

**Media Kit for the novel “The Future Happens Twice”
by Matt Browne
Press Release, Reviews, Interviews, Chapter 1 Excerpt
www.Meet-Matt-Browne.com**



FOR IMMEDIATE RELEASE

For decades scientists have dreamed of sending deep-frozen humans on interstellar missions. But until this dream comes true, they must settle for a much simpler technique available: the freezing of human embryos. However, long distance space travel of this nature poses other challenges, none more so than the management of artificial pregnancies and how to raise the children produced.

One viable solution comes in the form of advanced biotechnology and highly sophisticated androids, and a large scale project has been implemented to explore these options. To prove that it can really work, the project's scientists go a step further. Somewhere in the Nevada desert and well hidden underground, they conduct an eighteen-year-long experiment using a young starship crew unaware of their true environment. Surrounded by complex simulations, the crew believes they are approaching a distant star system, one that appears to host a planet suitable for human colonization. What they also don't know is the fact that their embryos had been split prior to the implantation in the womb devices.

The scientists' bold plan is to send the twin embryos on the real mission, pioneering the frontier of space. From both identical genes and an identical environment inside the starship, they arrive at the assumption that the future is a mere repetition of the present events. And indeed, about 42,000 years later the twins grow up with the very same android parents.

But then things start to drift away from the original plan. The real starship crew now faces a constant battle for survival. Only their fortitude and strong determination to land on the extrasolar planet averts a disaster. The reward is the new exotic world that awaits them, full of overwhelming potential.

Matt Browne's beautifully worked space epic explores the bounds of human hope and invention and plumbs the depths of human duplicity. Tender relationships between the budding astronauts are pitched against the disillusion they feel when an embattled President confronts them with their true origins and purpose, only to reveal the real culprit in the entire project - something closer to all of us today.

The author's fascination with the fields of bioengineering and information technology sustains the reader's interest all the way in this futuristic roller-coaster ride. And he asks a terrifying question. Setting aside man's inhumanity to man, what if Nature herself turns against us? This gripping novel of epic proportions skillfully mixes elements of drama, medical thriller and science fiction. As the story unfolds, Matt Browne takes his readers on a breathtaking journey through vast stretches of time and space.

About the author

Matt Browne, M.S. is a senior team leader in the information technology division of Deutsche Bank in Frankfurt, Germany. His areas of expertise include enterprise content management, web technologies, knowledge management, intranet search engines and collaboration software. He earned his M.S. degree in Computer Science and Computational Linguistics from the University of Kansas and the University of Erlangen-Nuremberg. He started his information technology career at Siemens in Munich as a software engineer and project manager developing natural language processing tools with a strong focus on machine translation systems.

Matt is also a part-time writer and has recently published his first science fiction novel called *The Future Happens Twice* which is based on the concept of embryo space colonization. Key elements in the first book of his planned trilogy are the detection of Earth-like extrasolar planets, the advancement of embryo-splitting technology, artificial wombs and the cryopreservation of human embryos as well as the construction of sophisticated androids for an interstellar space mission as human survival is threatened by an impending extinction-level event. The novel will be followed by two sequels called *Human Destiny* and *The Andromeda Encounter*. Matt's other scientific interests include astrobiology, particle physics, supervolcanoes, renewable energies, nanotechnology, virtual reality environments, mind uploading, and brain-computer interfaces. He's a member of the Lifeboat Foundation. In his leisure time Matt enjoys traveling, photography, music and reading.

APEX Reviews

Frozen embryos, Extinction Level Events (ELE), androids raising babies, spaceships traveling for thousands of years - it may sound like a B-Movie of the Ed Wood variety, but, in truth, the premise is more plausible than one may think, and Matt Browne proves just that. *The Future Happens Twice: The Perennial Project* tracks the efforts of a species under siege - and the enemy is one that its members can't readily combat. The very real and growing threat of an ELE (a ruinous, catastrophic disaster) forces the global leadership of Earth to devise ways to preserve the existence of humanity, ensuring its propagation for posterity. The problem, though, is that if Earth's habitable environment is destroyed or severely damaged by the ELE, there will be no viable place for those remaining to survive.

Hope comes in the discovery of a distant Earth-like planet, but the only problem is that the planet is dozens of light years away. As science, per Albert Einstein, has proven, there is no possible way that life can survive a journey that long...or is there? A top-secret project launched at the behest of the American government has devised a way for just such a journey to transpire - but it involves some of the gravest ethical breaches ever known to man, and its highly experimental nature leaves too many questions unanswered. With time quickly working against the human race, the project's handlers must scramble if the species is to avoid joining the dinosaur in the annals of history.

Matt Browne has crafted a smart, engaging tale that highlights the proverbial Doomsday Scenario in stunningly personal detail. Given the technological bent of his chosen subject matter, one may think that his writing would be stilted or difficult to understand, but his storytelling is both straightforward and informative, leaving the reader with a greater appreciation of just how important a role science plays in our everyday lives - as well as our (possible) future. Though it comes in at just over 700 pages, Browne's narrative reads fast and easy and whets your appetite just enough to crave the second and third parts of this exciting trilogy. Like Tolkien, Crichton, and Octavia Butler before him, Browne's compelling prose will convert you into a Sci-Fi fan without your even realizing it. The best is yet to come from this impressive new literary talent.

Midwest Book Review – Terilyn Fleming

Never judge a book by its cover! The first installment of Matt Browne's sci-fi trilogy about colonization of an extra solar planet 42,000 years in the distant future is a surprisingly good read for a first time author, and

potential readers should not be put off by the romance-inspired cover art. The Perennial Project (the first in The Future Happens Twice trilogy), is a character-driven 700+ page novel that follows the exploits of scientists and their subjects in a super-secret government project that will send cryopreserved embryos into space to colonize an earth-like planet in order to perpetuate the human race after earth suffers a devastating catastrophe eliminating all biological life on the planet.

Browne does not fall into the traps many first time authors do. There is no info dump to give the reader back-story. Instead, the scenes show, rather than tell, the plot. Browne's scientific background and extensive research on the subjects in the book does not prohibit the layperson from understanding the complex subject matter. Browne explains complicated ideas without talking down to or pandering to the reader. This isn't a beach novel, but the reader does not need a master's in science to follow the ideas. Browne does an excellent job of creating interesting, round characters. One of the absent-minded professors, Bruce, is described as wearing two different colored shoelaces. Equally telling is the description of the somewhat nefarious Rick Kanchana, "Kanchana pounded a fist on his heavy desk, barely missing a plate. He pushed away the plate on which lay an unfinished sandwich. There was bit off cheese protruding between two slices of dark bread. The indentations in the cheese looked almost like the cast of a cogwheel—the work of Kanchana's uneven teeth". Kanchana's teeth, of course, are a reflection of his twisted morals and ugly personality.

Readers may be worried that it will be difficult to follow the different storylines of the twins since three of the four sets have the same names. However, Browne integrates the various storylines and moves easily between them. It is neither difficult to follow nor is it confusing. Though the theories presented about how our universe will end are pessimistic, the scenario presented is plausible; Browne balances the pessimism with the hope our scientific developments can save the human race. While much of the 720 pages is new information, the basic plot of the story is repeated a few too many times. Mid-novel, when three sets of the twins are brought together, a recap of the previous 400 pages is given. Another 150 pages later, there is a similar recap for the fourth generation twins. It was prudent for Shakespeare to recap the plot for his audience because the crowd was rowdy and often didn't pay attention, but there is no need for Browne to do the same in the first novel.

The third and fourth generation twins are both born and live on a spaceship (unbeknownst to the third generation, it was a hoax), but Browne seems to spend an inordinate amount of time trying to convince his reader that personality is both genetic and environmentally determined, while real-life identical twins, even raised in the same environment and conditions can have very different personalities and reactions to stimuli. Each third and fourth generation twin also refers to their mate as "girlfriend" and "boyfriend" which makes it seem like Browne is reminding the reader the set of quadruplets are not related to each other so no incest is taking place.

Ironically, though the book is framed around Debrya Handsen, a linguist, most of the characters speak in the same voice. Diction isn't varied, and all of the characters, while all being brilliant, speak with similar patterns. This is a common problem with first time authors, and will hopefully be rectified in Browne's future novels. There is very little of the book devoted to the colonists when they arrive on the planet, and it would be exciting to learn more about the interesting feather trees, the ranaphibo (the six-legged, blue, misshapen hamster-like creature), the light-shy flying insects, and other phenomenon of planet Acantarius. Browne whets the reader's appetite with a wonderful scene of the Festivals of the Moons in the epilogue of the book, showing the human need for pomp and ceremony and creates an expectation of what will happen in the second volume (Human Destiny). This leaves the reader wanting more and eagerly anticipating the second volume. Overall, the novel was a wonderful read for anyone high school age and above who is interested in planet exploration and plausible future scientific advances. Any reader of this novel will look forward to Browne's next installment.

Revish Reviews - Dan Champion

Stem cell research, cloning, test tube babies, and frozen embryos are controversial issues we all hear about. Matt Browne has woven these issues into a cleverly crafted science fiction novel that will grab anyone's

interest. Starting with scientific and medical concepts we all understand today, Browne carries the reader through more concepts that are speculative, but still widely discussed, and then takes the reader on a journey the reader will never forget.

"The Future Happens Twice" is Browne's first novel. One wouldn't think so. His choice of words is polished, and his characters are well rounded. Much of the characterization is done through dialogue, which, in Browne's hands, is very effective. Browne adds depth to one character, a superbly qualified scientist, simply by having another character, already characterized as having good taste in clothes, notice that the scientist has different colored shoelaces in his shoes. This is the kind of book that should be read as the plot flows. Peeking ahead to see what happens later will spoil the reader's enjoyment because Browne's story line takes many surprising twists and turns, some very unexpected, as the characters try to come to terms with what they find themselves immersed in. Also Browne's impressive understanding of cutting-edge science keeps you wondering "Could this really happen?"

Ronyo Greffin discovers that he looks like exactly like a much older man once looked when the older man was Ronyo's age. Debyra Handsen accepts employment at a top-secret military research center and later wonders what she got herself into. So begins this fascinating novel, more mystery thriller than science fiction. "The Future Happens Twice" will intrigue everyone, even those who don't normally read science fiction. Things widely discussed today: cloning, frozen embryos, astronomy, space exploration, crimes committed by governments, private investigation to identify those responsible: all of these are cleverly woven into this story. "The Future Happens Twice" has a solid plot. It touches on controversial topics everyone is aware of, and it will keep you guessing all the way to the end of the novel.

Bewildering Stories - Danielle Parker

Does anyone remember the October 1972 crash of Flight 571 in the Andes? Twenty-six of forty-five people on board survived to face high-altitude cold and starvation. Rescue did not come until late December. The survivors ate the bodies of their dead colleagues to stay alive. The Catholic Church officially forgave them, and many of the survivors went on to write or inspire book and movie versions of their horrific experience. All's well that ends well, I guess. Now, however, the question: would you have done the same to stay alive? Was survival worth becoming, as the elderly cannibal mariner of "The Yarn of the Nancy Bell" sings, "Oh I am a cook and a captain bold, And the mate of the Nancy Brig, and a bosun tight, and a midshipmite, and the crew of the captain's gig"? Just how far would you be willing to compromise your personal standards – I'll assume for the sake of argument that we're all against cannibalism – to stay alive?

Now let's turn that question around a bit. We're all against torture, too, but when the security of the nation is invoked, do we put aside our personal scruples and support the return of the Iron Maiden, the rack, and the hot tongs? Just where do we draw the line between the evils we won't touch, "ever", and those deeds whose end justifies? That question kept me reading the 700+ pages of 'The Future Happens Twice'. Debyra Handsen is a linguist who finds herself pitched into a super-secret project. This super-secret project is up to some super-dirty deeds in the name of the salvation of the species (genus *Americanus*, anyway. Others don't get much of a mention here). Ms. Handsen discovers that her new employers, The Perennial Project, are carrying out unethical experiments on human twins. It doesn't sound nice. Fortunately, none of the twins actually face death in the Perennial Project. Still, Ms. Handsen is faced with that same vexing question. Should she bite her lip, accept her higher wage, bask in her scientific accolades, and condone experiments on unknowing, innocent subjects? In her doubt, she conducts many silent and anguished conversations with a father confessor figure, the Reverend Zaulder. Her employer gives out tantalizing hints that the Perennial Project's race-to-the-stars work will save the human race (a eugenically selected tiny elite) from some near-term global disaster. Is that enough to justify her dirty hands?

The pressure rises when former subjects of the same experiment start rooting around for answers and threaten to blow the lid off the dirty laundry hamper. Does she keep going? What wins – Ms. Handsen's sympathy for the unwitting victims, or that new purple car she has her eye on? You'll have to read it to find out. Mr. Browne is an idea man, an approach with a long and honorable tradition in speculative fiction.

“The Future Happens Twice” is an exciting science fiction novel about a clandestine government program aimed at sending frozen embryos, surgically split into duplicates, in order to make identical twins for a 42,000-year voyage to an earth-like planet orbiting a star 82 light years from earth. The scientists working on the project have reservations about their involvement in something that is obviously illegal and something many of them think is immoral also. Browne has put together an interesting story with good characterization of his main characters and a plot line that goes through many, many surprising twists and turns. The really interesting part is that the government plans a simulation of the voyage in an underground facility with four unsuspecting children raised from birth to eighteen thinking they are on a real voyage through interstellar space. Once the government deems the simulation successful, the government plans to drug the children and move them to a hospital with a phony story about an accident, post-traumatic shock, and amnesia. Some of the scientists are very concerned about the moral implications.

Since the government knows that this ambitious project is both illegal and immoral, there is an elaborate cover-up to prevent the public from finding out until after the government has had a chance to launch the real starship. The scientists hired into the program are sworn to secrecy before they realize what the government is doing. Some of them have difficulty dealing with the duplicity of the government and the moral and legal consequences for them should news of this program leak out too early. Matt Browne is very well informed about what can already be done in science and what is still in the realm of possibility, and he has a good perception of what is morally correct and legal. He uses his knowledge to make “The Future Happens Twice” sound plausible and to portray human concerns about experiments like this. Even if you are not a devotee of science fiction, you will enjoy this gripping novel and learn quite a bit about science as well.

Kay Fleming – Marketing Strategist

If you judge this book by its cover, you'll be missing out on a great tome. the cover certainly doesn't do justice to what's inside. This is a truly captivating and intellectually stimulating book. I was challenged when trying to categorize it. Is this a sci-fi work? An action/adventure? A study of the human mind? An exploration of female heroism? Well, at the end, I realized this book defies a single categorization and encapsulates all these genres. "The Future Happens Twice" will appeal to sci-fi buffs, action/adventure readers and those fascinated by the study of the human mind and relationships.

At first, the premise of a supervolcano eruption resulting in total annihilation of all living things on earth ("extinction-level event") seemed like stuff of fiction. But as I kept reading, the more I understood how possible such an event could be. The project's mission to save humanity (or at least part of it) is thwarted by a number of things, not the least of which are the dark forces of human ego and duplicity.

I was impressed by the depth and breadth of the author's knowledge in the various science fields that are at the core of the book (e.g. bio-engineering, long-distance space traveling, geology). The author manages to make all this science stuff appealing to the lay reader and to build a chillingly realistic, action-packed and suspenseful plot around it. More impressively, the author's understanding of the human mind and his position on the future of humanity made me look to the future and at the same time be introspective about who we are and what we are here for. All in all, I thought the science of this book was very thoroughly researched, the plot frighteningly real, and the story-telling gripping.

Jim Erjavec – Professional Geologist

Debrya Handsen, Julara, Ronyo, Gilvan, Sabelle - these are names you won't soon forget when you read The Future Happens Twice. This imaginative and provocative science fiction tale spins these lives together through events that are astounding, absorbing, and also foreboding. Matt Browne has created a work of splendid science fiction that is embedded with an exceptional scientific realism not often realized in the genre. Moreover, as he weaves his tale of courage in the face of the unknown, Browne brings to the forefront

a number of ethical and moral dilemmas, dilemmas that we often struggle with today, and will no doubt be struggling with in the future.

Let's step into Browne's world, one about as detailed as I have ever encountered in a sci-fi. We move forward several decades from today. Debrya Handsen, a linguistics professor at the University of Minnesota, has just accepted a new position with a secret project that has been going on for decades - the Perennial Project. As Debrya learns early in the story, the Perennial Project is ultimately trying to change the destiny of humanity. But little does Debrya realize, once she has become entrenched in the project, it will change her own destiny as well.

Sponsored by the government, the Perennial Project is attempting to send people to the stars to safeguard the future of humanity. The Earth is a volatile system, whether we wish to believe it or not. Many times in the long history of the Earth, life has taken catastrophic hits from stellar and terrestrial phenomena. One of those events, the Permian-Triassic extinction, wiped out nearly 90% of life on Earth. For those working on the Perennial Project, extinction events like those are not far from their thoughts. What if something like that happened today? Could we even prepare for it? Who of humanity would survive, if anyone? Is it possible such an event might push humanity back to the Stone Age? No one has the answers to those questions.

As you progress through the story, you begin to realize Browne has covered just about all the bases in his vision of how humans might take their first steps to the stars. Unlike Star Trek, where ships are zipping around the galaxy, Browne puts a more realistic slant on space travel. Engines have been developed to push a ship at amazing speeds, but far short of light-speed. Thus a trip to a star some 82 light-years from Earth, where a suitable planet, Acantarius, may have been found - is going to take an astounding 42,000 years! For me, just the thought of that distance in time (in itself) is astounding.

But since in Browne's world, cryonics (freezing humans for long periods of time) is not a reliable and tested technology, the only means to get people to the new world is to freeze embryos, then birth those embryos within a reasonable time before the encounter with the new world, letting androids care for the children until they are of age to take on adult responsibilities. Coming at us with the viewpoint of a scientist, Browne believes such a scenario is testable and reproducible - thus the reason for the long timeframe of the Perennial Project. As the goals of the project unfolded before me as I read, they often gave me chills. Not chills of horror, but chills of wonder. The scientists sending the ship to the stars have no idea whether their mission will be successful. It's like sending a ship and its passengers into a void - you will never know the end results, and those making the journey will never really know who sent them because they are not only separated by distance, they are separated by the passing of 42,000 years. Though this concept has been touched on before in other stories, Browne did it in a way that made me shudder in awe.

I thoroughly enjoyed the characters the author "has worked his novel around." They are real people, with real emotions, and it doesn't take much to empathize with them in their situations. This novel evoked more raw emotions in me than any book I have read in the last five years. Julara is my personal favorite, but Debrya Handsen is a superbly crafted presence in the novel, and you will empathize with the struggle that is going on inside her as she delves deeper into the Perennial Project and begins to obsess with what she believes is a grave moral injustice. Take a journey into the future - The Future that Happens Twice! You will not be disappointed.

Barry McConnell – Computer Architect

This is the most original sci-fi book I have read since Dragon's Egg. For such a long book, so many "secrets" are revealed so early on, that you quickly wonder what else the author can come up with. But the book is less about frequent plot twists, and more about the author's vision behind the technology and planning needed to sustain a starship for tens of thousands of years. Although it is told sequentially (with the obvious big jump in the middle), the parallel lives of the two groups of travelers are cleverly merged to cleanly flow the story.

The level of detail and the breadth of science covered is impressive. Many topics are presented in a straightforward manner, casually dropped into a story that equally focuses on character development. The author has considered cryo-storage, bio engineering, genetics, android software and hardware technology, the effects of deep space on man-made machines, atmospheric requirements for life, redundancy, long-range planning and the effect of deviations to the plan, and the emotional and technical demands of raising life on a starship. For some of these topics he proposes a solution, which seems adequate, then later in the book he demonstrates the weakness and how the solution was improved upon—thus making us feel like we are part of this lengthy project, learning as the team did.

The early part of the book is set on not-too-distant Earth, and some of the author's predictions are already reality (e.g. car radios that adjust volume to incoming phone calls), which possibly shows the length of time he spent researching and writing it, and is amusing more than distracting. What keeps the book gripping is the interplay of the project team's devotion to success and secrecy, with the children's thirst for knowledge and the real truth. Since the reader identifies with all groups of characters, instead of a good-vs-evil plot, by the time we are thrust into the future we genuinely want to know how it turns out.

Shannon Vyff – Science Fiction Author & Cryonics Advocate

The Future Happens Twice should be required reading for any Lifeboat Foundation member, or anyone who seriously cares about safeguarding humanity. In Matt Browne's captivating saga, a realistic way of how our species could escape the statistical chance of extinction our planet gives us is beautifully spelled out. Through the eyes of children who find themselves thrust into the role of saving all of humanity, you follow their own trials and revelations as they discover themselves and what they are in fact capable of. Their humanity, inspires... and invigorates you as you read. As you empathize and ponder how you would react to the situations they are thrust into, a new understanding of yourself arises.

I only read books that have a depth of science—the technology and psychology in 'The Future Happens Twice' made it through my own realism filters and as I'd go to sleep after reading a section, my brain would be popping with ideas from the story. Being a cryonicist I often think that as I may have a chance of seeing what humanity becomes in the future, I may be able to see the dawn of space colonization. What I took away from 'The Future Happens Twice' was courage, that if I am ever placed in the position of space travel I would be able to do it. For now I do what I can to safeguard humanity by not only supporting The Lifeboat Foundation but also many non-profits that help end inequality now to raise the standard of living for all humans so we can then better work on our species' future.

I enjoyed the suspense and the realism in 'The Future Happens Twice' and I recommend it for any teen or adult that loves science fiction. This is 'hard' fiction that isn't hard to read at all—in fact if you read while walking on a treadmill like I do—you'll find yourself going 8 miles all of a sudden when you got on only intending a quick 3 or 4. Embryos frozen and sent to be raised by androids, secret shockingly questionable experiments, ethical dilemmas that beg the question do the ends really justify the means? Extinction, the vastness of space, questions of why we exist and finally do we have it in us to save humanity? All of these issues and more will engross you in Matt's page turner... I for one can't wait for the second in his trilogy to be released.

Graham Clements – Speculative Fiction Author

The Future Happens Twice is one of the better science-fiction novels I have read. Its originality and Matt's uncomplicated writing style made it a delight to read. Matt's extensive research for the novel also shines through as I never found myself thinking an element within the novel was implausible. It is a hard science-fiction novel. By hard I don't mean it's hard to read, far from it. Matt Browne writes in a simple style that doesn't intrude on the story. His style is reminiscent of the uncomplicated writing of Dean Koontz, Margaret Atwood and Peter Carey. You won't be re-reading jargon laden and unnecessarily complicated sentences in The Future Happens Twice.

By hard science-fiction I mean that Matt Browne has created a universe true to today's science and what scientists think will be possible in the future. Some of the hard science-fiction elements in the novel include: cloning, nanotechnology matter-compilers, artificial wombs, believable androids, realistic alien life-forms, and intergenerational space travel. The best thing about the novel is its originality. I've read and watched a lot of science-fiction and I never found myself thinking that Matt's novel sounded familiar. It is part-thriller and very much an adventure story as Matt explores one possible future for humanity.

It is a story where a group of scientists set out to ensure that the human race survives an end-of-civilization event. To help ensure our future, scientists conduct a series of ethically questionable experiments on the unsuspecting crew of a spaceship and their relatives on earth. Some of their test subjects become aware of the experiment, jeopardizing its continuation and humanity's future. His characters are full of human desires and flaws. There are no one-dimensional, chiseled-from-stone characters in this novel. I would recommend the Future Happens Twice to anyone who likes to read plausible, simple to read, exciting, adventure/thriller novels set in the not too distant future.

Interview with Stephen Euin Cobb - Jim Baen's Universe & The Future And You

Matt Browne, an IT professional living in Frankfurt, Germany, is this week's featured interview. With a Masters degree in Computer Science and Computational Linguistics, Matt Browne has been involved in projects developing natural language processing with a strong focus on machine translation systems.

Hosted by Stephen Euin Cobb, this is the January 16, 2008 episode of The Future And You.
[Running time: 87 minutes]

Matt talks about natural language processing and how long it might be before a computer passes the Turing Test; human resistance to the creation of human level artificial intelligences; and how this will lead to the singularity. But also how, long before The Singularity, huge profits will be made with AI applications. He also describes catastrophic dangers to the human race such as super volcanoes and asteroids, and why this has lead him to become a member of The Lifeboat Foundation. He also covers many of the social and political trends growing in Germany and throughout Europe. Including his observation that prosperity is on the rise in Europe and all around the world; and how it is that English is becoming the common world language, and why the French are not happy about it.

Matt is also the author of the Hard SF novel The Future Happens Twice in which he explores concepts such as: interstellar space colonization using frozen embryos; earth-like extrasolar planets; embryo-splitting technology and artificial wombs; the cryopreservation of human embryos; children being raised by sophisticated androids; and human survival threatened by an impending extinction-level event.

Scott M. Sandridge – Editor of Everyday Fiction

1. What made you decide to become a writer?

I've loved science fiction all my life. Ten years ago I contemplated creating my own sci-fi story, but at first I wasn't really planning on publishing a book. I'm a commuter and each day I spend two hours in heavy traffic. Over the years this gets pretty boring. At first the story was developing in my head. Later I bought a little recording device and started working out more of the story's details: characters, locations, suspense, gripping dialogs, critical milestones etc. Eventually over a period of several months I wrote everything down. After my first rounds of self-editing, I showed this to several friends who would later become my peer reviewers. They encouraged me to keep going and become a real writer. They told me my story had potential for publishing. That was a crucial moment. Could I really do this? Go for it, they said! So starting out as crazy experiment and killing time in my car, this turned into a real project. And I was hooked. Writing became almost addictive. A second motivation was using science fiction as a vehicle to get more people interested in science and to raise the awareness about Nature's awesome powers. Because of my demanding day job, I needed several more years to get it to a state where publishers would consider it.

2. How did you come up with the space travel concept for your book?

Most of the time I prefer hard science fiction. Slow interstellar travel is far more realistic. Embryo space colonization is not my idea, but I kept thinking about how this might really work and that serious testing is a necessity for every large-scale project. I'm an IT professional and we have to do it all time.

3. I noticed *The Future Happens Twice* is full of moral quandaries. What are the difficulties in handling such quandaries in a work of fiction? What methods make them successful?

The issue of the test became a moral dilemma. My peer reviewers told me that this is perfect to get readers drawn into the subject. Public debates about human cloning and embryo technology is also beneficial for getting the readers' attention. The difficulty was creating the characters in a believable way. Normally the protagonists are the good people and the heroes. What does this mean for my book? Is there really such a thing as the greater good? My method was trying to put oneself into the positions of the project members who are involved in human experimentation. See the secret project through their eyes. What would they think? What contradictory feelings would they have? They would be plenty of doubts, but in the end all scientists would have to make a decision.

4. Do you listen to music when you write, and if so what types of music?

Yes, I do. All the time. Intelligent, inspiring music. I think music can help both rational thinking and boosting creativity. For me the genres include classical music, symphonic rock, smooth jazz, melodic pop, and soft rock. Enya for example is really wonderful for writing.

5. What type of difficulties did you have to push through to get such a large book accepted, seeing as this was your first book, and a trilogy at that? It certainly goes against the grain of what's considered the standard for the publishing industry.

Slim chance to get the big houses to accept it. However, the concept for the trilogy was an appealing factor. Eventually I realized that the book was too long, but it really takes time to make it shorter without creating inconsistencies and faulty references. I finally decided to go along with a small publisher near London and a full-service self-publishing model.

6. Any advice for writers who have their own trilogies to submit to the publishing houses? Are there any differences compared to the methods for single novels?

Yes, I pretty much summarized everything on my website in the "Writing" section". The difference for trilogies is that you need to "seed" the plants in the first novel already. You need to have the overall concept completed which I did about three years before the publishing the first book.

7. What plans do you have in the immediate future (as opposed to 42,000 years from now)?

At the moment my primary focus is marketing. A small publisher cannot really do much here. So I've got to implement my own book promotion plan. The web is a wonderful place to meet interesting science fiction fans. I get dozens of emails every day. People who like my book tell other people about it. That's the best way of increasing sales. My sequels are 20% complete. I've decided to move forward together with a co-writer. Otherwise it might take too long. I've got my day job in the computer industry and it pays the bill. Few full-time writers can make a living from writing alone. So for the time being I will remain a part-time writer. If the book really becomes very successful, I might reconsider that. I'm also in touch with screenwriters and their agencies. I'm about to sign an agreement with one of them. Many people tell me the story is an excellent basis for a movie. I'm quite hopeful that a producer one day will accept the screenplay. In March I'm attending a big science fiction convention in London called Eastercon Orbital 2008. There will be book signing sessions and I was also invited to join one of the panel discussions about predictions of scientific progress.

APEX Interview

Apex: Matt, thanks for joining us for this interview. We appreciate having this opportunity to learn more about The Future Happens Twice series.

Where did you get the idea to write The Perennial Project?

MB: Everyday I have the fortune of experiencing the immense complexity of humankind, ranging from the love and support that my family gives me to the sheer ugliness of the many natural, political and economic tragedies in the world. These contrasting human and natural activities drove me to question what it really means to be a "human being" in this universe of ours, how we plan to spend our future and what the future holds for us. There are great opportunities as well as dangers that everyone should be aware of. We need a discussion of the ethical issues related to new technologies, especially in genetics and bioengineering, but also in artificial intelligence and nanotechnology. The plot itself grew out of my strong interest in space and my desire to make space-related topics known to a broader audience.

In the year 2000 the Sunday Times newspaper carried an article by their medical correspondent Lois Rogers with the title "Couple seek to have twins born years apart". This was the first time I learned about the newly developed technology of embryo-splitting and decided to use it in my novel. I was particularly interested in the psychological aspects and the ethical implications. Besides that, I was also inspired by Bill McGuire's books *Apocalypse* and *Surviving Armageddon - Solutions for a Threatened Planet*. His main message is: "As a race, we survive on planet Earth purely by geological consent."

Apex: Please share in more detail for our readers exactly what an Extinction Level Event is.

MB: I think the online encyclopedia Wikipedia offers a pretty good definition: an extinction-level event or ELE is a sharp decrease in the number of species in a relatively short period of time. Mass extinctions affect most major taxonomic groups present at the time such as birds, mammals, reptiles, amphibians, fish, invertebrates and other simpler life forms. Since life began on Earth, several major mass extinctions have significantly exceeded the background extinction rate. The most recent, the Cretaceous–Tertiary extinction event, occurred 65 million years ago, and has attracted more attention than all others because it killed the dinosaurs. In the past 550 million years there have been five major events when over 50% of animal species died.

Causes of mass extinctions include: meteorite impacts (asteroids or comets hitting the Earth), massive sustained volcanism and flood basalt events, nearby supernovae or gamma ray bursts, sustained global cooling or global warming. Sadly, our species has added a number of man-made threats to the list: global nuclear war, a pandemic caused by biological weapons such as genetically engineered viruses, uncontrolled proliferation of malicious nanotechnology or the advent of a technological singularity i.e. a smarter-than-human entity who rapidly accelerates technological progress.

Apex: Is the chance of one happening in our near future more probable than we realize?

MB: We have to distinguish between "high impact - low frequency" events on one side and "low impact - high frequency" events on the other. The latter would include minor earthquakes (less than 4 on the Richter scale) or car accidents. It's our good fortune that high impact events are very rare. Yet they are still possible. Unfortunately, many people do not realize this possibility. We should also pay more attention to the events in between, which are of the type "medium impact - medium frequency". Larger tsunamis would fall into this category. Scientists knew and predicted that deadly tsunamis would affect the coastal areas of the Indian Ocean. Yet no warning system had been installed in that region before the terrible tsunami hit on December 26, 2004.

My point is: we should take Nature's powers very seriously. This includes extinction level events as well. Again, they are not probable, but they do happen. We should be prepared for that. Supervolcanoes are a

reality. Meteorite impacts are a reality. Global warming with the potential of a very dramatic greenhouse effect is a reality. I strongly recommend watching Nobel Prize winner Al Gore's movie "An Inconvenient Truth". Even if a combination of man-made carbon dioxide emissions and our entering a warmer period in a natural cycle is responsible, it's still a very serious issue. We need to do something about it. In the long run we have to look at space as well. Space exploration matters. Our species should not be confined to one planet or one solar system forever. The famous physicist Stephen Hawking once said: "It's space flight or extinction." Increasingly powerful technologies make man-threats even more perilous. The Lifeboat Foundation for example develops strategies helping humanity to survive the aforementioned existential risks.

Apex: Many people (who have probably watched too many old movies) have mistaken notions of exactly what androids are. Please expound on their significance, as well as how that plays out in your story.

MB: Again, Wikipedia offers an excellent definition: an android is a robot designed to resemble a human, usually both in appearance and behavior. This means that at least on the outside an android looks like a normal human being. An android can understand and speak human languages and the robotic features allow him or her to climb stairs or catch balls. Why are androids so significant in my story? Until we can send deep-frozen, hibernating people on interstellar missions, we have to rely on cryopreserved human embryos. This technology is available today and applied in numerous in vitro fertilization clinics. Artificial wombs will very likely become available over the next ten to twenty years. Babies are helpless creatures. On a starship that will have traveled for thousands of years, the use of androids to take care of the babies and raise the children is the most logical approach. This can be complemented by virtual reality environments that will provide additional stimulation during the children's upbringing and education.

Apex: Though the book borrows many devices from the conventional Sci-Fi realm, the way that you combine them in the unfolding of the story is very unique and innovative. Who have been some of your writing influences?

MB: My favorite science fiction author is Sylvia Engdahl. I was particularly influenced by her book "The Children of the Star". It's also a trilogy in which human psychology and biotechnology play a crucial role. Other authors that had an influence on my career as a writer are Michael Crichton, Stephen Baxter, David Brin, and Robert Sawyer. I also admire the non-fiction books written by Carl Sagan, Nigel Calder, Marcus Chown, Alvin Toffler, and Thomas Friedman.

Apex: What kinds of reactions have you gotten to the book?

MB: I was quite overwhelmed by the large number of female readers stating: "Hey, I never thought that science fiction could be so interesting and appealing to women." In general, most readers appreciate the focus on the human element without the science and technology parts ever getting too dominant. Most people are intrigued by the plot after the first 30 - 40 pages and like the idea of the cat and mouse detective story woven into the overall plot. It fills me with pride that people find the book intellectually stimulating. The science-keen readers appreciate the unique combination of visions and ideas that are explored through a diverse range of emerging technologies. It also became clear to me that my novel appeals to readers who like complex characters and epic storylines. Some prospective buyers may be daunted by a 730-page book. On the other hand, there are numerous book lovers who enjoy exactly that. And those who did keep asking me: "Where are the next 700 pages?"

Apex: The Perennial Project is the first book of the series. What inspired you to create this ongoing story as a trilogy?

MB: All of my early peer reviewers got curious about what would happen to the newly founded colony on planet Acantarius. Everyone agreed that the colonists would always wonder about the fate of the people left behind on Earth. Would they eventually attempt to get back? How would they travel back? What would they find on the planet of their origin? Those questions became the basis of Human Destiny, the second book in the trilogy.

Apex: Care to share with our readers a bit of what they can expect in the next two books?

MB: As the embryo-splitting technique can always be repeated, another set of identical twins of the last crew, together with their androids, are chosen to man the retrofitted starship Perennial. When they arrive on Earth 42,000 years later they find that there are still humans surviving. But all technology has been lost and the cultures are living on a Stone Age level: the Forest People and the Cave People. A long ice age that has lasted for thousands of years has prevented speedy human development.

Now at a time of climate change, farming has just been reinvented, but tools are still made of stone. The Cave People have developed a new religion that prohibits them from entering the Old Cities where some skyscrapers can still be seen in southern areas that were out of reach of the powerful glaciers. The ground is covered with debris from the gigantic volcanic eruption. Julara and the others are confronted with the question of intervening in the people's nature-oriented lives.

In the third book for the first time in history, human civilization makes an attempt to travel to another galaxy: Andromeda. Further progress in starship propulsion systems limits the travel to eighty-nine million years to bridge the enormous distance between the two galaxies. Julara and her fellow crew grow up in the distant future where Perennial sets a course to the star system where an intelligent signal originates. Their mission is to make first contact with a peculiar alien species.

Apex: Any final thoughts you'd like to share with our readers?

MB: I'd like to quote the famous artist Michelangelo who once said: "The greater danger for most of us is not that our aim is too high and we miss it, but that it is too low and we reach it." Ever so true!

Apex: Thanks again, Matt, and best of continued success to you in all your endeavors!

For more information, please visit the following websites

<http://www.meet-matt-browne.com>

<http://www.amazon.co.uk/Future-Happens-Twice-Perennial-Project/dp/184401830X/>

<http://www.amazon.com/Future-Happens-Twice-Perennial-Project/dp/184401830X/>



Excerpt from Chapter 1

TODAY THEY WOULD learn the Truth. The Truth, like everything else, was well documented and would be told according to the book. The Truth even had its own section and heading number at the top of page 6,484 and simply read *Phase III: The Truth*. Everything was done according to the book, and Phase III would be no exception. Of course there had been some minor deviations over the years, a small hiccup here and there, but the book with its precisely formulated milestones had always managed to keep the project neatly in line. Revealing the Truth was always seen as one of the most crucial phases of the project, and a few worried that it might jeopardize years of hard work. But today meant the start of Phase III, and at last the Truth would be revealed....

Julara, as usual, was the last to open her present. It had always been like that, at least for the past thirteen years. It was clear from an early age that Julara was the most emotional of the four children, and that she would have most difficulty accepting the Truth. Conditioning, therefore, had begun at an early age. Julara would have to learn how to wait, but more importantly she would have to learn acceptance. No one knew

exactly how Julara would react to the Truth, but the best had been done to prepare her. The progress over the years had been quite good, but now, even on the brink of adulthood, there were still signs of the anxious child. Julara knew that paper was precious. Although excited, she carefully peeled away the bright ribbons, taking care not to tear the wrapping paper beneath. Andrew and Ellora smiled at each other; they appeared proud of their four children. For them, revealing the Truth would be no easy task, either; but they too had been well prepared.

The date on starship *Perennial* was August 25, 44120, and today the four children were celebrating their sixteenth birthdays. Much had changed over the centuries, but the giving and receiving of birthday presents remained a cherished act. Each year there had been a birthday cake with candles—nothing fancy, but there again the children didn't know any different. For them it seemed enough to have one day together where they could celebrate the passing of yet another year on the starship. In fact, the scene had been much the same for the last thirteen years, only with the four children gradually changing with each birthday. At first they were just four innocent three year olds, unaware of their surroundings and the complex life that lay ahead of them; but now at the age of sixteen, and bordering on adulthood, they were considered ready for the Truth. In stark contrast, the children's parents never celebrated their birthdays. It had once been a topic of hot discussion, but Andrew—being Andrew—just awkwardly joked that they were too old, and anyway birthday cakes were a luxury that should be reserved for the children!

Each year after Ellora had cut the cake, Andrew would give a short speech. He would normally praise the children for the progress they had made over the last twelve months, and for the way they had worked together as a team. During their teenage years he had started to give more background information about their voyage, and although the children were constantly learning about their mission, their birthdays were commonly reserved for that extra snippet of information—in fact, the Truth had been in preparation for the last thirteen years already, yet the children were never aware of it.

As with previous birthdays, the crew was gathered in the Lounge, the largest room on *Perennial*. It had three large oval-shaped windows, where the crew could view the vast expanse of the universe. A large metal table dominated the center of the Lounge. It was often used for status meetings, but today it was the focal point of the birthday celebration. Andrew rose slowly. When he walked to the end of the table, the children knew that this was his cue to speak. They gradually lowered their voices.

"My dear children," he began. "Once again it is time to celebrate your birthdays, and of all the places in the universe that we could have chosen to celebrate this special day, we have chosen our very own Lounge." Andrew's voice sounded rather monotone. He was of medium height and weight, and wore a one-piece dark blue tunic that was fastened at the middle.

Julara's eyes sparkled as she smiled at her father. Every year, for as long as she could remember, he'd started with those very same lines. The children loved their father for his sometimes bizarre sense of humor, but now during their adolescence found it rather annoying at times. Today, however, was special and Julara felt only a deep admiration for her father.

"And this year," Andrew continued, "we have a very special birthday to celebrate. This year you have all turned sixteen. Each and every one of you has become an adult, and as with all previous birthday parties we are ready to share some new information with you. Only this year what we have to share with you is of an adult nature."

The children smiled at each other. Julara covered her mouth as she felt herself starting to giggle. They had sometimes wondered why their parents had been shy about nudity and explaining explicit sexual details. Perhaps now was the moment? Andrew's face, however, remained serious, almost solemn.

"As you all know, we're on a quest to find a new planet—a new home. Our own planet, Earth, remained under serious threat when we embarked on this mission, and as I speak right now might have even ceased to exist. For the last sixteen years you've lived a very isolated life, confined within the walls of this starship, but let me remind you that as founders of the new colony you are in a very privileged position."

Four pairs of eyes remained focused on their father. The teenagers felt proud to be treated as young adults; but at the same time Julara experienced a sense of nervousness.

Andrew continued slowly, hesitating with each word. "However, what I am about to tell you will spoil your party. There's something that we have to share with you. You are now sixteen, and we are confident that as young adults you are old enough to understand what we are about to tell you."

Julara glanced at Gilvan, one of her brothers, whose mood had changed as well. Their father sounded heavy and serious. This was not about something trivial, such as their sexual awareness, she realized, but something much more fundamental to their life on the starship.

"First of all," Andrew said, "there are a couple of things that I'd like to explain in detail. The first is the speed of this ship, and the second is the distance to our target planet. There's no easy way to say this, but actually, the information we originally told you is incorrect."

Julara's dark blue eyes met with her father. "The information is incorrect?" she muttered.

"Yes, that's right. The information is incorrect." Andrew lowered his head momentarily, looking almost ashamed.

Gilvan spoke next. "You mean you made some type of miscalculation?"

"No," Andrew said, "there were a number of things that we couldn't tell you in all detail before today, because you were just too young."

"Too young?" Julara repeated, looking hurt. "You mean that you lied to us?"

Like the other teenagers, Julara was tall and strong, and although emotional at times, she was an ambitious, self-confident young woman. Rarely did she show anger toward her parents, but the way her father was speaking now made her feel insecure—never in her life had she been lied to. There had always been trust among them, something of vital importance on the starship.

Andrew moved toward Julara. He placed his arm around her shoulder, but it was her mother, Ellora, who spoke next.

She chose her words carefully. "We didn't want to lie to you, but as your father pointed out, you were just too young to understand all of the consequences."

Julara's mind was racing. Why would she have been too young? Today she had turned sixteen, but even as a young teenager she would have been able to understand such complex issues. She traded a look with her sister, Sabelle, and then shifted her eyes back to her mother. "What exactly do you mean by all of the consequences?"

Ellora fell silent again and let her husband continue.

"I'll come to that in a minute," Andrew said calmly, returning to his place at the end of the table. "But first I want to tell you more about the speed of our starship. It's much slower than we told you in the past."

"It's not half the speed of light?" Sabelle asked in disbelief.

"No, it is not. As a matter of fact, it's only 600 kilometers per second. It's the maximum velocity that the engineers could achieve at the time of our departure."

For a few seconds everyone remained silent. Only the distant humming of the ships engines could be heard from behind the ship's main bulkhead. 600 kps: that seemed really slow for their ship to travel among the stars. How could a starship be so slow?

Sabelle smiled faintly, not sure whether to believe her father or not. Maybe this was one of his weird jokes, but surely not on their sixteenth birthday, and surely not of such a serious nature.

"But Dad," she probed, "you told us we're going to reach the planet in two years?"

"Indeed we will." Andrew nodded at her. "Indeed we will," he repeated.

This sounded reassuring. For a brief moment Julara relaxed. They would see the planet as promised—and within the next two years.

Of the four children, Gilvan was by far the smartest when it came to figures. His favorite classes included calculus, geometry, and physics. Andrew had expected him to speak next.

"This means," Gilvan said with a frown, "that the ship cannot have left Earth eighteen years ago, as you've always told us."

"That's right."

Gilvan didn't need much time to do the rough arithmetic, but announcing the result seemed much more difficult, because he simply couldn't believe it. Julara noticed the worried look on his face.

For a time no one spoke.

Julara's mind drifted as she glanced around the Lounge. The candles on their cake were still burning. They hadn't made their wishes yet, but nobody felt in the mood anymore. Their starship was traveling much slower than they had ever believed. Their birthday had taken a strange turn. Julara was still waiting to hear about the *consequences* her father had mentioned a few minutes ago.

Ellora stepped next to Andrew. "We will now illustrate how this journey became possible, how our starship is in fact able to cross great distances," she said, her feminine voice bringing a certain calm to the situation.

Andrew observed the four children before he continued. "We've told you how babies develop inside a woman's body."

Julara nodded in acknowledgement. She wanted to become a doctor and already knew a lot about pregnancy. In theory she already knew how to deliver a child, something she'd practiced on a number of occasions in the Virtual Environment Compartment. She could also use the ship's enormous Knowledge Pool stored in the main computer system. It comprised more or less everything that human civilization had learned during its existence. The plan was to start the colony based on this level of wisdom. The database contained plenty of material on pregnancies and babies—something Julara always found fascinating.

"You've also been told about the process of in vitro fertilization," Andrew went on. "An embryo can be conceived in a test tube outside of a woman's body. The embryo can then be frozen using a technique called cryopreservation. Some time later the human embryo can be thawed and allowed to develop in a normal way." Andrew paused for a moment waiting for a reaction as he glanced around the room. "You see, due to the speed of our ship and the nature of our journey, there was no choice but to freeze—"

Julara interrupted him harshly. "We were *frozen*?"

This time Andrew managed to stare the children directly in the face as he disclosed another part of the Truth. "Yes, Julara, you were frozen."

"All of us?"

"Yes, all of you."

By now the party mood had completely vanished. Julara was simply appalled by what she'd just heard. So many questions were flashing through her mind. Why was their starship flying much slower? Why had their embryos been frozen? And above all, how could her parents allow something like that to happen? Never before during her short life on the starship had she experienced anything like this.

"But how long, just how long has our journey been so far?" Julara asked, stumbling over her words. "Get to the point!"

"Please bear with me one moment," Andrew said, ignoring Julara's impatience. "As I said, we also need to talk about how far this ship must travel."

He put one hand in his pockets and strode toward one of the large oval windows. When he again had the full attention of the crew, he continued with his explanation. "As you all know the distance between stars is enormous. The closest star to Earth's sun is Alpha Proxima. It's already more than four light years away. Unfortunately, it doesn't have any orbiting planets. It's part of a triple star system, unfavorable for sustaining life. Some other stars, however, do have planets. They were first discovered in the late twentieth century, but most of them have huge giant planets like Jupiter—not inhabitable at all—far too close to their suns."

Andrew was still standing close to the window filled with myriads of stars. With his left arm he was pointing outside.

Julara looked fretful. Why was her father avoiding the answer about the duration of the journey? Andrew met her angry stare. He was getting closer to the Truth. Take it step by step, the Project Manual stated.

"It took science some decades to discover the first smaller Earth-like planets orbiting other stars. One of the closest and most promising is Acantarius. We already told you it's orbiting our destination star Omega Altaris."

Acantarius—the promised planet, Julara thought. They would reach it in two years, her father had said earlier; they would be able to leave the ship.

Andrew raised his voice, saying, "The Omega Altaris star is eighty-two light years away from the Sun."

The four teenagers stared at their father, completely speechless. Everybody tried to analyze what this meant. Not only did the ship fly more slowly, it also had to cross a far greater distance.

"Eighty-two light years..." Sabelle faltered. This sounded like an incredible number. Like the others she felt totally stunned. Here was another lie!

Julara clenched both her hands. "Dad, you told us that we have to travel *eight* light years."

Her father looked into her blue eyes. "It wasn't true, Julara. I am deeply sorry, but again, we will reach Acantarius in two years. Still, you have to realize that this ship set out from Earth a long time ago. A very long time ago."

Julara became very alarmed by her father's apology. Gilvan, in his mind, was already calculating. He looked paralyzed, unable to speak.

So Andrew told them. "Our journey started 42,000 years ago."

There was a period of forced silence. The young crew looked at each other in shock. Nobody was able to move or speak for some time. The manual predicted that the Truth would be difficult to accept.

Julara tried to recover herself. "42,000 years..." She let out a loud gasp. "I just don't believe it!" She sprang to her feet, blood rushing into her irate face. "Dad, no ship can travel that long." Her mind was churning as she slowly trudged toward the windows. Ellora approached her and put an arm on her shoulder, her daughter already taller than her.

"But it is true," Ellora said softly, "and we expected that you'd be furious. You have every right to be."

Julara spun around, staring down at her mother. "I'm...extremely furious. Furious at this nonsense!" She withdrew from her mother's touch. "It can't be right," she said desperately. "Tell me this is just one of Dad's bad jokes."

"Julara, if you look at the speed and distance, it must be true," Gilvan said, his eyes showing resignation. The arithmetic was on his side. His brother, Ronyo, supported him with a short nod.

"I don't want it to be true," she retorted, directing her anger at both her brothers.

When she took her seat again, she felt like taking a plate from the table and throwing it against the wall. But everything on this ship was so precious, and her education had taught her to control her feelings. So Julara did not throw the plate; instead she blew out the candles and finally made her secret wish. *Don't let this be true, please!*

Gilvan turned his head toward her. "If you divide the distance by the velocity, you—"

"No!" Julara snapped. She drew breath, glaring at him. "I don't care about your formulas, Gilvan. We've been told this ship left Earth eighteen years ago. We were born on *Perennial* two years after departure. No ship with a crew on board can travel for thousands of years."

Sabelle said, "42,000 years seems such a long time—an eternity, really."

Thinking about the implications, Gilvan addressed his father. "This means that you were born on the ship as well. You've always told us that you have actually seen Earth."

"Is this another one of your damn lies?" Julara asked, her lips quivering. "I'm very disappointed in you."

"There's something else..." Andrew's voice sounded oddly calm, as if nothing had happened. "We expect you to be even more upset and hurt; but we also have great faith in you. All of you are very strong and can face up to this."

He studied the teenagers with an impassive face. Moving toward the Truth. Step by step.

"Given the real duration of our voyage," Andrew said, "you might assume that we are traveling on a generation starship, yet this wasn't the choice of this ship's builders. Your grandparents indeed lived on Earth."

Again Julara was puzzled. Grandparents? She understood the concept of a generation starship. They had talked about it in one of their engineering classes. It meant dozens of generations of humans living and dying on the same ship. Was *Perennial* that kind of ship? But her father had just ruled it out altogether. Their vessel wasn't a generation starship. Suddenly a terrible thought hit her: the embryos!

She gave her father a blank stare. "The technique of cryopreservation?"

Andrew nodded. "As I already said, you were all stored as frozen embryos before this journey began. That way you could travel for thousands of years."

After being quiet for the last ten minutes, Ronyo spoke next. "But Dad, this means that the both of you were frozen too. Who raised you, if this isn't a generation starship?"

Ellora selected a soft and gentle voice. The book had given her the duty of disclosing the last and most disturbing element of the Truth; somehow the expectation was that it would be less traumatic when told by a woman.

She said: "Andrew and I are not your real parents, although we love you very much."

Biting her lip, Julara met Ellora's gaze.

All of the young crew remained silent as this sunk in. Their faces began to fill with confusion, their minds drifting into turmoil. Not their real parents?

Even then, how could anybody travel for 420 centuries?

Ellora revealed the final part: "Andrew and I are not human beings. The Truth is, we are androids, artificial life forms. Our task is to raise you and bring you to planet Acantarius."