there was nothing to worry about. But now Blueshell said that talk of 'hours' had been unrealistic. Considering the height of the 'tsunami' (at least two hundred light-years), it would likely be several hundred light-years across—that in keeping with the scaling laws of historical precedent. There was only one trouble with this reasoning: they were beyond all precedent. For the most part, zone boundaries followed galactic mean density. There was virtually no change from year to year, just as the aeons' long shrinkage that might someday—after the death of all but the smallest stars—expose the galactic core to the Beyond. At any given time, perhaps one billionth of that boundary might qualify as being in a 'storm state.' In an ordinary storm, the surface might move in or out a light-year in a decade or so. Such storms were common enough to affect the fortunes of many worlds every year.

"Much rarer—perhaps once in a hundred thousands years in the whole galaxy—there would be a storm where the boundary became seriously distorted, and where surges might move at a high multiple of light speed. These were the transverse surges that Pham and Blueshell made their scale estimates from. The fastest moved at about a light-year per second, across a distance of less than three lights; the larges were thirty light-years high and moved at scarcely a light-year per day." Part 2, Chapter 33, pgs. 442-443.

"Suddenly, there was no possibility of shooting the two-some. A wave of snarling black and white surged over Kratzi and the mantis. Every able-bodied fragment in the hospital seemed to be running to the attack. It was instant killing rage, far wilder than anything that could come from whole packs. Chitiratte fell back in astonishment before the sight and the mindsound of it.

"Even the pilgrim seemed caught up in it; the pack raced past Chitiratte and circled the melee. The pilgrim never quite plunged in, but nipped here and there, screaming words that were lost in the general uproar." Part 2, Chapter 35, pg. 466.

"Time for the little suspicions. So how come the enemy had muzzle-loading cannon? Those they must have made themselves—in a world with no evidence of firearms. Steel was the classic medieval manipulator; Pham had spotted the type from a thousand light-years out. Shut up. Deal with Steel later.

"Slanting in on the packs, Pham fired again, sweeping through living flesh this time. He fired ahead of them and on the castle side; maybe they wouldn't all die. He stuck his head further into the slipstream, trying for a better view. Ahead of the packs was a



hundred meters of open field, a single pack of four and—a human figure, black-haired and slim, jumping and waving.

"Pham smashed the barrel up against the hull, safing it at the same time. The back flash was a surge of heat that crisped his eyebrows. 'Blueshell! Get us down! Get us down!'" Part 3, Chapter 38, pg. 542.

"Pham was at the Rider now. He stared silently for a second,. '...Blueshell's dead, Rav, no way you could doubt if you could see.' The fronds were burnt away, leaving stubs along the stalk. The stalk itself had burst.

"Ravna's voice in his ear was shuddery. 'He drove through that even while he was burning?'

" 'Can't be. He must have been dead after the first few meters. This must all have been on autopilot.' Pham tried to forget the agonized reaching of fronds he had seen back in the fire. He blanked out for a moment, staring at the fire-split flesh.

"The skrode itself radiated heat. Pilgrim sniffed around it, shying away abruptly when a nose came too close. Abruptly he reached out a steel-tined paw and pulled hard on the scarf that covered the hull.

"Johanna screamed, rushing forward faster than Pilgrim or Pham. The forms beneath the scarf were unmoving but unburned. She grabbed her brother by the shoulders, pulling him to the ground. Pham knelt down beside her. Is the kid breathing? He was distantly aware of Ravna shouting in his ear, and Pilgrim plucking tiny dogthings off the metal.

"Seconds later the boy started coughing. His arms windmilled against his sister. 'Amdi, Amdi!' His eyes opened, widened. 'Sis!' And then again. 'Amdi?'" Part 3, Chapter 40, pg. 566.

"More a brave wolf, you are, Pham Nuwen. There were only seconds left before they were fully in the depths, where the merged bodies of Countermeasure and Pham Nuwen would die forever and all thought cease. Memories shifted. The ghost of Old One stepped aside, revealing certainties it had hidden all along. Yes, I built you from several bodies in the junkyard by Relay. But there was only one mind and one set of memories that I could revive. A strong, brave wolf—so strong I could never control you without first casting you into doubt...

"Somewhere barriers slipped aside, the final failing of Old One's control, or a final gift., it did not matter which now, for whatever the ghost said, the truth was obvious to Pham Nuwen and he would not be denied:

"Canberra, Cindi, the centuries avoyaging with Qen Ho, the final flight of the Wild Goose. It was all real.

"He looked up at Ravna. She had done so much. She had put up with so much. And even disbelieving, she had loved. It's okay. It's okay. He tried to reach out to her, to tell her. Oh, Ravna, I am real!

"Then the full weight of the depths was upon him, and he knew no more." Part 3, Chapter 41, pgs. 583-584.

## Topics for Discussion

What advantages and disadvantages do the Tines have vis-a-vis humans and vice versa?

How do the Tines relate to the "wolves" on their own planet? How are their group intelligences different and which holds the advantage?

How has inbreeding harmed Queen Woodcarver? What hope do her new puppies by Peregrine offer?

What place do the Skroderiders occupy in the universe? How are they vulnerable to the Blight?

What is "godshatter" in mythology and in the reality of Pham's life?

What does it mean to "Transcend"? How do higher civilizations relate to lower ones throughout the Milky Way?

How does Ravna Bergsndot's study of Computer Science and Applied Theology prepare her for her mission? Describe at least three ways in which she uses her skills.

How do Jefri and Johanna Olnsndot compare and contrast as catalysts to technological advancement? What advantages and disadvantages do each side have?