

# **The Engines of God Study Guide**

**The Engines of God by Jack McDevitt**

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# Plot Summary

The Engines Of God by Jack McDevitt is a novel of exploration and interstellar archaeology. The story begins with the anticipated terraforming of a planet called Quraqua called Project Hope. It is the hope of those on Earth that this will be a new start. It is the year 2197 and archaeologists are trying to uncover the meaning behind the monuments they have found and those who created them. Quraqua is deserted now, but archaeologists have uncovered ruins that may hold the key to the Monument Makers. They scramble to uncover the last of the ruins before the terraforming project begins and covers them permanently. By 2202, archaeologists uncover the Temple of the Winds on Quraqua. They discover a link between the ruins here and a figure discovered on Iapetus. Vying for time, they struggle to finish and lose archaeologist Richard Wald in the process.

When the evacuation is complete, the team returns to earth but it is difficult to set aside the mystery of the Monument Makers. They need to understand why entire civilizations are disappearing, leaving charred buildings in their wake. Priscilla Hutchins gets a message meant for Richard and discovers a link between Quraqua and the planet Nok. Interruptions in civilizations on both planets appear to have happened with a regularity. She shares her thoughts with other team members and a Quraquan translation telling them to search for the Monument Makers by the light of the Horgon's eye gives them yet another clue. They set off for Beta Pacifica in search of answers, but find more than they bargained for. Their ship is damaged and dead in the water, with help almost two weeks away. Survival is tenuous but Hutch uses imaginative and creative solutions to the ongoing issues which included lack of power and heat. Rescue comes and the investigation continues. Beta Pacifica III yields unpleasant surprises. Although they find ruins again, much like they did on Quraqua, there are also residual life forms on this planet. Their shuttle pilot is overcome by crab-like creatures when he leaves the shuttle to investigate what appears to be an altar and soon afterwards, the same creatures use intelligent military strategy to isolate and kill two more team members. In all, three team members are killed. The remaining three transfer to a second rescue vessel called the Ashley Tee and find their way to yet another system where they hope that they can attract the Monument Makers. Anomalies in the sky appear and curiosity has them plotting a course to intercept while four people remain on a Delta moon creating a monument of their own. The anomaly is attracted by their creation and it almost results in the death of them, but an understanding is finally reached. Will Earth be the next target?



# Prologue and Part One: Moonrise: Chapters 1 and 2

## Prologue and Part One: Moonrise: Chapters 1 and 2 Summary

The Engines Of God by Jack McDevitt is a novel of exploration and interstellar archaeology. The story begins with the anticipated terraforming of a planet called Quraqua called Project Hope. It is the hope of those on Earth that this will be a new start. It is the year 2197 and archaeologists are trying to uncover the meaning behind the monuments they have found, and those who created them. Quraqua is deserted now, but archaeologists have uncovered ruins that may hold the key to the Monument Makers. They scramble to uncover the last of the ruins before the terraforming project begins and covers them permanently. By 2202, archaeologists uncover the Temple of the Winds on Quraqua. They discover a link between the ruins here and a figure discovered on Iapetus. Vying for time, they struggle to finish and lose archaeologist Richard Wald in the process.

In the 28th year of the mission on Quraqua, Henry wonders about the history of the planet and how the civilizations had died off twice in its history. It is April 29th in the year 2202 and Henry and his team are working in hopes that they can unravel the mysteries that surround this globe and the anomalies they have found. He is summoned from his room when his team manages to break through to the Temple of the Winds. It is a large space with friezes that show the story of Tull from an infant to godhood to mortality and back again. Henry is surprised to find a figure that is identical to the one found on Iapetus. Linda writes a letter to Philip Berthold and the University of Antioch describing their findings.

On May 6th, Hutch is back on earth. She waits outside the firm of Forman and Dyer for Cal. She gives him a ride home and he tells her he is getting married. Richard Wald hears about the Iapetus like figure found at Quraqua and decides that he needs to see the temple for himself before the terraform project begins. He calls his lifelong friend, Ed Horner and asks if a ride to Quraqua is possible. He agrees provided that Richard ensures Henry gets off Quraqua on time and that he agrees to talk to Caseway. Richard agrees.

The news desk reports drought in the midwest, soaring inflation, lowered population growth in European cities, and other headlines which include the commissions recommendations that resources go elsewhere. Quraqua will be ready in fifty years.



## Prologue and Part One: Moonrise: Chapters 1 and 2 Analysis

Quraqua is one of only three civilizations that have been discovered beyond earth. One civilization, the Noks, still lives on Inakademeru and Pinnacle lost its inhabitants three quarters of a million years ago. As such, Henry is acutely aware of the archaeological value of this globe. The earth is looking for somewhere else to populate, and Quraqua is the first choice. It has poles that are made of ice and once they are melted, terraform projects can begin. The archaeologists are working as fast as they can to uncover and document as much as possible before that happens.

Priscilla Hutchins or Hutch as she is known, is a pilot who shuttles between earth and the monument-based globes found so far. She is gone so often that she loses the man she loves to someone else. Cal accepts a ride from her, and she asks him to reconsider their position, claiming she would be willing to quit her job for him, but he knows that she would only hate him eventually, or at the least, resent the sacrifice. He wishes her well and tells her that she is beyond reach.

Richard Wald gets word from Henry that an artifact has been found that he should see. His interest in the monuments goes back many years and he has devoted a great deal of time to the question of what happened to the Monument makers. At first he thinks the photo Henry sent is of the Iapetus Monument, but closer inspection reveals it is different. This version is a death manifestation however, and confuses Richard. He contacts Ed and tells him about it. Ed agrees to get him a seat on a shuttle but wants him to use his influence to talk to Caseway, hoping that Caseway will listen to the man he seemingly respects.



# Part One: Moonrise: Chapters 3 to 5

## Part One: Moonrise: Chapters 3 to 5 Summary

Richard tells Hutch he will be going with her to Quraqua. First however, Richard lives up to his agreement by going to see Norman Caseway. Caseway tells Richard that if Ed had come to him, he would have explained there was no way he could change the current timetable for Quraqua. Richard tries to convey the great potential of information from the Temple of the Winds that will be lost if the scheduled melt of the ice caps occurs before they can finish, but Norman won't yield. From the news desk there are stories of tornadoes; bio warfare charges; anti gravity possibilities; the death of the wheat belt, a meteor on the moon; new farmlands discovered as a result of climate shifting; and twenty more species are declared extinct. On May 12th, Richard and Hutch are on the shuttle 'Johann Winckelmann.' It is a twenty five day trip to Quraqua. A library entry from the Boston Globe notes that there are currently eighteen thousand researchers working in extrasolar stations.

On June 6th, they have arrived. Beneath Bellatrix, Quraqua's red sun, the Winkleman's shuttle 'Alpha' descends as Hutch makes her way to Oz. When it comes into view, Richard and Hutch discuss its base ten construction, odd for a species with four digits. The Monument Makers however had five digits. Hutch takes them up higher again, where they can see the streets are all designed in exact squares as well. Cross streets intersected at exactly ninety degrees and Richard decides that its very name is a misnomer. Oz was never intended to shelter anyone, and the buildings and towers are solid stone without hint of window or door. Richard does notice that the entire complex is a mirror image of itself from the center outward. He asks what happened there, but no one knows. Carson tells him about inscriptions that are so recently discovered that they were not on the abstract. The symbols are nothing like the ones found on Iapetus and as he examines them, Carson reveals that they are a Quraquat language. In fact, it was the language they spoke at about the time that horse drawn carriages were still used and was only spoken over a period of about four hundred years. The supposition is that the message was left for Quraqua's inhabitants by whoever built Oz. They were still seeking a Rosetta stone to decipher it. There is one other tower, but Richard is told to his delight that it is not a mirror image of this one. That narrows down their area of study to just these two towers. The angle of the roof points down to the center of Oz and Richard asks for precise measurements of both declinations.

## Part One: Moonrise: Chapters 3 to 5 Analysis

Hutch is pleasantly surprised when Richard calls to tell her he is coming with her to Quraqua. Caseway is welcoming and hospitable yet unyielding and remorseless regarding Project Hope and the schedule to proceed. He tells Richard he regrets to find him so obtuse while Richard regrets his determined and stubborn stand. Norman actually seems to care about the new information Richard shares regarding Quraqua,



and suggests that if it were up to him, he would take over the Noks' planet instead which horrifies Richard who was actually beginning to like the man. The news is full of depressing articles that include lack of food and species extinction. The Boston Globe bemoans the lack of benefit versus the colossal expense to maintain the interstellar program.

Four days later, Hutch leaves earth with Richard as her passenger. She is glad for the company, knowing that not only will he be a good distraction for her, but he will also tolerate no self pity or self absorption from her. Her longing and desire for Cal fade as the planet is left behind much like a Schrodinger effect. Hutch and Richard discuss the transmission Henry sent regarding Oz and the discovery of the Iapetus like statue.

Arriving on Quraqua, Hutch is uncomfortable with Richard's insistence that they go to Oz first. She would have preferred to have landed and completed evacuation preparations before any other side ventures. She worries that he will get caught up in the anomaly and be a complication that hinders their scheduled departure. He reminds her that they have five days and that there is plenty of time. Hutch and Richard explore a bit before Carson joins them and the three continue their tour. Carson reveals that there are inscriptions which is a very exciting as they are only located on one of two towers. The surprise comes when Richard is told that the language is Quraqua, and it appears that it was left as a message to the inhabitants for when they found it. The only other anomaly of the city is that the two towers are not reflections of each other. Richard asks for precise inclination measurements adding that they 'may have something.'





# Part Two: Temple of the Winds: Chapters 6 and 7

## Part Two: Temple of the Winds: Chapters 6 and 7 Summary

The message board is blinking when Hutch returns to the ship. Allegri tells her that she will help to coordinate the evacuation of the fourteen people on the planet. She wakes when Richard's transmission comes the next morning. He wants as much time as possible to get into a yet unexplored site under the Temple. Hutch is told that Melanie Truscott is in charge from the orbiter, Kosmik Station. A ring of ice is being pushed into place around the planet from Bellatrix V by tugs and will be used to provide additional water. So far, it is the only planet with gravity that isn't too extreme as is the case on Pinnacle, or that is not already occupied such as Nok. Hutch talks to Melanie who makes sure that she knows the destruction of the entire coastline is a surety, and between the two of them, they must be sure to get everyone off in time.

Hutch takes her shuttle in to land at the float pier just west of the towers. She activates her Flickinger field and steps out where Frank is waiting in a submersible to take her to Seapoint where her quarters are located. Although a bit claustrophobic, the walls are clear and ocean life can be seen beyond by use of external lighting and Hutch finds it beautiful. She showers and sleeps. The next morning she has some time to herself before work begins, and takes the opportunity to see the Knothic Towers in the sunlight. She finds an exit pool and activating her Flickinger field swims out of the dome to the pier. She is suddenly aware of a presence at her left shoulder. About three meters in height, it has four eyes and an insect head, hairy thorax, mandibles, tentacles and jaws. Scared, she calls Janet who refers to it as a Strider and tells her it is harmless but not to move. Thick fluid leaks from its mouth as Hutch tries to calculate how long it will take Janet to arrive. She arrives in a sub from behind, distracting it and tells Hutch to move into the shuttle. Then she leaps out with a wrench and manages to kill it. Afterward, she tells Hutch that Striders snack on beach monkeys, indicating the large creatures on the beach.

Ian Helm finishes a field survey, as part of the Kosmik ground control. He is satisfied that the preparations for melting the ice sheets are in order. He reads a message sent by Melanie Truscott and calls her immediately, asking her what is going on. She relays a message from Caseway and tells her if the scientists will not move, they may have to be pushed off, which is a sentiment she secretly echoes.



## Part Two: Temple of the Winds: Chapters 6 and 7 Analysis

Hutch is happy to get back aboard the Winkleman. Her cabin displays the photos of herself and Richard on Pinnacle, Alpha floating with the Great Hexagon Monument near Arcturus and more of friends at Bethesda. Kosmik hoped to repair the parched planet by creating instant oceans when they melted the polar ice caps and Henry hopes to have the evacuation complete with a day to spare, giving them a margin for safety. With two shuttles, it should be easy, Hutch thinks. Richard would love an extension but tells Hutch not to get involved. Hutch tries to prepare Melanie for possible delays, but Melanie won't hear of it and warns them that she has no discretion in the matter which is what she has been told to tell everyone by Norman Caseway. What she doesn't reveal is that Caseway also told her that he most definitely does not want anyone killed and that he will handle any further issues himself. Hutch records the matter into ship's log. On the Kosmik Station, Melanie is also noting the conversation in her diary, stating that she feels sure that she and Hutch could likely have negotiated a peaceful evacuation, but her lack of discretionary powers will forbid that. Privately, what she doesn't record is how fed up she is with the consistent delays from below and how after three years all she really wants to do is go home. It seems impossible to her that yet another delay might occur over what she sees as little more than some broken pots and icons.

Hutch comes in to land and is amazed at the massive black fortresses covered with symbols and pictographs that rise twenty feet above the waves. She estimates they are large enough that twenty people could have sat on top of them at once. Frank meets her at the float pier and she asks him what its like to be closing down. He tells her it would have helped to have known for sure six months previously, but they had been told again and again not to worry about it. From this post, he's been offered a division director's job in Personnel at the Academy and though most of his colleagues believe it is a sell out, he is looking forward to a regular job that allows him to meet new people and catch an occasional Sentinel's game on the weekend. The following morning, Hutch is on her own, and swims to the pier. She notices birds like pelicans and can see the old imperial road through the mountains. On the shore she sees something with white fur and large floppy ears that walks upright like a man. Two more join it and still others descend from the road. The adults keep the younger ones in tow and one of them raises its forelimbs in what appears to be a greeting, startling her and she waves back. A sudden screech has them all running inland for the pass. One adult is taken down, yelping but Hutch cannot see what is responsible. A Strider almost has Hutch for lunch but Janet rescues her and she learns her lesson.

Ian Helm and Truscott confer, and Ian implies that a push may be required to get the archaeologists off the globe. She agrees, but not openly or in any way that can be recorded. Ian writes an archive that notes the likely results of nuclear devices they will blow at both poles. These include earthquakes measuring up to 16.3 on the Grovener Scale, tsunamis throughout the southern sea, and 35% higher rainfall.



# Part Two: Temple of the Winds: Chapters 8 and 9

## Part Two: Temple of the Winds: Chapters 8 and 9 Summary

Aboard the DVT Jack Kraus and Jake Hoffer approaches another giant snowball. He touches down, spikes attaching themselves while sensors make the calculations necessary to move it into position. It takes four hours to put it into orbit around Quraqua. In just a few weeks, he and the other tug pilot Merry Cooper will begin aiming them at the planet. Harvey Sill instructs him to drop it into the Southern Sea - the Yakata. Jake reminds him the scientists are there and is told that he is to drop it sixteen hundred kilometers south of the Temple anyway. He argues that it will kill them, because the snowball he is on is the size of a mountain. Sill talks him into aiming a smaller one into the ocean. Jake tells Sill it will take up to ten hours. Richard takes Hutch to the entrance of the Lower Temple, built in 9000 BC. Richard continues down the tunnel while Hutch stops to talk with George and then helps Eddie load the Alpha shuttle and heads back to the ship in orbit. On the way, she talks at length with Art Gibbs about the 'discontinuities' and the Scrivners who seemed able to predict one of them. Frank loads as well and follows the Alpha shuttle. Both shuttles unload their cargoes on Wincklemann and head back while the eleven ton ice block crosses the equator. Hutch docks and goes down with Frank where Eddie sends her to Tommy Loughery to help package the artifacts. Below George Hackett is waiting for Tri to bring braces. Maggie watches their progress on a monitor, and when they gain access to the Lower Temple she sees what can only be a printing press.

Henry is napping when the message from Kosmik comes. He leaves Andi to deal with it, but Melanie Truscott appears and insists that they have an emergency. Henry shows himself and Melanie admits they lost control of a snowball and a tsunami has formed. Henry knows this is no accident and breaks the connection to try to determine how much time they have. He orders everyone out of the Temple and tells Tommy to get into the sub and head out to sea to tell him where the wave is, how big it is, and how fast it is traveling. Hutch and Frank take the shuttles up to save whatever is on them. The wave is located at four hundred kilometers out and is about two meters high in the deep sea. Everyone gathers at the main diving pool where the doors are sealed, and they secure themselves to the railing. As the wave approaches, they activate their energy shields and breathe from their air packs. The water level at the Tower drops as the wave charges in. They brace as the chamber shakes and are thrown against their belts. No one is seriously hurt, although the shock waves continue for several minutes.



## Part Two: Temple of the Winds: Chapters 8 and 9 Analysis

Jake Hoffer is astonished when he is told to send the largest snowball into the Southern Sea. He knows that the size will cause chaos below, and likely cost the lives of those who are trapped in the Temple. He argues with Harvey, telling him he's out of his mind. Jake doesn't want to be responsible for lives lost. Harvey explains that in his opinion, it's the only way that they'll ever convince the scientists to leave. They have to be given a shove. Jake relents, but his compromise involves a much smaller snowball and it will take up to ten hours to position and send down.

Richard and the rest of the crew are searching for a Rosetta stone that might translate the Casumel Linear L language. They have only scraps of it so far and the translation eludes them. When they finally make their way into the Lower Level of the Temple, they hit the jackpot. They find what appears to be printing press. It is more than Maggie could have hoped for, and she is thrilled, but a message from Kosmik comes in that makes retrieval of this invaluable piece of information unattainable. Melanie Truscott innocently announces a small emergency, saying that they have lost control of one of the snowballs. Henry knows better, and calls her on it. The guilty look on her face tells him everything he needs to know. He closes the connection and focuses on the immediate problem. He recalls all staff out of the Temple, and despite arguments, they respond. They secure themselves in the main diving pool and while the mood seems to be festive and light, Richard can see the tension behind the levity. When the wave hits, the chamber shakes, throwing them against their restraints. Everyone is uninjured, although the after shock waves continue for several minutes.



# Part Two: Temple of the Winds: Chapters 10 and 11

## Part Two: Temple of the Winds: Chapters 10 and 11 Summary

The first wave takes out the rear temple wall, blows off the roof, and wrecks the colonnade. The second and largest wave destroys two of the three Knothic Towers and buries the Lower Temple and the third wave tears one of Seapoint's domes from its mooring, taking it two miles inland. The excavation site is buried, but they lost no one. It took just one hour for Melanie's message to be delivered. Transferring cargo without a pier is more difficult and only George manages to keep his sense of humor. With only forty three hours remaining, Henry begins mining again, still hoping to recover the printing press. Suggestions are made that they call off the effort before someone is killed but Henry is determined. Richard asks Hutch to surreptitiously contact David Emory on Nok and ask him whether there is a pattern to the discontinuities. Janet returns to her quarters to pack, and Richard helps her get her bags up to the shuttle. Karl joins Janet in the sub bay with his bags and they discuss each others future plans. Karl will teach but Janet hopes to stay in the field.

Hutch continues to help Eddie load the shuttle, and asks if she can take one barrel of each of the inert chemicals that together create the packing foam. Eddie argues, but Hutch wants to pay a personal visit to Melanie. Her next load includes the chemicals as well as Janet, Maggie, Karl and Phil. On the way to the ship, Maggie shows her some of the language examples. When they finish unloading their cargo, Hutch gives everyone a quick tour, pointing out cabins, the lounge, and showing how food dispensing works. Hutch enlists Janet to help her give Melanie Truscott the payback she so richly deserves. When she describes her intentions, Janet is all for it and even more certain that she never wants Hutch mad at her. The Kosmik is a space station without independent propulsion. Hutch programs their snowball creation to behave like a torpedo, orbiting seven times before hitting her on the eighth twenty one hours later. She makes some course corrections and with Janet's help, they launch their creation.

Below, those still on Quraqua brace everything they can on their way back into the Lower Temple. Janet calls Richard to convey details from the Field Report issued monthly by the Academy. Four rock cubes were discovered in the same orbit as Shola's rings. Since neither Nok's nor Quarquat had ever been in space, it implied another entity at work. The round towers of Oz had slanted roofs aimed at the stars and they speculate that a Dog Star may have been associated with the horgon mythology. It could be argued that someone wanted to be sure the towers were not overlooked. This establishes a link between Nok and Quraqua beyond doubt and still no one can get Caseway to listen to reason.



## Part Two: Temple of the Winds: Chapters 10 and 11 Analysis

Hutch wonders if the snowball's drop was a direct result of her conversation with Melanie. She asks Richard and finds out that Melanie will get a promotion when the evacuation is complete. While it is a travesty, it seems there is little that can be done about it, and those responsible are insulated from blame or reprisals. Richard thinks there may be some pattern to the discontinuities, but wants to look into it further without alerting Kosmik. He asks Hutch to help, and then aid Janet in getting her gear out. It is the first chance they've had to speak, and he impresses her as kind. On Quraqua, she had established herself professionally, and after several romances, she found leaving the living quarters she'd come to think of as home disturbing. It was painful to think of her space under water. Maggie is unwilling to fail to uncover the printing press. She and Richard both believe that deciphering the Linear C language could lead to finding the Monument Makers and unlocking the secret behind Oz. She had already managed to reconstruct a primary alphabet and had started a vocabulary, but more samples were desperately required to succeed. She still had a tablet found two years previously inland that depicted Quraquat hero Malinar as a child feeding a demon known as a horgon. She still held the tablet because she recognized some of the character grouping as part of the Oz inscription.

Hutch evacuates the first group of passengers and shows them around the Wincklemann. They eat together and after dinner, she pulls Janet aside and discusses a little payback for Truscott. Together, using a medicine ball as a start, they spray the chemical packing foam at it until it is empty, creating a snowball of their own. They quietly launch it, and though they vowed secrecy, Hutch knows that she'll tell Richard about it, and it will be a private joke that they share for years.

Richard is still on Quraqua, trying to get back into the Lower Temple when Janet calls him. The monthly Field Report reveals four cubes in the same orbit as Shola's rings. Since neither the Nok or the Quraquat had ever been to space, it establishes a link between the two that leaves no room for doubt. Sadly, they still can't get Caseway to open his eyes and realize the significance of this discovery. Richard surmises that the towers in Oz were created with slanted roofs to point to the blocks in the sky. It was intentional on the part of the creators.



# Part Two: Temple of the Winds: Chapters 12 and 13

## Part Two: Temple of the Winds: Chapters 12 and 13 Summary

In the next load, Hutch brings Andi, Tri, and Art to the Wincklemann. Carson's last delivery includes Linda and Tommy. After having to complete some minor repairs, Hutch heads back to the surface. Their homemade torpedo is on approach to Kosmik. Hutch watches the station via telescope relayed from the ship, but no course corrections are made. They simply haven't seen it. Janet opens a channel for Hutch and from the Alpha shuttle, she innocently calls the space station to tell them they might have a problem. The Kosmik struggles to deal with the new surprise. Melanie gives the order to evacuate and tells Harvey to call the Wincklemann for assistance but they radio back that without a pilot on board, no one can perform a rescue. The space station has two APV's and one shuttle that together can accommodate all but four people. Melanie, Sill and two others will be left behind. The remaining four tie themselves down in Flickinger suits. They shut down everything but lights and watch fearfully as the snowball approaches. There is a big clunking sound but no alarms or damage and they have no idea what is going on.

Janet and Hutch exchange innocent conversation about mounting a rescue mission until their snowball hits. Janet reports that the space station radioed they were fine. George, Carson, Henry and Sandy work feverishly to try to recover the printing press. When they finally reach the area it had been in, it isn't there. Aboard the Winckleman, Maggie begs them not to give up, telling them that it is the key to unlocking the language. They find several more tablets with inscriptions on one side and etchings on the other. They continue and finally find it, but the tunnel cleared to get to it is not big enough to get it out. They settle for cutting out the chases. Hutch lowers a winch, and waits anxiously on the surface as time to detonation nears. Maggie still pushes from the ship and Hutch finally explodes, telling her if she wants it so badly, she should come down and get it herself. Angry and frustrated, Hutch calls Kosmik and tells Melanie that they need just an extra hour. Uncharacteristically, she grants it and tells Sill to get the word out. At the south station, Ian Helm is feeling the rush of power as he sits with his finger on the nuclear button. When the communication from Kosmik comes in, he yanks out the plug and refuses to acknowledge telling his crew that he is saving Melanie from herself and eventually she'll thank him for it. A library entry calculates the gravitational acceleration of a tsunami, but the Academy overlooked the more immediate concern of shock waves that would result, traveling the distance to the Temple within just six minutes of detonation instead of the four-hour window they calculated for the tsunami.



## Part Two: Temple of the Winds: Chapters 12 and 13 Analysis

Hutch brings back another load of passengers and cargo. The extra bodies aboard the Wincklemann make unloading cargo a fast chore and they would have been ahead of schedule, but a fused pumpboard gives out. Normally, a pilot doesn't need these kinds of skills, and they are not her strong suit. It takes so long that she loses her optimal window for return and faces a longer flight as a result. She and Janet keep their conversations neutral to outside appearances, but when Janet asks if everything is okay, Hutch knows she is asking about Kosmik's status. She tells Hutch everything is quiet there too, acknowledging to Hutch that no alarms have been raised as yet. Finally, Hutch warns them. It wouldn't be much fun if they didn't even notice. They listen in while the Kosmik's normally staunch routines dissolve. The Wincklemann is asked to rescue but have no pilot and the Kosmik evacuates all but four of their personnel before the mock snowball hits. Then, anticlimactically, nothing happens which creates even more confusion.

Below the remaining crew members are steadfastly pushing their way back into the Lower Temple with Maggie egging them on the whole way. When they discover a handful of extra tablets with inscriptions, Richard asks her what the odds are of her managing without the printing press, but she is adamant. Without it she holds little hope. Though time is rapidly running out, they continue. Maggie begins to interpret the tablets and decides that the depictions, while at first appearing sexual in nature, are actually a reference to duration and longevity. Her translation is more geared to good fortune than pleasure. Of course, she still can't be sure without the press. They finally find it, but it's too large to bring out, so they cut away the chases while on the surface Hutch is close to tears. Frustrated, she calls the Kosmik and asks for an hours extension. It is granted, to her surprise, and she relaxes just a little. Truscott tells Harvey to contact the others and tell them to stand down for an hour but Kosmik is unable to reach the South Control at Delta Point. Feeling like God himself, Ian Helm refuses to answer the communication from Kosmik, telling himself he is doing Melanie a favor and saving her from herself. The truth is that Ian is so enjoying the experience that he doesn't want to take a chance that it might be rescinded, even briefly.

A library entry includes the calculations for the blast and resulting tsunami. Like the archaeologists, it concludes that there will be a window of four hours before the tsunami reaches the excavation. What the Academy didn't account for was the shock waves resulting from the nuclear blasts. They would reach in just minutes.





## **Part Two: Temple of the Winds: Chapter 14 and Interlude**

### **Part Two: Temple of the Winds: Chapter 14 and Interlude Summary**

Recovering the two chases was all they could reasonably hope for so they proceeded with caution. George went ahead, widening the passage where necessary. On Kosmik, Sill tells Melanie that Helm is not answering. Truscott relays that information to Hutch as there is little else she can do. At ten o'clock, the southern sky lit up and Hutch warns Richard that it has begun. She sits on the surface waiting to evacuate the last team members. Small shock waves are already being felt. Three minutes after the initial detonation, a volcanic eruption under the ice pack explodes. The shock waves increase, almost knocking Hutch over in the hold. Aboard the Wincklemann, Janet strides up to Maggie and knocks her flat without a word of warning. Hutch hauls up the first chase and everyone watches for waves. Richard can feel the undertow and registers how odd it is that it would be so strong at the bottom. Hutch tells Frank she can see the top of the temple, usually under five meters of water. She can see the first tidal wave now. The second chase is attached to the winch and the currents drag Richard along the bottom of the sea. Richard grabs the cable and hangs on. George finally gets Henry on board and Hutch tells Richard to hold on. She has to take off with much more speed and acceleration than she would have liked. Alpha pitches and yaws until she finally regains control. She calls out to Richard but there is no answer.

A downlink holograph arrives for Richard from David Emory who confirms that Nok also suffered what was described as a discontinuity in around AD 400. The age of the civilization is about six thousand years.

Wincklemann gets home two days behind schedule. The Temple team is in mourning and Hutch is relatively excluded. No one knows how deeply Richard's loss affects her. Henry is particularly plagued with feelings of guilt and remorse.

### **Part Two: Temple of the Winds: Chapter 14 and Interlude Analysis**

Maggie pushes the ground crew, insisting that it will all be a waste of time without at least the two chases. She seems oblivious to the danger they face with every moment that they delay, not to mention the added structural concerns as they work ever faster in an effort to recover the printing press. Hutch buys the ground crew another hour, but when Sill attempts to get the blast crews to stand down for a little longer, Ian Helm refuses to respond. Sure that he is saving Melanie from herself, he unplugs his communication and proceeds with the blast, unconcerned with the welfare of those left



on the surface. He is much too concerned with his own role in coming events, thinking only about how he is the man at the controls, and enjoying this fifteen minutes of fame. Melanie tells Hutch the bad news and she frantically tries to convince the ground team to leave the press and the planet behind. Janet is so angry with Maggie that she knocks her flat without any warning whatsoever. The first tidal wave is in sight, and still the evacuation isn't complete. The ground crew believes they have up to four hours, but the truth is more like minutes. When the second shock wave hits, the undertow is quite strong. They finally leave the surface, but it is too late. Volcanoes have erupted and the shock waves almost kill them all. When Hutch finally gets airborne, the only real casualty is Richard. Hutch is devastated.

David Emory responds to Richards query, telling him that on Nok there has also been at least on discontinuity around AD 400. The current civilization is about six thousand years old.

Winkleman arrives on earth only two days behind their anticipated date, and one passenger light. The Temple team mourns his loss and Hutch does as well, but her suffering is alone. She even excludes George who gets her distant and cooling attitude quickly. In some ways, Hutch fears that anything that proceeded now with George would have to be built on a foundation of death and mutual suffering and she would rather just stop it all together. Henry is also deeply affected and blames himself for Richard's death, as does a good deal of the crew despite the fact that everyone was aware of time constraints and risks before beginning.



## Part Three: Beta Pac: Chapters 15 and 16

### Part Three: Beta Pac: Chapters 15 and 16 Summary

Hutch uses a helmet to virtually examine one of the four cubes in orbit around Nok. It is unnerving in its symmetry. Henry receives a translation from Maggie that states to 'seek us by the light of the horgon's eye.' She can't fathom what it means. A memorial is held for Richard, and many attend including Hutch. She even decides to speak and afterward meets his cousin, Dick Wald. A letter from her mother arrives soon after that reminds her of Cal's wedding and that she isn't getting any younger. A note arrives two days later from Dick which includes a forward from David Emory that had been addressed to Richard. In it, he tells Richard that they have discovered the lost city of Orikon on Nok. It was located on a cluster of islands that have now been transformed to hilltops. With it, they discovered that the civilization had a monorail at that time and was actually three times older than previously believed. She takes it to Henry who doesn't seem to grasp the significance of a discontinuity there that happened sixteen thousand years ago. Multiples of eight seem to be the theme just like on Quraqua. All Henry wants to do is retire in peace. Next she takes it to Frank and they discuss one of the inscriptions from Quraqua that referred to the 'Engines of God' and foretold the second discontinuity. They speculate as to the possible connection to stars and investigate further.

Mythology on Quraqua helps to reduce the possibilities. After much investigation, Hutch and Frank have the possible candidates reduced to thirteen. Frank calls in some favors and manages to examine the thirteen possibilities using the Tindle Array located on the moon. On Hutch's birthday, February 1st, Frank calls to tell her they have identified the likely home planet of the Monument Makers as Beta Pacifica. Frank approaches Henry to see if he'd be interested in joining him in an exploration, but Henry declines. He enlists Hutch, then Maggie who is surprised her name is even considered. They soon find themselves on the Wincklemann again with the Academy's blessing. Their mandate is to simply see if anything or anyone is there and to find the source of the radio signals emitting from Beta Pacifica. George and Janet are also on board. George hears via back channels that the mission might be canceled so they decide to leave immediately, knowing that they cannot be recalled from hyperspace. The only casualty is that Maggie's luggage hasn't arrived, but she is a good sport about it and they leave as soon as their clearances come in.

### Part Three: Beta Pac: Chapters 15 and 16 Analysis

Many of the former team members are having a difficult time leaving the mysteries of Quraqua behind. Hutch takes virtual tours of the cubes in orbit around Nok and Maggie sends Henry a translation from the planet that refers to horgon's eye. In mythology, horgon's eyes were red and that becomes a significant point. Hutch speaks at Richard's



memorial, remembering him fondly and missing him with a depth that is still unyielding. She meets his cousin, Dick Wald, who speaks so much like Richard that she can almost imagine her conversation is with him. Later, Dick forwards a holo that David Emory sent to Richard on to her. It is significant in that it pegs their discontinuity at sixteen thousand years previous. On Quraqua, the discontinuities happened each eight thousand years making this another multiple of eight. The numbers seem significant, but she cannot seem to interest Henry in them. Henry blames himself for Richard's death, as does the Academy and several team members. He wants to survive the lawsuit that comes with it, and retire. Hutch approaches George and they decide that perhaps the Monument Makers were referring to a star location. Using the red eye as a clue that meant red giant, they search the stars seen from Quraqua in the areas as would be lined up with the sloped roofs of the towers. There are so many possibles that it is hard not to be discouraged.

Most of the old team members find themselves aboard the Wincklemann again. For Hutch, it is like coming home. She is especially pleased when Janet and George arrive, and George tells her that when he heard the invitation included her, he had to come. Hutch briefs everyone on the information they have so far, and does her preflight. When George discovers that their mission might be canceled, he brings it to everyone's attention. The Tindle information found its way into higher channels, and someone actually read the reports. As a result, Beta Pacifica was about to be slated as off limits until further notice. They make the decision to leave before their mission can be aborted.



# Part Three: Beta Pac: Chapters 17 and 18

## Part Three: Beta Pac: Chapters 17 and 18 Summary

Regulations require that they wait at least twenty hours before a transdimensional jump and the whole group is anxious that the order to abort will come before they leave. To cover themselves, Hutch sends a partially garbled message before anything comes in which will make it appear as though they are having communication issues. The pretend malfunction is timely as a few hours later they get the call to abort. They ignore it, and jump eleven minutes later. They discuss their plans for arrival, and speculate as to what the reception will be like on the other end. Hutch reminds them that fourteen hours are necessary to recharge the engines before another jump to transdimensional space can occur, so a quick retreat is out of the question. They get to know each other on a much deeper level on the way to Beta Pacifica, and familiarity breeds friendship and lessens tensions all around. They put on plays, play games, rotate entertainment and generally become much more comfortable with each other. The flight is scheduled to take five weeks and two days, and they mark each one off with great ceremony. Finally, they make the transition to normal speed again, and are surprised by a large black disk directly in their path. She tries to brake and turn away from it, but nothing works. They are on a collision course they cannot avoid. The black football shaped object gets larger and larger, half again as wide as the moon is. She shut down the screens to avoid having to watch the frightening perspective and George tells her she's quite a woman.

They count down and feel a blow as it strikes the hull. Somehow, they survive the collision. Alarms are blaring and smoke pours into the air, but they are alive. As the power plant becomes unstable, she switches to auxiliary. Hutch kills the fire and realizes they have passed through three hundred kilometers and are tumbling. Hutch cannot fire the main engines, so the Hazeltines cannot recharge. They are dead in the water. She does what she can to minimize the rolling, and puts out a distress call. It is five hours before the real problem comes to light. It begins to get cold. The fusion unit is dead and she has no way to repair it. The ventilation system, comprised of four tanks is also dead, and Hutch has only one replacement on board. The convectors all run together, so replacing one only means they will freeze slower. They cannot close off compartments to conserve heat because each one contains something critical. They do not even have enough power to stop forward motion. They notice that its shape is that of a large dish, not a football. It dawns on Hutch that they will freeze before help can reach them. She gives the team an honest assessment. The next morning, Hutch realizes they can use the Alpha shuttle for heat and at least be comfortable. On March 28th, four days after their collision, they get a message from Nok that says the survey ship Ashley Tee will arrive at their destination on April 11th.



## Part Three: Beta Pac: Chapters 17 and 18 Analysis

Hutch fakes communication problems so that they can ignore the order to abort without too much of an issue being made of it. They get into a discussion about their arrival, and the reception that might greet them. Hutch is annoyed by Maggie's attitude and apparent willingness to sacrifice her friends. She reminds herself of their last encounter and makes a promise to herself that she won't trust Maggie's judgement. Of the four passengers on board, Maggie is the only one that is still a relative stranger to Hutch. They have spent no time getting to know each other, and Hutch gets the impression that everything is either ironic or taken as simplistic. They make a point of gathering after dinner each night to converse on a range of topics that knows no bounds. Hutch maintains the distance of friendship until one night she risks all by allowing him to sleep with her. She makes him promise that it will only happen the once until they get home, and he is remarkably good about preserving their friendship afterward, without being awkward or shy around her.

The collision that occurs when they transition to regular space drive again is unexpected. The scanners show no masses in the area, and no one can figure out what the large black shape they are hurtling towards is. Still, they have only a few minutes, and no way to stop the forward propulsion of the ship in time to avoid a collision, so Hutch is consigned to watching like the rest of the group. When they hit, Hutch is sure they are meeting their end, but unbelievably, they pass through the object. The transition is not gentle, but it is not deadly immediately either. Unfortunately, enough damage is done to the ship to cause real problems of survival. They lose engines, heat, and system failures follow that make surviving until help arrives unlikely. Everyone remains relatively calm despite their dire circumstances. The worst of it all is that they are unable to do anything they came for. Survival seems unlikely.



## Part Three: Beta Pac: Chapters 19 and 20

### Part Three: Beta Pac: Chapters 19 and 20 Summary

By the March 29th, electronic systems are freezing and failing. The lights in the ship go out, and they huddle in Alpha. The Ashley Tee is due in thirteen days. The black dish they passed through gets harder to see as they travel further away from it. The computer tells them that in 10,000 BC, it would have been pointed directly at the Lesser Magellanic Cloud, which is the closest extragalactic object. The pumps give out four days earlier than is required for their survival and they switch to Alpha's power. Maggie comments that four people could last until the Ashley Tee arrives, but not five. There are a total of forty days of air to divide between them. Frank suggests they try to contact the Monument Makers for help. They broadcast a simple SOS. That night, Hutch thinks about Maggie's comment. As the pilot, it is her job to ensure the survival of the others. She charges a pulsar and leaves Alpha, going into the cold and dark ship. She moved across the deck, looking for a discrete place to pull the trigger, and watched as snow drifted through the lamplight. The idea hit her like a shovel. Three days later, when the starboard air tank was empty, Hutch put the port tank on line. Everyone gathers containers and Hutch uses the pulsar to open up the middle main air tank. It is filled with snow and frozen atmosphere. They collect the snow and dump it into the empty starboard tank. Then they celebrated.

On April 8th, fifteen days after the collision, Melanie Truscott herself arrives in the Catherine Perth and launches a shuttle to pick them up. Shuttle pilot Jake Dickenson greets them warmly and thirty minutes later, they are at the Perth. Sill is waiting, and takes them to a conference room where Melanie soon joins them. They reacquaint themselves and she remembers them from Quraqua. She asks them what happened and describing their arrival and collision, she acknowledges that they hit one of the telescopes, as though this were common knowledge. She reveals there are eight in total set in an array in the same orbit. They set a course to view it more closely, and afterward she announces they will have to depart. Carson argues their belief that ruins are likely and requests they be left in a pod for the few days it will take before the Ashley Tee arrives, but Melanie refuses citing her passengers who are anxious to return home. A closer look at the telescope reveals that somehow it has begun to repair itself where the Wincklemann crashed through. It appears to made of membranous material and filaments much like a spider's web would be constructed.

### Part Three: Beta Pac: Chapters 19 and 20 Analysis

It will be at least thirteen days until they are likely to be rescued. The ship's power has to last at least five more days, or they won't make it with Alpha's power and the Flickinger belts. They try not to overeat, and no one sleeps well. George tries to put a



good face on things and tells Hutch that one day they'll reminisce fondly about these days. Hutch hopes he is right. When Maggie announces her calculations that there are forty total days of air, everyone knows what she is thinking. With one less person, the remaining would be guaranteed survival. It is the same callous kind of emotional disregard for her colleagues that put Hutch on guard as they were leaving Earth. Still, Hutch can't stop thinking about the comment, and feeling responsible for the general condition they were in, and the safety of her passengers. It was her job, in her mind, to ensure they all made it back. The likely candidate for sacrifice was herself. While a lottery was discussed, the group had put off making a decision for one more night, but Hutch is only too aware that if they delay much longer, two people will not survive. She concludes that she must make the sacrifice without discussing it with anyone, charges a pulsar and donning a Flickinger belt she goes out into her ship to find a quiet place to leave them. Then, finally, inspiration dawns with the appearance of snow crystals. Three days later, they replenish their empty air tanks with snow / frozen atmosphere from the tanks on the ship.

On the fifteenth day after their collision, they are rescued by Melanie Truscott and her crew in the Catherine Perch. A shuttle takes them over and they are greeted by Sill's familiar face, who shows obvious disgust and displeasure at having to rescue such a group of incompetents. He makes a point of telling them how lucky they are and leads them to a conference room where Janet jokes that she might have preferred to stay aboard the Wincklemann. When Melanie arrives, she remembers most of them by face if not by name, greeting Maggie by announcing her recollection that she was the reason for the accident on Quraqua. Maggie takes the criticism with grace. When she reveals to the group that what they hit was one of eight orbital telescopes, Hutch could not be more amazed. She offers to give them a closer view. She shows them to their quarters and pays a private visit to Hutch to clear the air, telling her that she knew who sent the snowball and that she had no hard feelings. She opens a bottle of Brandy to prove it, and they toast Richard and the snowball as well. She also admits being held responsible for his death and that Caseway had arranged for her dismissal, but their distress call had rerouted them before it could occur. A closer look at the telescope the Wincklemann passed through reveals a membranous material and the fact that it was repairing itself somehow. One observation compares it to a spider's web.





# Part Three: Beta Pac: Chapters 21 and 22

## Part Three: Beta Pac: Chapters 21 and 22 Summary

Melanie's diary notes that even the transmitter on the telescope appears to be organic. On April 11th, the Catherine Perch approaches Beta Pacifica III. Terrestrial, it has oceans, clouds and a single land mass shaped like a long hook. Four moons orbit that range in size from a fifteen kilometer wide rock to one a third the size of Luna. There are no obvious signs of life or inhabitants. Carson points out an anomaly on the moon designated Three-B at the same time as the Captain notices. Closer examination reveals a larger version of Oz and Frank is unsurprised and sees no need to investigate further, but the discovery of bridge supports on the planet is cause for excitement. At very least, it is another archaeological site. Truscott balks at allowing any more time for exploration until an orbital space station is found. Bigger than Kosmik at Quraqua, they carefully approach the deserted station. The hatches are open and there are two sets of characters on the hull indicating two words. Melanie tells the Captain to ready the shuttle for herself, Sill and the Academy team members. Jake pilots the shuttle and the members of the boarding team get a last minute assessment that the station is of lesser technological advancement, in a steady orbit for a long time.

Approaching, they see into the windows and note the elaborate decor and a shuttle craft still docked in its bay. In many ways, it seems primitive, even by earth's standards of technology. They seem to be at an advancement level that corresponds to the Iapetus visitors. They select an open hatch and notice that the inside air lock door is open as well, exposing the station to vacuum. They buckle on Flickinger harnesses, magnetic boots, and pulsars. Maggie is the first to cross after Hutch secures a cable. The shift in perspective is unbalancing at first, but quickly overcome. Everything they see seems overly large in size and Maggie begins collecting symbols almost immediately. When the passageway they are in splits off, they separate into two groups. Hutch, George and Maggie continue into the lower level, finding a room with displays, consoles and what appear to be computers. There is a keyboard which gives them an alphanumeric system, which is a priceless find. They find the remains of crew members still belted in their seats, implying they had simply sat through depressurization and recognize that they are the same as the creature at Iapetus. The station is a mausoleum. They stop counting the dead at thirty-six as the numbers overwhelming. Everyone was belted in and they struggle to understand the cause for the mass 'suicide.' More photographs are found and Maggie removes a computer's CPU. They also take a couple of computers and the photo of the four moons in a row and return to the shuttle.



## Part Three: Beta Pac: Chapters 21 and 22 Analysis

Truscott persuades her passengers to take detour to Beta Pacifica III, encouraging their cooperation by breaking into their reserve stores of food and liquor, all to Captain Morris's stern disapproval and Harvey Sill's obvious disgust. The passengers however seem content enough which is all that matters. They stay close to the Academy personnel as the planet approaches, hoping to be part of 'history' as it is made. Hutch can't help but think that Richard should have been a part of this voyage of discovery. Hutch thanks Melanie for making the detour, but Melanie acknowledges that she could hardly have passed up the opportunity when they compared it to being about the Santa Maria. What a story to tell her grandchildren one day! They find an even larger example of Oz on one of the moons in orbit, and the remnants of bridge supports on the planet's surface, but she refuses to allow much more time for exploration until the next surprise comes into view. There is a man made satellite in orbit around the planet. Closer examination shows it is obviously deserted and they prepare a shuttle to go aboard despite strenuous objections from the narrow minded Captain Morris.

They approach the space station in a festive mood. George tells Hutch how lucky he feels to have had a chance to take part in the last two assignments. Only Sill seems wary and seems subdued. They board and marvel at the large sizes of everything, going from room to room, each making discoveries. Hutch thinks about Iapetus and the single set of footprints and wonders. They discover photographs depicting Beta Pac III and the space station. Maggie suddenly screams, having found the remains of the pilot and co-pilot still strapped in their chairs. More exploration yields more bodies, all seeming to have gone to their agonizing deaths willingly. None of them can understand. Photographs found in the living quarters make George laugh. It seems incongruous to see such intimidating creatures posing for snapshots of team photos. One picture shows the four moons strung together and Carson hopes it will help date the station and its occupants. Hutch writes in her journal that she feels as though someone has destroyed her vision of the great Monument Makers and replaced it with an image of a pathetic race who built primitive stations and then committed mass suicide when things went wrong. She wonders if the Monument Makers were ever there.



## Part Three: Beta Pac: Chapters 23 and 24

### Part Three: Beta Pac: Chapters 23 and 24 Summary

Truscott gives them a shuttle, a pilot, and thirty-six hours to examine Beta Pacifica III. They fly over, seeing ruins and select an inland site to set down. The atmosphere allows exploration without Flickinger belts. Carson tells Jake to remain inside. George begins a map using a lightpad. Nothing they find is high tech. Preoccupied, Maggie doesn't hear the sound resembling castanets but the others do. A small creature pulls back out of sight. They check in with Jake, and are told all is quiet. They find walls and stairways that rise up to nowhere. They stop for lunch, speculating as to what might have happened, and what the place may have looked like in its prime. They find a concrete structure reinforced with iron that goes eight feet down. They try to reach Jake as they head back, but there is no answer. They get back to the valley of the wall, and Janet notices movement just as Hutch calls out a warning and pain follows. The crab like creature was not alone. Carson goes down and one of the brachyids is on Janet's boot and sawing back and forth frantically. Maggie put the pulsar against the shell and fired, and it finally let go. More were coming with a vengeance. Something resembling a scalpel came from the mouth area and when they came forward, they held the scalpels up like swords. They hurried forward, burning them as they came, and when it was safe, Hutch stopped and dressed Janet and Frank's wounds. Maggie held up her hand to reveal she'd lost a finger in the encounter as well. Neither Janet, nor Carson can walk without aid. They keep trying to raise Jake with no success. They stop in a small clearing and are quickly surrounded. George drops back to fight them and give the group a chance to get to the wall. Hutch argues, but he says he'll be right behind them. They began to stay out of range displaying more intelligence. Up ahead, Janet collapses, feverish and pale. Hutch calls George telling him they need him but they were too far separated now, and the brachyids had him isolated.

Hutch is trying not to panic but when screams are heard, she comes apart. They make it to the wall, and Carson puts his arm around Hutch, trying to comfort her. Hutch goes for the shuttle, leaving the rest together. She gets lost several times in the coming darkness. Below the wall, the brackish are working together to push dirt to the wall so that they can get up. Maggie uses a pulsar to cut down a tree to make room for the shuttle but somehow the tree turns, falling on her and dragging her down the hill under it. She does not survive. On the ship, Truscott is told by Simms that no contact can be made with the shuttle. Hutch is still lost, and the brachyids are approaching the others. She tells Frank to switch to the shuttle communication and call out as loud as he can. Finally Hutch finds the shuttle, and in two minutes she is landing near them. The creatures attack again and one stabs Carson's good ankle and then his thigh. With great difficulty, she finally gets both of them on board.



## Part Three: Beta Pac: Chapters 23 and 24 Analysis

Jake takes them to the planet's surface and congratulates them but Hutch can tell he isn't pleased. She probes and he tells her that with the imminent arrival of the Ashley Tee, they will likely leave, and he doesn't want to leave just as his life is taking on more excitement than it ever has. After Hutch's experience on Quraqua, she is a little more wary of extraterrestrial life form threats and voices her caution. Stepping down the ladder, Hutch is reminded of stories of old earth in books she's read. Frank is already contemplating using the Ashley Tee to recover equipment from the Wincklemann for further analysis of what they are finding. Jake tells them all is quiet, and though a bit scared, he is glad he came. This is the first time he's ever been on an unknown world. He sees a glimmer of light in the trees and watches it for minutes before curiosity overcomes fear of the unknown and he climbs out. Using his pulsar, he makes his way to a marble table or altar of some kind. Jake calls Frank to tell him he's found an altar of some kind and Frank chastises him for leaving the shuttle. The grass ripples in front of him and something moves on his right foot. He shakes it and feels an explosion of agony that takes him down, followed by something that slices his ribs and then face. His last thought is of the smell of fresh grass.

The creatures seem intelligent and organized. They attack the rest of the landing part, immobilizing and isolating. They claim George next, who's screams can be heard as he tried to buy the others enough time to escape, making a victim of himself instead. Janet grabs her and holds her back, preventing her from trying to go to George's aid. She tries to convince her that they have to keep going, and Maggie agrees. Hutch gets mad and makes a comment to Maggie that she instantly regrets, telling her that it seems as though as long as she is safe, the rest of the crew is all but expendable. She immediately apologizes, and tells Maggie that when they get back, she'd like to take her to dinner. Maggie agrees and understands that Hutch is suffering a loss. Hutch knows that they will not survive the night, so she volunteers to get the shuttle and bring it back. She soon realizes that she should have paid more attention when they left. She cannot find it and while she is looking, the creatures have figured out how to climb the wall. Hutch is trying hard not to think about George. The idea that he is gone is devastating and if she gives in to the emotions that she is feeling, she will not be able to function at all.



## Part Three: Beta Pac: Chapter 25

### Part Three: Beta Pac: Chapter 25 Summary

Harvey Sills leads the mission to recover Maggie's body. They find parts of Jake's clothing and equipment, but no signs of George. Hutch goes as a guide, but requires tranquilizers in order to do so. Carson and Janet are treated by the ship's physician. Harvey comes to see Frank and gives him the lunar alignment regression he had asked for. Carson wanted to know the last time the four moons were in alignment so that he might date the photograph found in the space station. Harvey tells him it was 4743 BC. As far as Carson is concerned, that is much too soon, but the time before that alignment occurred is roughly a hundred thousand years previously. He writes it all out and realizes again that all three planets have discontinuities that are eight thousand years apart. He sleeps and when he wakes, Janet and Hutch are talking about the memorial being held that evening. Morris asks Carson to meet with him and they exchange condolences.

The memorial is short, but the crew stays for a while afterwards. No one has any desire to be alone. The Ashley Tee finally arrives, along with correspondence from Ed Horner authorizing Carson to use her as he saw fit - within reason. Another message from Nok tells them that David Emory is on his way, urging them to hang on. Hutch plays with the numbers of the three worlds and finally sees a different reality, wondering how they had all missed it up until now.

### Part Three: Beta Pac: Chapter 25 Analysis

Captain Morris behaves with a mixture of outrage and vindication. He had never lost a passenger or crew member and to make matters worse, the mission had been entirely unauthorized. He seems to enjoy rubbing it in and complaining that he will likely be held responsible by Corporate. With three deaths on his watch, he complains that this disaster will be associated with him for the rest of his career. Hutch sedates herself before taking the recovery team back to locate Maggie's body, but no sign of George can be found beyond scorched earth where he had been and only bits and pieces of Jake's gear were ever found. Treated by an overly cheerful physician, Frank is irritated, and tries not to show it. Harvey gives him data surrounding the dates of the space station and the orbital line up of moons, but they don't make sense. The first is too soon and the second is too far gone. He can't seem to wrap his mind around what the numbers mean. Janet sleeps, recuperating, but he is unable to put it aside. He writes the dates of the anomalies along side the three planets they have found that were affected. The numbers jump out at him and he sees the pattern. It is 8,000 years again. He can hardly wait to share the information with Janet and Hutch, although he doesn't know what it means yet. Morris asks Carson to meet with him, and then leaves him waiting. It is just another part of the man that Carson finds intolerable. He is ready to leave when Morris finally arrives. He exchanges condolences with him, and then drives



home the fact that he had been against it from the beginning. He asks if at least anything had been accomplished to justify the deaths of three people and Carson can't keep the sarcasm from his response. Then he tells Carson that he feels sorry for him.

A memorial is held and Morris presides. He delivers an overblown and lengthy oratory which to Carson sounds like he is already practicing his defense. He looks at his notes which now seem equally filled with platitudes, and instead simply acknowledges the lives lost, including Jake's, and his sorrow that their mission was paid for in such high currency. The group stays together afterward, talking and reminiscing about the people they had lost. No one seems inclined to be alone, least of all Hutch. She wanders from table to table, unable to take part, and sometimes walking away while others are in mid conversation. No one takes offense. She just cannot bear to be alone yet. Truscott announces the arrival of the Ashley Tee and tells Carson he can take his team over whenever he wants, or stay with them. The choice is his. They talk briefly, and Truscott is obviously aware that her current career is over. She talks about writing a book, or joining a commission being formed to study the adaptation of terraforming on earth. She doesn't believe the experiment at Quraqua will be successful. In fact, even if they manage to install a group on the planet, she comments that you can train a jerk all you want, but he'll still be a jerk at the end of it, referring to the human race as 'homo jerkus.' She gives him messages from Ed Horner which give him permission to commandeer the Ashley Tee, and from David Emory announcing his response to their call for rescue. Janet finds the response kind if not a trifle late, but Carson laughs, knowing the truth. David has reached the conclusion that they have something worth exploring further and that's why he is coming. Hutch forces herself to think about the eight thousand year cycles, and draws out the dates and known events. Suddenly, it is all clear to her and she cannot believe they missed it up until now.



## Part Four: Engines of God: Chapters 26 - 28

### Part Four: Engines of God: Chapters 26 - 28 Summary

Hutch wakes Carson and tells him that if they go to the right place, and build an Oz, they can discover what this is all about. She draws the numbers out for him and shows him that each event is separated by a thousand years traveling from planet to planet like a wave. She reminds him of the Quraquat prayer they'd found citing the engines of God and tells him that whatever it means, it's connected to the Oz structures. She suggests they go to a system along the track of the wave, and create an Oz of their own. Carson asks Truscott for the gear required, including a command post and seeing no reason for secrecy now, he tells her what they've discovered. They meet the two person crew of the Ashley Tee and both Angela Morgan and Terry Drafts are happy to be commandeered. They spend two days exploring the Oz before leaving. Carson tells Hutch that after thinking about the wave, the timing is right for it to have continued to earth coinciding with Sodom and Gomorrah. They send a message to David Emory, telling him of the change in plans and inviting him to join them.

On April 27th, they leave for LCO4418 or the system Hutch calculates in on the path of the wave. The flight is somber and full of speculation as they head for the red giant at the center of the targeted system. They choose a moon for their Oz structure and discuss how to place cameras that will trigger a response if anything shows up. Using a particle beam projector mounted on a shuttle, they begin to create cube like structures that resemble those in orbit around Nok. Janet stays aboard the Ashley Tee with Terry while Angela goes down to the moon with Hutch and Carson.

They choose the largest plateau and working with existing landscape begin shearing off and squaring off angles. On board the Ashley Tee, Terry is the first to see the anomaly. It is a 23,000 km diameter cloud but is too far away to get much visual information about. On the moon, the accommodations are reasonably comfortable, and they work while Terry and Janet track the cloud. A second cloud appears. Pictures are sent down to the moon team who manages to create a passable rectangle. The clouds are traveling at the same velocity as the wave. Angela suggests that the Ashley Tee take a closer look. Terry is mildly reluctant but agrees. They leave the moon crew behind, traveling at a pace that crams them into their seats. It will be a sixty-two hour run at breakneck speeds and they soon leave the gas giant behind.

### Part Four: Engines of God: Chapters 26 - 28 Analysis

Hutch is excited when she tells Carson what she has discovered. He does not see it at first, but she writes it down for him chronologically, and the wave becomes obvious. She speculates as to the connection with the Oz structures, and convinces him that if they



put themselves in the path of the wave and build their own Oz, they'll finally get the answers that have plagued them from the beginning. He joins her enthusiasm and quickly borrows the gear they will require from Truscott. They take a closer look at this Oz before leaving, and the mecca of right angles is just like the others, including the charred and cratered damages. They get underway to their destination and Carson discovers yet another curiosity. If the wave is extended to earth, the timing correlates to Sodom and Gomorrah. They send David Emory an invitation to join them.

On board the Ashley Tee, Hutch comments that she can't believe they are chasing dragons. Angela agrees, saying she finds it hard to believe any of it, but is sure it will be worth the trip anyway. Terry can't imagine what it might look like, speculating whether they should expect hordes of nanomachines, or a fleet of psychopaths. Terry is sure what they are doing won't amount to anything, but Angela reminds him that the biggest finds are discovered by those who think outside the box. He wonders if something was built that just got out of control. Janet mentions that the wave would have to stretch from Quraqua to Nok which is about a hundred light years and they obviously like monuments.

Janet isn't really thrilled about the prospect of actually creating an Oz and allows Angela to take her place on the moon team while she stays on the Ashley Tee with Terry who proves to be stimulating and easy to spend time with. He talks to her about the poetry she is reading, and they each take a stab at writing a haiku. Terry sees the cloud as it forms on his screen and when the second one appears he sends pictures to the ground crew. Their Oz begins to take shape on the moon they've chosen, and speculation as to the cloud is rampant. Angela suggests they try to intercept it to get a better look at what it is. Everyone seems enthusiastic but Terry and Hutch. Hutch thinks they are moving too quickly, and have learned nothing from the events on Beta Pacifica. She is hoping that Janet will back her up, but instead, she too gets caught up in the idea of being able to see it better and figure out what it is. There isn't enough time to bring the moon team in, so the Ashley Tee plots a course and speeds off, leaving them behind.





# Part Four: Engines of God: Chapters 29 and 30

## Part Four: Engines of God: Chapters 29 and 30 Summary

The Oz structure on Delta is taking shape. It does not have the same reflectivity as the other Oz locations do, but Hutch isn't sure it matters. It is harder to communicate with the Ashley Tee now. They have already put fifteen million kilometers between them. Alone in the cockpit, Angela watches the visuals coming in from the Ashley. Terry comments that he should lay the Ashley right in front of the cloud and see what happens. As they watch, the object develops seven fingers. They conclude these are contrails as they begin to dissipate. They continue to work and towards the end of the day they are drawn to the screens again where it is clear now that the object is turning. While the object turns towards them, it will take Terry until Sunday to slow down enough to turn around. They keep telling each other that it can't be after them. There is no doubt now that the object is headed for them, and they discuss their options.

Saturday they have little appetite. They continue to watch the dragon approach with trepidation. They decide not to leave their base camp until Sunday. David Emory arrives aboard the Cary Knapp, but they recommend that he remain at a safe distance until the events unfold. He questions them at length and they realize that he doesn't expect them to survive. They take the shuttle to the other side of Delta and wait as the weather gets increasingly more turbulent. By Monday, fireball after fireball assaults Delta. As the impacts get closer, Angela moves the shuttle, but Carson convinces her to land again. The shuttle is a box and the assault is programmed to take it out. As soon as they land, he tells them to get out. As soon as they are clear, the shuttle is destroyed. Over the next few hours, the electricity in the sky drains. Angela realizes that with the direction the anomaly is taking, it will reach Earth. Carson says they have lots of time either way, but Angela suspects that is exactly what the Monument Makers said.

In July, Meg Campbell on the Pasquarella makes three attempts to descend into the cloud, but doesn't return from the third. David later writes that the Omega clouds are not as numerous as first suspected and it was an aberration that the Ashley had seen two. Project Hope proceeds with success and Janet Allegri accepts a teaching position at Oxford. Frank returns to Beta Pacifica III where he heads the working group and Hutch continues to pilot the Academy's ships.



## Part Four: Engines of God: Chapters 29 and 30 Analysis

On May 18th Carson and Hutch are getting more proficient with the equipment and are able to enjoy themselves more as they create. Hutch doesn't trust the hasty plans made to chase the anomaly. She thinks that making snap decisions is a mistake and fears they've learned nothing from the events on Beta Pacifica. She doesn't feel sorry for Janet who she pictures now pinned to her seat in the Ashley Tee with Terry. If anything, she thinks it serves her right for not backing her up when she voiced her concerns. Conversation with the Ashley Tee is harder now, and frustrating as each side has to wait up to two minutes for an answer. Angela is amazed by the visuals from the Ashley. It's so incredible that she sometimes has to remind herself of what she is doing. Her only regret is not being on the Ashley as it approaches the cloud. Still, in her mind it is a magnificent time. Terry is alternately exhilarated and depressed. He tells Angela he'd like to put the ship in front of the cloud just to see what happens and that certainly gets Angela's attention. She did not believe he really meant it, but she still transmitted her orders to forget any plan even remotely similar to that and that she'd have his career if he so much as mentioned it again. The object turns towards them, and feeling vulnerable they wonder if it is malevolent. Hutch reads Maggie's notebooks on the computer. She realizes that there was much about the woman that she missed.

By Saturday, Terry is near panic, and Janet remains optimistic, knowing that with Hutch and Angela if there is a way to survive, they will. By late Sunday, Carson is thinking about religion more and more. They are all nervous and fearful, wondering if the object is malevolent. They try to reassure each other. By Monday they realize there is no substantive core. There is only what seems to be a directed storm of lightning strikes and meteor attacks. When Frank realizes that the attack is directed at anything that is at right angles, he understands that to survive, they must leave the shuttle. It is a decision that is made just in time, and saves their lives. In fact, once the shuttle is blown up, the 'storm' begins to dissipate. They come to several realizations in the time they spend riding out the worst of it. They know now why all of the Monuments of Oz variety were scorched. They also know with reasonable certainty that this is what caused the discontinuities on the various planets. They understand the schedule of attack, and the 'flight plan' of the anomaly, but they still do not know what it is. Hutch believes that the anomaly is on a direct flight towards Earth, but Carson is unconcerned citing the fact that they likely have somewhere between one and eight thousand years to prepare. She also believes that the Oz creations were made to divert or distract the anomaly, keeping it away from the real civilizations by having it burn itself out on the representations near by. Their experience of building a simulated Oz seems to support this theory. The important thing is that they all survive. David will later write about the experience, the clouds given the name Omega clouds, and call their experience on Delta an unusual event and an aberration. Still, it is relatively certain that the solar system will receive a visit from the Omegas and conferences are planned to create strategies for warning future generations. Return to nature movements are inspired by the events. Project Hope is successful and the first colonists will likely be sent earlier than first planned. Six more monuments are found. Carson is unable to stay away from Beta Pacifica III and



Alegri takes a job teaching at Oxford. Hutch remains a pilot of extraordinary character for the Academy.

Two months later, scientist Meg Campbell attempts to descend into the cloud. Going deeper into it with each attempt, she does not return from the third.



# Characters

## Priscilla Hutchins

Nicknamed Hutch, she is a pilot who operates as a private contractor shuttling goods and people between the planets. Her latest contract is to help with the evacuation of Quraqua. She is a competent and capable pilot who seems oblivious to her own beauty. It does not go unnoticed by others in her presence however. Hutch has a strong character, a sense of moral righteousness, and a good sense of humor. She holds her friends in high regard, and defends their honor or reputation with the same ferocity as she would her own. Hutch is not the type to sit idly by while an injustice occurs.

Hutch is an adventuring spirit. Her career highlights are experienced when she touches down on new planets and is able to participate in explorations. She is strong willed, and has a hard time letting go of unfinished business. When she loses her long time friend Richard at Quraqua, it doesn't sour her for the experience as it might have done with some. Instead, she can't put the mystery of it away. She keeps working on the discontinuities, trying to make sense of them, and then sharing her findings with Frank. She keeps her personal life on the back burner though. Part of that is the dissolution of her relationship with Cal, who tells her that she isn't around enough to have a relationship with. Although she really likes George, who she meets on Quraqua, she puts some distance between them after Richard's death, afraid that any new relationship formed now would be based on tragedy. Their feelings for each other remain strong however, and when the second mission is planned, she is unable to hide the pleasure she feels when they see each other again. She eventually breaks her unwritten rule about fraternization while on a mission and becomes involved with him, but makes him promise it is a one time affair - at least until they return. He agrees, and lives up to it, but it is a decision she will come to regret when George sacrifices himself to save them on Beta Pacifica. His death deals a blow to her that is deep and makes her regret not holding him more, and spending more time with him. The only thing that keeps her going is the current mystery surrounding the Monument Makers. When she discovers the pattern of the wave, she is once again focused on moving forward, and manages to put her mourning for George to one side for now.

## Frank Carson

Frank is a big man with military bearing. He has a square jaw and eyes that are blue and intense as they see the world in sharp colors. He is a retired Colonel from the army of the North American Union, but Frank does not understand politics. Frank is about fifty and has an open and congenial demeanor. He is a gifted amateur archaeologist. Though a little rough around the edges, with a tendency to overreact on occasion, he is easygoing for the most part and can get things accomplished without bruising egos.



Frank has been on Quraqua for six years without break or trip home, and could be considered a bit of a workaholic. He was born in Edinburgh, but remembers little of his past there. Frank is set to return to Earth and take a job in the Academy's personnel division. It is a great career move that will allow him to stay in one place, settle enough to make friends and see an occasional game. He is looking forward to it when they are evacuating Quraqua, but plans don't always work out. Back on Earth, he is approached by Hutch with new information that leads them on another adventure to find the Monument Makers, or at least to understand them. He is part of a team assembled that includes many of the former members from Quraqua, and the discoveries made on this trip will forever change his plans to settle.

When they arrive in the Beta Pacifica system, the Wincklemann collides with one of eight organic telescopes and the crew is faced with a life and death struggle to survive until they are rescued by the former Kosmik crew led by Melanie Truscott. An easy truce is reached between them finally, and the events of Quraqua put behind them. Melanie is instrumental in their further exploration of a space station in orbit around Beta Pacifica III and of the planet itself. The tragic loss of three people during that foray will stay with Frank who will return at a later date to head the Working Group for six years. He eventually marries and has two girls.

## Richard Wald

Richard is dressed in rumpled gray jeans and white sweater. His Irish country hat doesn't quite fit inside the Flickinger field, and presses on his head. His face is long and thin, and his chin is square. He has a thick and silver mane of hair and moustache, blue eyes and high cheekbones along with an aristocratic style tapered nose. To see him, you might think he is stern, but that is a facade. Inside, he's a pushover but on the outside, he is naturally gregarious.

Richard is a household name in the archaeological field. He will be remembered for as long as people search and explore. Though he is sixty years of age, he is filled with exuberance and vitality. He loves the company of beautiful women, likes an occasional drink or a good party, but manages to keep business and pleasure separate. He was overweight when he first met Hutch and saw the monuments, but these days he watches his weight more carefully. He jogs on occasion and drinks less.

Richard has seen and written about many of the Monuments. He and Hutch are close. He appreciates her enthusiasm for unraveling the mysteries of the past and the keys to possible futures. As such, he makes concerted effort to ensure that she is able to see the monuments for herself. Their friendship is not widely known about. When Richard tags along with her to Quraqua to evacuate the scientific team still on site, she is thrilled to have his company. They play chess and pass the time on the way, while Richard ponders the information that may link the Monument Makers to several worlds. It is a discovery he can hardly wait to explore.



Once on Quraqua, he is swept up in the exploration and excavation, especially when access to the lower temple is accomplished. The discovery of a printing press is a career highlight for him, and he works without thought to rest or safety. His enthusiasm will be the end of him as he waits too long before evacuating the surface. He dies doing what he loves, and having managed to secure the chases from the press. He is the last one off the planet, and leaves just minutes too late, dying on the end of a cable as Hutch desperately tries to get him to safety. His death is devastating to her.

## Melanie Truscott

Melanie was born in Dayton, Ohio on December 11th in the year 2161. She is tall with laser eyes, a high forehead and dark brown hair. She has a lush complexion and could be described as attractive, but having become accustomed to command she has acquired a hard edge.

She wrote extensively on subjects that involved greenhouse and climate changing conditions in the oceans. She has been a long time advocate for government decreed population control and reduction. She has been a member of a number of professional organizations and is still active with the International Forest Reclamation Project, Interworld and the Earth Foundation.

Melanie is in charge of the space station Kosmik in orbit around Quraqua and her job is to initiate Project Hope. She is strong and determined to be successful, and somewhat put out by the ongoing attitude of the scientists on the planet who in her mind are putting a few pots and relics in front of the survival of the species. When the final group is late to leave, she reveals her humanity and attempts to delay the nuclear beginning, but not all of her people are amenable to change. Ian Helm decides to save Melanie from herself by detonating on schedule, and the result is the death of Richard Wald. It is a career ending tragedy for Melanie, but before her wings can be clipped, a distress signal is received from the Wincklemann, and Melanie and the crew aboard the Catherine Perth are the first responders. She takes advantage of the delay, and leads the exploration of the abandoned space station in orbit around Beta Pacifica III. She further lends her resources to Frank and the remaining team members so that they can continue on in their efforts to understand the Monument Makers.

## Janet Allegri

Janet has been on Quraqua for three years and had lived a good part of her adult life there. She brought few possession with her at the time including photos of her brother Joel and his family at Christmas. She is somewhat reluctant to leave, and feels remorse that her home will soon be buried under water and mud.

Janet has blue eyes and perfect features. Her demeanor seems almost too socially oriented for archaeological work. Janet is one of the first people to greet Hutch at Quraqua and works tirelessly to find the Rosetta Stone that they hope will be there to aid in decrypting the Linear C language they have so many small samples of. When



Hutch takes an unplanned swim to the docking platform and encounters her first Strider, it is Janet who comes to her rescue, beating the Strider to death with a wrench. She earns Hutch's respect and admiration in that moment. When Henry begins tunneling again after the warning snowball is launched into the ocean, Janet is pleased. She encourages the ground crew, underlining the vital importance of the recovery of the printing press they discovered in the Lower Temple. It is her assurance that the recovery of the chases is vital that keeps Richard and his crew working until the point of no return. It could be said that Janet singularly held responsibility for Richard's death, and she certainly felt that way. She later apologizes to Hutch, unaware at the time how close she was to Richard.

She is surprised when she is invited to join the same group aboard the Wincklemann to further investigate the signals coming from Beta Pacifica. Her time and experiences earn her a teaching position at Oxford when they finally return.

## Henry Jacobi

Described as homely, Henry consistently appears to look as though a scrap heap has fallen on him. His creased face is rumpled in appearance and his anatomy seems to sag from all angles. He has hair the color of slate and always looks like he is squinting, which may be a result of countless hours spent staring at ideographs. Despite these seemingly unflattering traits, he is a master of the social graces, and is well liked by all who know him. His attraction to the opposite sex is mystifying, but obvious in the fact that he has four ex-wives.

Henry is a professional through and through. He seems able to construct an entire culture based on a single urn. He understands the importance of saving Quraqua but feels he is too old to be risking anyone's life to do so.

## Maggie Tufu

Maggie is somewhere in her twenties. He is tall and has black, luxuriant and full hair. She wears it in a twist, likely to make herself look a little older. Her eyes are also dark and her features advertise her Micronesian forebears. Had she loosened up and smiled now and then, she could have been considered lovely. Maggie tended to set herself apart from others, but it was by way of preoccupation, not arrogance.

Maggie is the chief philologist or code breaker considered to be the reader of impossible inscriptions. Maggie made a reputation for herself on Nok and is a gifted instructor, well respected at the University of Pennsylvania. She has a rather high opinion of herself, but she has succeeded in everything she's attempted excepting only her marriage and decrypting a few inscriptions from Pinnacle. She and Richard both believe that decrypting the Linear C language may lead them to the Monument Makers and whatever secret lay behind Oz.



## George Hackett

George is the project engineer and stands close to seven feet tall. George has eyes that are dark and whimsical. He is younger than Hutch and she recognizes an innocence in his demeanor. He is handsome and his smile and eyes seem to add even more to it. George has been on Quraqua for four years and to him it feels like forever. He is ready to go, but feels the trip was worth it just to meet Hutch. He is a gentle man and Hutch returns his feelings. It isn't until their second mission together aboard the Wincklemann before Hutch finally allows him to express those feelings physically in what she terms a one and only encounter until they return to Earth. Unfortunately, George is killed on Beta Pacifica III when he attempts to hold off the creatures attacking the crew and give them a chance to make their way to safety. The loss of his life is something Hutch truly regrets, along with all the time she lost with him while she waited to return home. His presence is deeply missed.

## Angela Morgan

Considered a celebrity of sorts, Angela is a tall and trim woman with gray eyes and hair that is now silver. She was legendary, having performed several of the pioneering flights in the early days, pushing limits of technology and acting as a driving force behind safety features now a part of FTL deployment. Angela is the captain of the Ashley Tee, and is bored with what she sees her whole life as having been - studies and observations. She is looking forward to participating in something, and is happy to be part of the Oz project so long as they are doing something. What she doesn't want at this stage in her career is for anyone to waste her time.

## Terry Drafts

Terry is Angela's partner on the Ashley Tee. He is half her age, soft spoken but intense. He is introspective, and makes no secret of the fact that he believes this time spent with Angela will advance his career substantially. He pilots the Ashley Tee in an effort to intercept the Omega Cloud with only Janet on board while Angela, Frank and Hutch are left on Delta recreating Oz. His inability to aid his fellow crew members when the Omega Cloud turns and heads straight for them is an unnerving experience that rattles him.

## Ed Horner

Ed is younger than Richard Wald. He is a large and jovial man with a good sense of humor. He has black, thick hair and brown eyes that at first appear to be set too far apart. His brows are heavy and he has an inoffensive look. He has a pleasant smile which often is the last thing that his enemies remember. His wife's name is Mary and they live in D.C.





## **Norman Caseway**

Norman is the CEO of Kosmik Inc, and he is the main force behind the project called the Second Earth Initiative. He is a man who enjoys having the upper hand, and likes to be intimidating. He and his wife Ann, and their daughter live in the Observatory Suite or penthouse of their building. His voice is rich and confident, and he speaks with precision. His office is walled with a hologram capable of projecting any scene desired. Norman is a heavy and small man who is in late middle age. A man of incredible deliberation, he seems to examine every move, and observes every courtesy. He likes to think of himself as human's benefactor, a good deal of that self image likely stemming from Project Hope.

## **Captain John F. Morris**

A mean spirited man who takes enjoyment from the failure of others, he is the Captain of the Catherine Perch when it rescues the personnel from the Wincklemann. He has shoulders that are narrow to match his mind and vision. He is a company man, with a nose to the grindstone attitude who feels compromised and resentful. He is uncomfortable with opposing a superior.

## **The Quraquat**

A species that individually lived a long time, and resembled furry gators. They were warm blooded and had two sexes. They also had long stagnant periods where little would change. They had a talent for losing information which was revealed by the discovery that they discovered Quraqua was not the center of the universe on three separate occasions.

## **Frank Steinitz**

Frank was the first deep sea mission astronaut. He traveled five Athenas to Saturn in an attempt to stir the imagination of the public and hopefully revive a flailing space program. He and the other astronauts in the program had come back with permanent scars. They settled the debate about the devastating effects of weightlessness, returning with tendons and ligaments loosened and muscle that was reduced to slush

## **Ian Helm**

Ian is a planetary engineer, and attained his degree in the late 60's. He had done his graduate work on the Venusian issue which dealt with the reason there are so few inhabitable planets - there are so few Jovian planets which have comet deflecting capabilities to reduce the amount of terrestrial impacts. Ian Helm is responsible for the nuclear detonation of one of the two poles on Quraqua, and he defies the order from



Melanie to stand down for another hour. It is his defiance that is ultimately responsible for Richard's death, although both Janet and Melanie will take the blame and bear the brunt of the guilt themselves.

## **Trifon Pavlaevich**

Called Tri by his friends, he is one of the excavation crew on Quraqua.

## **Mark Casey**

Mark is tall, hard and sharp. He isn't known to be superfluous in either his speech or actions. He has thin hair and a manicured beard.

## **Jake Hoffer**

Tug pilot on board the DVT Jack Kraus who maneuvers the giant ice balls into orbit around Quraqua.

## **Merry Cooper**

Second tug pilot who helps to put giant ice balls into orbit around Quraqua.

## **Eddie Juliana**

Eddie is incredibly energetic, and moves with great purpose. He is narrow and thin with hair and a voice that is high pitched. Hutch has never seen him smile. Eddie is one of the scientists at Quraqua and is responsible for packaging and seeing to the evacuation of the artifacts from the planet. It is a job that causes him a great deal of stress.



# Objects/Places

## Iapetus Monument

Located on the Iapetus moon of Saturn, the self-portrait Monument is clearly female, and is on a base that is about half as wide as Hutchins with her arms spread out and is set on a block of ice that is one-third of its size. Her arms are open and her wings are half-folded. She has taloned hands with six digits on each that reach towards Saturn, which is the direction in which she looks and faces. Her expression is serene with almost a philosophical ferocity. She is three and a half meters in height and the fact that she is a self-portrait was confirmed by Steinitz who had found the footprints that matched her feet. There are three lines of symbols that are stencilled into the ice with an almost Arabic flair of elegance, but no one had yet deciphered their meaning. First discovered two hundred years ago, this Monument alerted the human race that they were not alone in the universe.

## Flickinger field

This is a bubble of articulated energy that provides breathing space.

## Quraquat

These are warm-blooded, bi-pedaled, and furred creatures that have a vaguely reptilian look that resembles an alligator with a thin long jaw and mindless looking grin. Four-legged, they radiate a certain dignity and power. At the time of their demise, they worshipped a male deity. The planet's inhabitants died off in the mid seventeenth century and by earth's standards they were technologically backwards.

## Pinnacle

This is a planet lit by naked white sunlight where Holtzmyer's Rock resembles a giant red onion on a sand dune. The species that once occupied the planet believed in life after death, valued seacoasts and mountaintops, and were successful in eliminating war.

## Holtzmyer's Rock

Standing more than thirty meters in height, it is composed of individual pieces of stone fitted together with such care that the seams were difficult to find even up close. It is dated at almost a million years in age and was discovered by Arnie Holtzmyer twenty two years ago. It has four inner chambers, but no way of reaching them.



## **Project Hope**

This is Norman Caseway's project to colonize Quraqua and turn it into a second earth. The first step is to melt the icecaps after which it will take approximately fifty years before a pilot colony can attempt to survive there.

## **Toynbee Factor**

This is the name given to the condition a species suffers when it exhausts itself and becomes extinct.

## **Inakademeru (Nok)**

This is the only other known world that currently has a living civilization other than earth.

## **Schrodinger Effect**

This is the name given to the theory that to exist, something must be witnessed and when the watcher moves on, what they observed ceases to exist.

## **Johann Winckelmann**

This is the name of the shuttle that Hutch pilots to Quraqua with Richard aboard.

## **Oz**

This is a city-like structure on Quraqua. From outside, it was an enormous wall that was reminiscent of the textbooks' representations of the city of Troy. The bone white wall is punctured in three places as though someone had tried to knock it down. Built between eleven and twelve thousand years ago, its age matches the Tull set inside which indicates a possible connection to the reason for its construction. The wall encloses a perfect square and is 41.63 meters high and 8.32 kilometers on each side. The length of the side is two thousand times the height using a base ten construction.

## **Kabal**

This is the location on Quraqua where the major ruin is located and celebrated as the most recently abandoned of all sites on the globe.



## **Strider**

This creature has four eyes and an insect head, a hairy thorax, mandibles, tentacles, and jaws. It is about three meters in height and is indigenous to Quraqua.

## **Beach Monkeys**

Beach monkeys have white fur and large floppy ears. They walk upright like a man and have sloped and horned heads. They also exhibit both intelligence and friendliness. They are also a favorite snack food of Striders.

## **Scrivners**

These are species who dominated Quraqua between 1400 BC and 1000 BC. They were named because of their penchant for keeping records of everything including commercial accounts, inventories, medical records, and vital statistics. They are generally thought to have been very intelligent.

## **Discontinuities**

These are periods in Quraqua's history when life seems to have been eliminated for unknown reasons.

## **Hazeltines**

These are twin engines that power the Wincklemann that Hutch pilots.

## **Beta Pacifica III**

This is a terrestrial world with oceans and a single hook shaped land mass that seldom is further than two hundred kilometers across. Closer examination reveals a string of narrow islands strung together with a highly irregular coastline containing thousands of peninsulas and harbors. Ribbons of forest, jungle and desert stretch across the land masses.

## **Delta**

This is the Moon that is chosen to build the replica of Oz on.



## **Catherine Perch**

This is a vessel that is under Melanie Truscott's command and is first to respond to the distress call from the Wincklemann in the Beta Pacifica system.

## **Ashley Tee**

This is a second ship to respond to the distress sent out by the Wincklemann and put at the disposal of Frank Carson by the Academy to continue their attempts to understand the Monument Makers.

## **Brachyids**

These are crustaceans found on Beta Pacifica III that killed two team members and were indirectly responsible for the third members death as well as injuring others.

## **Cary Knapp**

This is the ship commandeered by David Emory who joins the group at Delta.

## **Omega Cloud**

This is the anomaly that is referred to as a dragon by some cultures, and attacks without visible support or control, exuding meteors and lightning strikes meant to disable and dissolve any signs of right angle constructions. This is responsible for the discontinuities on several planets.



# Themes

## Earth vs Earth Two - Solution or Extension?

In *The Engines of God*, the best minds on earth have decided that the only way to save the species as a whole is to take a select group of people who are of a like mind, and take them to a habitable planet elsewhere and begin again. The theory is that knowing what we know now, these few humans can change the events that led to the current disastrous state of affairs on Earth. Specifically, aggression based on territorial boundaries and overpopulation leads to starvation. Industrial excesses that accelerated the pollution and atmospheric instability that currently exist on earth could have been avoided with previous knowledge that they can be the outcome of these excesses. Some of the population agrees with this assessment while there is a group who believe that humans are humans.

The second group feels that human beings are unlikely to change. They feel that greed, and self interest is so deeply ingrained in our species that there is no hope for rehabilitation or education leading to a different manner of existence. In their words, a zebra is a zebra and a human is 'homo jerkus' no matter how much education is instilled. As such, the destruction of artifacts on Quraqua or eviction of the species currently living on Nok to accommodate a new start for our species in their minds is akin to the earth being an apple infested with bugs and having a few hop to the next apple. Sadly, the cycle is likely to continue.

## Curiosity Of The Unknown vs Safety and Sensibility

In *The Engines of God*, there are several examples of incidents where curiosity of the unknown overrides common sense. The first instance is quite clear. It occurs on Quraqua when Richard overstays his time on the planet in an effort to recover chases from a printing press found in the lower temple. To begin with, the scientists were sent a clear warning when Melanie Truscott had one of the tugs drop a snowball into the ocean causing a tidal wave. This wave effectively buried the area they were excavating, and provided a clear look at what would happen when the actual terraform project began in earnest. This warning should have been enough to encourage them to be out on time, but instead they chose to dig out what was buried now for a second time. This lapse of judgement or overzealous attitude, coupled with Maggie Tufu's encouragement to continue, eventually costs Richard his life.

The second example occurs when Hutch, George, Janet, Jake, and Carson take the shuttle from the Catherine Perch to Beta Pacifica III. Their desire to explore this new world, with its oxygen levels stable enough to go without Flickinger belts, overrode their sense of caution. Although this world was incredibly earth like in its general appearance and when they touched down, they felt at ease, they took little precaution when exploring. Jake leaves the shuttle when he was told not to in an effort to examine



something he saw from the shuttle. The attack on him was swift. He was killed by creatures still living on this world. The group who left the shuttle to explore did so with little thought to safety. They didn't map the route they took from the shuttle when they left the area, making it difficult to find their way back when they found themselves corners by crab like creatures with bad attitudes. As a result, three lives are lost.

Another example occurs when the remaining three scientists join forces with the two person crew on the Ashley Tee. With curiosity about the Monument Makers high, they gamble by going to one of the moons in an effort to recreate an Oz in the hopes of luring the Monument Makers to them. The anomaly that appears in the sky causes such a great curiosity by all who remain that they gamble with their lives. They allow the Ashley Tee to leave them behind while Janet and Terry speed off in an effort to get a closer look at the anomaly that seems to be passing them by. Unfortunately, the anomaly changes direction and heads straight for the stranded scientists on the Moon in LCO4418. This lapse of judgement again could have cost them all their lives.

When curiosity overwhelms common sense, while exploration and knowledge is important, mistakes are costly and in this story cost four lives and a great deal of stress. Had common sense prevailed, none of the lives would have been sacrificed.

## Career vs Love

Many of the scientists who are at Quraqua have been there for years, forfeiting their chances for a normal life with a partner and a family in favor of exploration, discovery and the advancement of knowledge. Hutch is also in this group, although it is unintentional at first. Her relationship with Cal on Earth falters as a result of her constant missions taking her too far away from him to have a real life or relationship. Although she is sure she loves him, and is even willing to quit her career as a pilot to continue their relationship, he breaks it off. Still smarting from that, she leaves for Quraqua where she meets George. George is soft spoken, and obviously smitten with her, trying everything he can to initiate a relationship with Hutch. Hutch knows how difficult it can be to balance a relationship in close quarters however, and keeps him at arms length until they are home. The death of Richard Wald as they are leaving Quraqua rattles Hutch however, and when they return to Earth she is afraid that any relationship begun now with George will have it's basis in misery, so she avoids him. When they end up on the Wincklemann together again, and once again he makes his feelings for her well known, but subtle, she finally relents and allows for one only physical encounter. She doesn't want to complicate their situation with an ongoing relationship, but there is much promise of more to come when they return home.

Unfortunately, George is killed on Beta Pacifica III, and any chances that Hutch has of continuing her relationship with him evaporate. She is devastated, and remorseful that so much time was wasted between them. Had she known she'd lose him, she would have been oblivious to the gossip and allowed their relationship to blossom regardless of the circumstances. By putting her career ahead of her personal feelings, she sacrifices not one, but actually two relationships.





# Style

## Point of View

The Engines of God by Jack McDevitt is a novel told in a first-person narrative from the perspective of the main character, Priscilla Hutchins or Hutch. There is also a fair amount of omniscient narrative with the author describing the thoughts and feelings of the remaining primary characters. The result is a wonderfully rich blend of storytelling where the protagonist who in this case is Hutch by virtue of her lead role against the antagonist who would be played by the Omega Cloud. In an effort to understand the forces that guide and control the Omega Cloud, a small group of adventurers risk their lives, and some lose their lives in places that are far from the familiarity of home. Also playing the part of antagonist on a smaller scale are the crustaceans found on Beta Pacifica III who display intelligence and organizational skills as the round up and divide the exploratory team members in an effort to kill them.

The story telling is reliable, and fast-paced with mystery and intrigue. Jack McDevitt is a talented novelist, able to accurately weave his characters into a tapestry of adventure without confusing the reader or losing the thread of his tale from beginning to end. While the story is not entirely resolved, the Omega Cloud mystery that he leaves to the reader's imagination does not detract from the story but rather enhances the experience and makes for a more believable outcome as life is not always completed explained.

## Setting

The Engines of God is a story set almost entirely away from Earth. The reader is immediately taken to Quraqua where the excavation of the planet in an effort to understand the former inhabitants is under way. A brief stop at Earth introduces us to Hutch and Richard who will board the ship Wincklemann, and head to Quraqua in an effort to aid with the planned evacuation. Richard loses his life on that planet, but Hutch carries on. She does a brief foray back on Earth but is soon in the air aboard the Wincklemann again. This time she and their crew of scientists are headed to another system to locate the source of a signal originating in the Beta Pacifica III region. This is not their last stop, although it will be for the Wincklemann that is left dead in the water near this system. Rescued by the Catherine Perth, ship board life continues. They explore Beta Pacifica III after the discovery and exploration of the abandoned space station in its orbit. Three lives are lost here, but still this group of explorers is inspired to continue. They transfer to the Ashley Tee and head for yet another system, seeking the origins of the Monument Makers. Much of this novel is ship board or exploration on planets discovered.



## Language and Meaning

The Engines of God is a novel that primarily deals with space travel, colonization, exploration, and archaeology. While there are some terms that are strictly consistent with archaeology, and set the stage for space travel that follows, it is not the focus of attention. There is a fair amount of specific descriptions that apply to space travel including transdimensional jumping; light year distances; and the kinds of technology involved to manage such travel. The novel takes place for the most part on one ship or another, so the references to oxygen levels and scrubbers, and how lack of heat can affect the life support systems lend credibility to the story and help the reader to put themselves in the shoes of these space travelers. The terraforming challenges presented on Quraqua are realistic and certainly on the scientific minds of many today as we continue space exploration in search of a habitable planet.

The descriptions of the Omega Cloud leave a great deal to the imagination, which is certainly the intention of the author. It does not deter from the story and in fact leaves some mystery left for exploration. This helps rather than hinders the story as credibility would be challenged if all mysteries of the story were resolved by a simple excursion into space. All in all, a well written and well thought out creation with enough imagination and reality-based supposition to blur the line between fiction and what could be.

## Structure

The Engines of God is a novel of just over four hundred pages that is divided into four parts and further divided into thirty chapters. Each part deals with a significant turning point in the novel. Part One, Moonrise, comprises the first five chapters. It introduces Priscilla Hutchins or Hutch who is a pilot who works as a freelancer taking scientists from one location to another. She is taken by friend and scientist Richard Wald to get her first close look at a monument. He appreciates her enthusiasm and her outlook, recognizing a kindred spirit. Part Two, Temple of the Winds, is about seven chapters long and explains the significance of the planet Quraqua. This planet has been chosen by earth's brightest as the most plausible place to terraform and create earth two. A select group will be chosen to reestablish a colony on the planet as soon as it is habitable. Before that can happen, the ice caps must be melted so that an atmosphere can be created. An ambitious project, it is run by many who are blinded to the current value of the excavation going on. Richard is one of the many who are against moving too quickly, before all artifacts can be uncovered and removed for future study. Richard's desperate attempts to get two printing chases costs him his life.

In Part Three, Beta Pac, covering ten chapters, the significance of the Oz monuments is uncovered. Beta Pac is the source of a signal that is traced from earth and when investigated, another Oz monument is discovered. Here, the planet Beta Pac is remarkably earth like in many ways. This exploration is costly, beginning with the exit from transdimensional space travel into a foreign object not registering on their instruments. The ship piloted by Hutch is rendered dead in the water as a result and the



crew spends almost two weeks in limbo awaiting rescue. When it comes, it takes the form of an old nemesis from Quraqua, but efforts to bury hostilities are successful and they work together to unravel the complicated connections between a space station that is a mausoleum, another Oz-like creation and a planet that is inhabited by creatures determined to eliminate their new visitors. Part Four, Engines of God, is five chapters that are packed with adventure and constant surprises. The remaining three crew members from Hutch's ship the Wincklemann struggle to understand the Oz connections and the wave created by unknown forces that affects everything in its path.



## Quotes

"It's one of the Monuments" (Chapter 1, pg. 20.)

"This thing is so different from everything else they left" (Chapter 5, pg. 54.)

"It is now a race between our greenhouse on Earth and the greenhouse on Quragua" (Chapter 6, pg. 75.)

"These things snack on beach monkeys" (Chapter 7, pg. 96.)

"I wouldn't want to spend the rest of my life wondering what the hell that city on the moon is about, and knowing I might have been close enough to find out, and didn't try" (Chapter 10, pg. 36.)

"They've paid us in our own coin, haven't they?" (Chapter 13, pg. 169.)

"Farewell and good fortune. Seek us by the light of the horgon's eye" (Chapter 15, pg. 194.)

"We should probably have a communications malfunction" (Chapter 17, pg. 226.)

"There's a better chance that both Hazeltines will fail" (Chapter 17, pg. 237.)

"We seem to have gone through it" (Chapter 18, pg. 248.)

"I'm not anxious to suggest anything radical...but we have a total of forty days of air to divide any way we please" (Chapter 19, pg. 269.)

"You sent over the foamball" (Chapter 20, pg. 282.)

"I wouldn't have wanted to tell my grandkids that I could have ridden with Columbus and passed it up" (Chapter 21, pg. 290.)

"Easy for you... when other people die, you're always safely away" (Chapter 24, pg. 330.)



"Could there be something in the wiring of intelligent creatures that breaks out every eight thousand years?" (Chapter 25, pg. 350.)

"Is it a natural object?" (Chapter 29, pg. 395.)

"Here we sit with God coming after us" (Chapter 30, pg. 408.)



## Topics for Discussion

What consistencies can be attributed to the Monument Makers and their creations?  
Why is Oz seemingly different?

What is so important on Quraqua that costs Richard his life? Who pushed so hard for its retrieval and why?

Who feels directly responsible for Richard's death and why? Who are the indirectly responsible that should share the blame and why? Hint - there are at least three others.

What discovery is made on Nok that ties it directly to Quraqua? What common factor do the two worlds share that make it impossible for them to have been responsible?

How is the possible location of the Monument Makers discovered and by whom? How are the criterion reduced to a single likelihood?

Why does the Wincklemann leave early for their second mission? What might have happened had they left as scheduled and why?

Who is the first to arrive to rescue the crew aboard the Wincklemann? What is the irony attached to this particular group rescuing them?

What delays the Catherine Perth from leaving? Who objects to the delay and why?

What is strange about the space station they discover?

What catches the landing party unawares on Beta Pac III? What are the consequences of this surprise?

What conclusion does Hutch come to after the memorial? How is it significant?

What does Hutch suggest they do? Why does she think this will be significant?

What system do they go to in the Ashley Tee? Why are they left behind on the moon in this system?

What is the outcome of the construction efforts on Delta?

How can the Omega Cloud be best described and what is its ultimate purpose?