

***The future –  
the way it used to be!***

**Volume 1: A look at the first three  
books of the Starman Series**

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## THE STARMAN SERIES

*by Michael D. Cooper*

ASSAULT ON MARS  
THE RUNAWAY ASTEROID  
JOURNEY TO THE TENTH PLANET  
DESCENT INTO EUROPA  
THE LOST RACE OF MARS  
DOOMSDAY HORIZON  
THE HEART OF DANGER  
THE LAST COMMAND

The short stories—  
*The Flight of the Olympia,*  
*The City of Dust,*  
*SETI,*  
*A Matter of Time,*  
and *Return to Europa*—  
are available in the first five issues of the  
Inter\*Stellar, the fanzine for the Starman series.

A novelette outside the main storyline,  
*The Lost Tomorrow,*  
is serialized in “The Starman Chronicles.”

All items may be ordered through the  
Starman web site at [www.StarmanSeries.com](http://www.StarmanSeries.com).

*The Starman Team gratefully dedicates this book  
to all of our great Starman fans, without whom this  
series would never have been possible.*

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## Introduction

It's hard to say what really started my path towards the creation of the Starman Series. If I were pressed I'd have to say that it really started in early 1994, when my father brought home a piece of software called the Student Writing Center. Being a software fanatic I immediately began investigating it and discovered that it could be used to make cool newsletters. When I found this out I knew I had to start writing something, and so I began a newsletter. Things got better when my family and I moved to China a few months later and I then had something to write about, and I ended up writing about life in China for the two and a half years we lived there.

When we got back I was tired of the newsletter but not tired of writing, so I began work on a website. Being a Tom Swift fanatic and noticing that at the time there wasn't a lot of Tom Swift material available on the web, I decided to make my own Tom Swift website. The result was The Complete Tom Swift Home Page, a very respectable site that eventually had a detailed scientific summary of every Tom Swift Jr book that was printed.

While I was creating this website I also made one for the Dig Allen series – another science fiction series I enjoyed – and that is when the break came. One fine summer day in the middle of 1998 I received an e-mail from a fellow named Mike Dodd, who was a fan of the Dig Allen series and had discovered my website (the only Dig Allen website in existence).<sup>1</sup> We started writing to each other, and before I knew it we were discussing writing a seventh Dig Allen book to finish off a series we felt was too short.

Just a few days after I met Mike I received an e-mail from David Baumann, who had stumbled across my Tom Swift website. He was a Tom Swift fan and was enjoying my site, and so he wrote to me and told me. As we began writing to each other I introduced him to the Dig Allen series, and from there I told him about the project Mike and I had started. David thought it sounded like a great idea, and so he threw his hat in with us – and the series was begun.

We didn't know at the time that the seventh Dig Allen book we were working on would eventually turn into the Starman Series. All we wanted to do was write a few more Dig Allen books and distribute them to the two dozen people in the world who might be interested in them; the thought that one day we might have far more customers than just a few dozen never entered our heads. We were just a few series book fans, embarking on a fun new hobby; it was nothing more complicated than that. We had *no*

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<sup>1</sup> Mike said later that the very first search he did when he got online was for "Dig Allen." My web site came up.

idea what we had just gotten ourselves into (and that may have been a good thing), but in one way we were right: it did turn out to be a whole lot of fun.

This book offers a look back at the first three books of the Starman Series. It is written with the assumption that you already know what the Starman books are, have read them, and are interested in going backstage and seeing how they were written. If you're not familiar with the Starman Series, take some time and check it out before you read this book – we think it's pretty cool.

What you are going to find here are the original plot summaries we wrote for the books, the more interesting letters we exchanged while writing the books, and our writer's notes for each volume. I've tried to keep my editing down to a minimum, adding only an occasional footnote to explain something that might not have been very clear.

When I first began this project I wanted to write a complete history of the Starman Series, encompassing all the books, all the letters, and all the material we had built. When I went to put this book together, however, I discovered that we have an *incredible* amount of material lying around – far more than I could ever hope to fit in this book.<sup>2</sup> Instead of putting in everything, I've decided to focus on the first three books of the Starman Series. Consider this a look at the highlights of writing a series of new old-fashioned science fiction adventure books, showcasing the future – the way it used to be.

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<sup>2</sup> This appendix of 287 pages has been cut down from more than 1,000 pages of available material.





# **In The Beginning...**

*The light shines in the darkness,  
and the darkness has not overcome it.*

*John 1:5*

## Introduction

When Mike Dodd, David Baumann, and I first started working together we never intended to create a new series of books. We were fans of the old series books of the past (greats like Rick Brant, Ken Holt, and Tom Quest), and thought it was a shame that they had all ended and fallen out of print. The series that grabbed our attention at the time was the Dig Allen series, a great juvenile science fiction series from the late 1950's that was hopelessly obscure. The books were great and we enjoyed them, but there weren't very many of them and the series lacked a book to wrap things up and give a sense of completion.

Since I had been in contact with the son of the author of that series and since he liked our idea, we decided to begin writing a couple more books for that series to give it a good ending. With that in mind, we began plotting Dig Allen #7 – *Mutiny on Mars*. We had a great time working on it and got pretty far before Western Publishing (formerly named Golden Press, and had originally published the Dig Allen books) told us they weren't going to let us proceed. They didn't tell us that they owned the rights to the series because no one knew who owned the rights: that fact was lost in the dust of history. However, what they did say made us think twice about what we were doing.

Since we had put so much work into the series we decided to keep going, take what we were doing, change it, and make it a new series. *Mutiny on Mars* became *Assault on Mars*, Dig Allen became Zip Foster, and the Dig Allen series became the Starman Series. From there we began writing the first book, and the rest, as they say, is history.

Here are a number of e-mail exchanges from that period of the series. I really wish that I had our very first exchanges, but all those have been lost in the mists of time...

## Letters

This is a section of letters that were exchanged when the Starman Series was first being designed. As will be the case for the rest of the book, letters signed David are from David Baumann. Letters signed Mike are from Mike Dodd. I (Jonathan Cooper) didn't save any letters I sent and no one else did either so you won't see anything of mine here, but sometimes in replies you'll see a letter I wrote quoted.

*DATE: WED, 10 FEB 1999 16:39:31 -0800*

Got some work done on Assault On Mars earlier this week. Jonathan, if you have any pull with Paul Greene<sup>3</sup>, could you urge him to give us the written permission we need from him to proceed with this project. His consent is essential for our paper trail. He needs to say that, given who he is, no definite proof of who owns copyright, etc. etc. he supports and gives permission for our project.<sup>4</sup>

*David*

*DATE: THU, 18 FEB 1999 15:02:03 -0800*

Marilyn Kretzer, Subsidiary Rights Director for Golden Books Family Entertainment, finally got a letter to me in response to the one I sent last September 29. The relevant portion is (and I quote it exactly, including the typing and other errors):

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<sup>3</sup> The son of Joseph Greene, the writer of the Dig Allen books. He had contacted me a number of months before this when he came across my Dig Allen website.

<sup>4</sup> This was written when we were still trying to write Dig Allen books. At the time we thought that Paul Greene or someone else in the Greene family controlled the copyright to the Dig Allen series, so we wanted to get written permission from anyone who might be involved to protect ourselves. At the same time we weren't 100% sure that the Greene's had the copyright, so we were in contact with Golden (the firm that published the Dig Allen series).

"Golden does control rights to Dig Allen series.<sup>5</sup> We can not grant permission for you to write new stories on this series as we are planning to relaunch this the Griffin Space Series."<sup>6</sup>

It is not entirely clear what she means, but they are certainly claiming the rights to Dig and refusing us permission to write new stories. She is likely also trying to say that Golden plans to reissue the series under a new name.

I would suggest that I write back to her and clarify that Golden plans to reissue the series and ask her for more details. Will the stories be rewritten and updated? When will they appear? Also, if you agree, I could offer Assault on Mars and our entire project to Golden as part of the projected reissuing.

Our alternative (besides the obvious one of abandoning the project, which I do not favor) is to go ahead with our plans and make our stories a pastiche, i.e. change nothing but the names. We use the Dig Allen world but write about someone with a name like Doug or Digory Halen, etc. We can tell the Dig fans on our list just what we are doing and why.

*David*

*DATE: THU, 18 FEB 1999 18:56:22 -0800*

Indeed YES, we'll go ahead in some form or other. I'd still like to write to Golden and just find out what they're doing, but I certainly don't want to hang around and wait to find out. They've as much as said that this just isn't a priority for them and they don't want to take the time to research it. They didn't refer to the contract, remember--they just asserted ownership of the rights, which is what Susan Crane had done before. The paperwork is still in their attic. If you both are okay with it, I'll write to Golden and ask for more information about their plans, just for curiosity's sake, but ask nothing further about DA#7--and then we'll just go ahead. If we take what they say at face value, we are

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<sup>5</sup> We still don't know if this is actually true or not; Golden could not produce any proof. The only way to find out who really controls the characters of the series is to find the original contract and that seems to be impossible to find.

<sup>6</sup> This, of course, was never done. We suspect that Golden simply told us that as an excuse to explain why they weren't letting three private individuals write a Dig Allen even though they weren't going to market it but simply wanted to enjoy it and pass it on to a handful of friends.

indeed loosed from certain restrictions in our stories,<sup>7</sup> but we are also untied from Dig Allen. It cuts both ways. But no matter what, our book will be written! It's a good story and people will like it.

*David*

*DATE: THU, 18 FEB 1999 20:58:58 +1900 (EST)*

Dear Jonathan and David,

I don't know what to think at this point! I do know that nobody loves this series more than we do. I do admire Jonathans' positive take on things, and I do have enough perseverance to want to forge ahead.

Might I humbly suggest that we take Jonathans' suggestion<sup>8</sup> and go with it. We may also want to have our newly re-named characters speak of the strange suspicion that they have that some weird thing happened to them on "that expedition to the Kuiper Belt, where they encountered a worm hole/black hole that may, just may have altered slightly their reality". In other words, its really Dig and Ken and Jim.....they just don't completely Know it....they have new names in an alternate universe. Our series need never directly mention the names. They seem to remember having different wiring in their spaceship, they had to get used to these "semi-conductor things", instead of the vacuum tubes they were used to (maybe they were transported somehow to OUR universe!.....yeah, that's it!)<sup>9</sup>

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<sup>7</sup> Like trying to find a plausible way to explain why vacuum tubes are still used in computers, why Mars is terraformed and why Venus is habitable!

<sup>8</sup> My suggestion was along the lines of taking the stories we had crafted, altering them to be different enough to where we could publish them without being sued, and then continuing the project. What we *really* wanted to do was finish the Dig Allen series: that series needed another volume or two (we had six more planned, actually) to give it a satisfying ending. It's somewhat amazing that we chose to forge ahead! When we started we never intended to build a new series of books from scratch and start publishing them; only over time did a venture to write one more Dig Allen book (which was to be distributed to maybe 5 or 10 other people) to finish the series off turn into a huge enterprise to launch a brand-new old-fashioned science fiction series.

<sup>9</sup> We tried hard to find a way to link this new series to the Dig Allen series, but in the end we gave it up. Our series was not going to be the Dig Allen series: it was going to be something entirely new.

In any case, I am for going ahead...and I thank both of you for being so dedicated.

Bloody but unbowed,

*Mike*

*DATE: SAT, 20 FEB 1999 01:41:23 EST*

I am glad you like the "alternate universe" idea....it was my intention to have it be both a "little inside joke" and to be a possible way back to the original DA universe should Golden ever come to their senses.

I liked the suggestions and would recommend that the new lunar base be on the Moons' south pole.....where we know the water-ice is.....and as for what to call this Lunar base,...how about simply, South Pole Base or South Pole for short. Real space guys are going to do stuff like this....they don't worry about the fact that Earth has a south pole. I think it gives the reader a momentary problem to solve that will result in a more thought provoking book.

I suggest that Digs' new name be "Red"(maybe we can rename Jim and Ken with equally descriptive names).<sup>10</sup> The Space Guard is now the Planetary Patrol or Space Patrol. Perhaps Space Research is known as UNSA (United Nations Space Agency) or maybe even NASA.

I really like the idea of Space Research being lunar-based at first, then moving to the Asteroid.

Space Explorer is such a great name that will be hard to replace adequately. Some suggestions:

Planetologist  
Solar Explorer  
Planet Explorer  
Discoverman

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<sup>10</sup> Zip Foster has red hair simply because Dig Allen did.

Starman (why not?)<sup>11</sup>

Perhaps we can sneak by this one , and rename Space Research to the Organization of Space Explorers....so then we can call our heroes OSERs ...or something like that.

*Mike*

*DATE: SAT, 20 FEB 1999 18:00:22 -0800*

I don't have time right now to contribute to the renaming process, except to say that we are all taking our new situation with Golden very positively, and second that I like most of the new names and am confident that we'll come up with some really terrific new terms. Like Jonathan, I think I like Starman, too. I'll give it some thought and get back to you both by the end of next week. I will be traveling with my father Monday through Thursday, and will take some time during this trip to reflect on the whole situation.

*David*

*DATE: TUE, 23 FEB 1999 19:47:41 EST*

I personally like the name "Red Greene", its' humorous, strong , ironic and thought provoking. However , I do understand its' problems.....and not everyone is as loose as I am.

Greene, Halen or Boyd would be nice names for the brothers. (Halen would certainly help to please the musically focused in our readership!, worth considering)

I am in love with the idea of giving the name Lee High Eagle to the first Mars walker....."Lee Eagle has landed!" It is the perfect historical irony.<sup>12</sup>

In 1976, NASA planned to land Viking 1 on July 4... that didn't work out so they chose July 20, another historical date! (My wife and I were married on July 20 for that very reason, now I have no excuse to forget our anniversary!)

---

<sup>11</sup> This had been suggested before in other e-mails that have since been lost. We were opposed to it at first, but we warmed to the idea and eventually decided to use it. Five books later, it's hard to imagine choosing anything else!

<sup>12</sup> This was actually done! No one seems to have noticed anything unusual about it...

If the New Space Explorers use ships with ion engines they might be referred to as IONEERS.

The STAROVER might be renamed the STARANGER. I do like this name. (Or maybe STAR RANGER).

I would like to use an old term somewhere in the story (series), Expeditionary Force. As in INTRASOLAR EXPEDITIONARY FORCE....please let me know if this term always has a military connotation. If it does, then we will probably do without it.

Perhaps EXPEDITIONARY TEAM is better.

*Mike*

*DATE: THU, 25 FEB 1999 23:04:52 EST*

I guess it would be too obvious to rename our Mercs Borang and Genin.<sup>13</sup> ( ha ha)

*Mike*

*DATE: THU, 25 FEB 1999 23:05:35 -0800*

Of the many messages we have sent back and forth, the key reshaping of Dig Allen's world is found in Jon's messages "Notes on DA, Part I" from Feb 19 and "Letter to Golden and notes on Assault on Mars" from Feb 22.<sup>14</sup> I think these need to be our first working documents. I'll work these around a bit into a single document and get it to you in a few days for final approval.

In the meantime, all our other discussions seem to boil down to this:

- Dig Allen will become Daniel "Red" Boyd or Hale or Halen. I could go with any of them, but lean slightly to Halen--Dan Hale is close to Dan Quayle.
- Jim and Ken Barry will become John and Carl Greene.

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<sup>13</sup> The original "little green men" from the Dig Allen series were named, of course, Borin and Genang.

<sup>14</sup> I don't save the e-mails I send, and Mike and David don't save the e-mails they receive, so these notes have been lost.



- Space Research will become either the Intrastellar Space Agency (ISA) or Intra-solar Expeditionary Force (IEF). In later books there may be an Extrasolar Expeditionary Force (which could also be Interstellar Expeditionary Force).
- Space Explorers will become the Space Pioneers, commonly known as "Star-men."
- Venustown has not been renamed yet.
- Luna City will become Plato Base, commonly called "The Pole."
- Marsport will become Eagle Town, named after Lee High Eagle, the first man to set foot on Mars on July 4, 2031. (By the way, the surname is High Eagle, not plain Eagle. I suggested the name because Ray High Eagle was my Indian Guide leader more than 40 years ago, to add minorities to our plot, and also to echo "The Eagle has landed.")
- Space Guard will become Space Patrol.
- The Starover will become the Staranger or Star Ranger. (I prefer Star Ranger, since Staranger looks a little like Star Anger.)
- Borin and Genang have not been renamed yet.
- Old Dorkas and Con Kragas, et al, have not been renamed yet.
- Ioneers has a clever ring to it and I kind of like it, but it also sounds a little bit too Disney for my taste--like Disney's "imagineers." But it is catchy. It could work. But if it a matter of choosing between this and Space Pioneers commonly called Starmen, I prefer the latter. Maybe the term ioneer could be used to refer to the guys who work the engines--overhauling, refueling, etc., at the planetary pit stops. ("Come on," urged Red, leading the way. "The Star Ranger's in good hands with the ioneers. We've got to find Old Dorkas on the far side of Eagle Town.")

*David*

*DATE: WED, 2 JUN 1999 07:37:01 -0400*

The Starlight Company is a marvelous concept, and having exploration driven by profits rather than bureaucracy is plausible.<sup>15</sup> The new plan clearly makes this book Red

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<sup>15</sup> This was my favorite brainwave! I didn't like the way that space exploration was driven by the government in the Dig Allen series, and at any rate (for reasons I won't get into here) it seemed more reasonable to me that in real life the colonization of space will be done by a series of private companies. I suggested the creation of Starlight Enterprise, which would be responsible for colonizing outer space, build-

Halen #1 rather than DA#7, while retaining the "boiled down basic appeal" as Larry said. The team of three, as newly designed by Jon, sounds a lot like the Tom Corbett threesome, which is an aspect I enjoy in that series. Thus, Red Halen can include the best of Dig Allen, Tom Swift, and Tom Corbett.

*David*

*DATE: 6/2/99 9:27 AM*

Dear Mike and Jon,

- > *If we genuinely want to produce something new and fresh AND be on the leading*
- > *edge of a consumer/social trend,...then let's set our space commerce driven*
- > *heroes in a historical period where civilization is just coming out of a*
- > *cultural Dark Ages....the*
- > *"Uncivil Times", "the Hate years", "the selfish times", "the Dis period". Sort*
- > *of reflecting an extrapolation of the worst aspects of our current society... I*
- > *am a believer in the hopefulness of young hearts and perhaps young readers*
- > *would recognize and embrace the possibilities inferred in the series....*

Great idea! I like it.<sup>16</sup>

*David*

---

ing spaceships, educating and commissioning Starmen, etc. We decided to go with this idea, and the results can be clearly seen in the series.

<sup>16</sup> This was a fantastic idea by Mike. Many times throughout the writing of the Starman series the three of us would get the same idea all at once; this is one of those cases. We worked together on this concept and eventually came up with the Collapse: a time during the mid-21<sup>st</sup> Century in which a great many things were destroyed. There are a great many reasons why we chose to use this concept; those reasons are outlined elsewhere.

*DATE: FRI, 25 JUN 1999 18:19:59 -0400*

Nice articles on the magnetic field and anti-gravity, Jon. Should be very helpful in putting together the David Foster world. Joseph is a fine replacement name for James, by the way.

When I was on retreat last week, I put a lot of time in on the new world, with the intention of putting some further revisions on the summary of Assault on Mars. But I realized that we need to have a commonly-accepted view of this new world before I start tinkering again too much with the summary. Switching from Dig Allen #7, to Red Halen,<sup>17</sup> to David Foster is a bigger job than I had anticipated--at least as far as writing the summary--since we are building an entire new world.

I'd like to receive everything that Jon sends from his fertile mind and then organize it into a systematic plan--a thorough "introduction" to the world of the mid-22nd century according to David Foster. It's fine with me if Jerry Rigg lived in it first, too.<sup>18</sup> So Jon, when you think you've sent your last shot, let me know and I'll get to work and draw up a complete orientation to the new world. When we three are happy with the result--and Larry Smith, too, if we want to include Jerry Rigg and his world--then I can get to work on the summary in earnest. Sound okay to you two?

*David*

*DATE: MON, 23 AUG 1999 08:29:24 -0400*

A couple of detail questions: Currently the founder of Starlight Enterprise is Tom Starlight. It occurred to me that Tom is perhaps the most frequently-used name in the series book world. There are Tom Corbett, Tom Quest, Tom Slade, Tom Swift, and Tom Swift Jr. Do we want to consider using another name, such as Andrew or John or some

---

<sup>17</sup> The only difference between Dig Allen and Red Halen were the names of the characters. The Starman world was very different, and hence it took a lot of work to change Dig Allen #7, *Mutiny on Mars* into Starman #1, *Assault on Mars*.

<sup>18</sup> At the time, Larry Smith was working on a series of old-fashioned science fiction books called the Jerry Rigg series. As it turned out, none of these books were ever written, but at the time the series looked pretty promising. I still have the outlines that were written for that series.

other apostolic name?<sup>19</sup> Or perhaps use Thomas? Or staying with Tom is fine with me, especially as he is already an historical figure when the series opens. There is kind of a mild hint of the Tom Swift series in the way we've done it, I think--father and son, major scientists, even calling their outfit Enterprise. Just a thought. What do you both think?

Second, even though we're settling in on calling our series the Starmen series,<sup>20</sup> I noted as I cast my eyes over my shelves that no other series has that kind of title. They are all named after individuals, even when there are several individuals in partnership (like Ken Holt and Sandy Allen; Rick Brant and Scotty; Tom Quest, Whiz Walton, and Gulliver; the only exceptions would be sibling teams like the Hardy Boys, X Bar X Boys, and the Dana Girls, but they are still called after their characters). I still don't have a problem with calling our production the Starmen series, and don't mind breaking new ground, especially for good reason. But do you think we ought to reconsider and go with the David Foster series after all? Again, your thoughts?<sup>21</sup>

*David*

*DATE: AUGUST, 1999*

The ABCDE<sup>22</sup> name came to me several months ago. In fact, I think if you look at the hard copy of AOM when it was still DA#7, I think you'll find it there. I wanted to add an F for Fred W., but just couldn't swing it to make sense. Besides, the team is really us three, so I like it as it is.

...

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<sup>19</sup> I told David that we ought to keep the name, and somehow came up with a convincing reason for doing so. As to *why* I wanted to keep the name, well, I won't go into that, but I will say that every name I came up with (and I came up with all the names of the major characters and nearly all of the minor ones as well – David Foster, Joe Taylor, Mark Seaton, Steve Cliff, Richard Starlight, Tom Starlight, and many more) had a definite reason behind it.

<sup>20</sup> Notice that it wasn't called the Starman series! Sometimes I still wonder whether which was better.

<sup>21</sup> I said make it the Starman series. The reason, in my mind, was simple: if we called it the David Foster series then we had to have David Foster be in every story, and I didn't want to lock us into that. Calling the series the David Foster series meant that we could never have a story in which something bad happened to David Foster and he wasn't in a couple titles. If we called it the Starman series, however, then we could do as we wished.

<sup>22</sup> A Baumann-Cooper-Dodd Enterprise

One last key question: do we want to call this The David Foster Series or The Starman Series?<sup>23</sup>

*David*

*DATE: AUGUST, 1999*

I like the "world" so far....have no problems with its credibility OR potential for telling a good story in. About the name for the series...."the Starmen" just may be too reminiscent of the Movie STARMAN.....David Foster series is certainly descriptive and in keeping with juv sci-fi tradition.....However, before we kick "the Starmen series" out the door, could we find out just how frequently it has been used in sci-fi.?.....I personally know only of twice ....the Movie(where it was use in the singular form) and in some juv sci-fi series recently mentioned.....Tom Corbet(?) or something like that. I certainly find it a Romantic name that harkens back to the golden age, while not completely leaving the present. I cant help but try to work in a subtle Christian reference here.....you know, wise men who seek the star.

Perhaps we CAN get away with calling it the STARMEN SERIES.....without sounding too much like some other series.

The combined image of the words THE STARMEN SERIES and the suggested logo is certainly a powerful one, and may play just right on the mind's eye of potential readers.

*Mike*

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<sup>23</sup> This was an important question. I don't have the e-mail I sent with my reply, but I do remember that I sided with calling it the Starman Series. Calling the series the David Foster series would tie us to the character David Foster: every book would have to focus on him and he'd have to be in every adventure. Calling it the Starman Series would allow us more flexibility: we could focus on other characters, broaden our horizons, and have a greater variety of missions. It would also be something different and help the series stand out. In the end that's what we went with, and I think it's worked out pretty well.

DATE: TUE, 24 AUG 1999 07:40:36 -0400

Jon's comments on the founder of Starlight Enterprise are well taken. Let's keep him as Tom.<sup>24</sup>

Same with naming the series the Starman/Starmen series, as I hastily wrote this morning. Shall it be Starman or Starmen? There is a slight parallel, perhaps, in the Doc Smith "Lensman" series from the 1940's. I just checked my copies; they use the singular--Lensman series.<sup>25</sup>

...

Re: Xeno communication with bad Earthmen. Good, workable idea. The series is getting better and better.

*David*

DATE: MONDAY, JANUARY 15, 2001 11:29 AM

Dear Jon and Mike,

> > *I hope that the Starman series is not so obviously a copy of the Dig Allens.*  
> > *I don't think so.*  
>  
> *Good question! I don't think they are either: we're not copying any*  
> *plots, and we have made a good number of changes. Yet, there are loads of*  
> *similarities:...*

I agree completely. We put in the similarities on purpose so that it would be reminiscent of the Dig Allens--and that's a lot different from being a copy. I think that people will say (as they ARE saying) "This is a great new series" rather than "This is just a copy of the Dig Allens." It would be interesting to know just how many of our customers are

---

<sup>24</sup> Since none of the e-mails I wrote were saved I have no idea what those comments were!

<sup>25</sup> I don't remember why we decided on Starman instead of Starmen. I think it may have been the fact that 'Starman' had a slightly better ring to it.

even familiar with the Dig Allens. Some would be, certainly, but I'll bet that many of them don't know Dig.

*David*





# **Book One: Assault on Mars**

*Such were the deeds of these three champions.*

*2 Samuel 23:17b*

## Introduction

The first Starman book was not intended to be a Starman book at all, but was instead meant to be the seventh Dig Allen book. When it is looked at in that light, a lot more things make sense: the book was originally intended not to introduce anything new but to build on the previous six Dig Allen books, bring back a lot of the old characters and locations (especially Mars), and offer a new adventure. If instead we had been trying to create the first book in a series I don't know what we would have done, but I like what happened: *Assault on Mars* is an interesting way to begin the story.

When we wrote this book we didn't realize where our plotlines were going to take us. We had spent a good deal of time plotting everything (nearly two years, I think), but many details were hazy. We knew that the pirates took over Mars in book one, that some of them escaped to an asteroid in book two and threatened Earth with it, and that once again they escaped to a tenth planet in book three, where they were finally rounded up. We also knew that there was a lost race of Martians involved, and that in the book *The Lost Race of Mars* (slated at the time to be Starman #6) the identity of this lost race was revealed. We had an idea that after the identity of this race was revealed, we'd see the Solar System gradually discover new technology, learn to build ships that could exceed the speed of light and explore the galaxy, encounter the Xenobots, have a few battles with them, and have a huge battle at the end that ends the series off. We knew that we wanted to show Mars gradually rebuild throughout the series, culminating in a book entitled *The Rise of Mars*, which was supposed to be Starman #22.

With that in mind, we started writing. We didn't know at the time about Imlah Taltani on Mars. We hadn't dreamed up the Banjoman yet, even though in book five we nicely tied him into the general chaos of book one. We didn't know that as the books were written the series was going to shift directions and take us to a place we weren't expecting. We hadn't seen *Doomsday Horizon* over the horizon yet. A lot was yet to come.

## Plot Summary

This is the original plot summary for *Assault on Mars*. As is the case for every Starman book the plot in the summary is different from the plot in the book, although I think this summary is the closest to the actual text of any book we've done. We spent more time working over this summary than any other one: I think the three of us worked it over for more than a year (producing many different versions, all of which David Baumann wrote and edited) before we finally had it where we wanted it.

After this book I started writing the plot summaries myself and turning them in; we would still discuss them, but the discussions would occur as the book was being written and we would not go back and update the summary when we made changes. That worked pretty well and we have continued doing it ever since.

### CHAPTER ONE: The Asteroid's Secret

July 4, 2151.

David Foster nervously makes some adjustments at a large computer screen. He is surrounded by several curious technicians. Through the windows, the landscape shows the inside of a large crater. Many other terminals are nearby, about half of which are manned by other technicians. David looks at a clock, and notes that he has about ten minutes to wait. Conversation reveals that he is a new graduate from the Starlight Academy. He is in the flight control tower in Eagle City on Mars, talking with some of his friends—cadets from an earlier class who had become flight control me. David is the youngest graduate of Starlight Academy ever to be made a Starman. As an honor for his achievement, he was given the assignment of setting up the Mars end of the newest project of the Space Research department of Starlight Enterprise: realtime transmission. The other terminal is at SE in Amundsen City on the Moon.

A few days earlier.

A large, potato-shaped asteroid, roughly forty-five miles at its longest axis and twenty-five at its widest diameter, orbits around the sun. It has a slow rotation, and is barren of any known valuable minerals. It is located in a dense and little-traveled section of the Asteroid Belt; therefore it is unlikely that spacemen will discover it by chance, and dangerous to navigate the area if they do.

The asteroid is uncommonly dark. In places it has been further artificially darkened with charcoal-colored, sponge-like material. Embedded and hidden over the surface there are numerous solar panels of advanced design. The energy generated by these panels powers an automatic sheathing system, which bends any standard radar waves around the asteroid, as water flows around a rock in a stream. To the casual, or even careful observer, the asteroid does

not exist. It can be detected only by the effects of its very slight gravitational field, or when it obscures the stars behind it.

As the sun becomes visible over the horizon, the shadows recede from the hollows, pits, and lee side of hills. Near the top of a low hill, a hairlike antenna with a small disk on its top, resembling a metal flower, begins to turn slowly. After a moment, in one shallow but wide depression, a tiny, multi-pointed star-shaped crack opens, gradually becoming wider. In moments, a huge bay has opened to airless space. An enormous tunnel is revealed. The orifice stretches back into the depths of the asteroid, a dark and foreboding place of stone. There are a few buildings on the sides of the passage, made out of the stone of the asteroid and for that reason almost unnoticeable, evidently guard posts and control stations for a huge airlock. Tall, narrow windows are lit. Through the airlock, far below and within the asteroid, a large fleet of space craft sparkles with the light of the asteroid morning. There are hundreds of craft of various types, anchored in a large cavity.

The asteroid conceals a hollow space of several cubic miles, with an enormous complex of buildings, towers, and terraces connected with gantries and covered stairways, built on the inside surface of the asteroid. The buildings are factories, laboratories, gymnasiums, barracks, refectories, and conference and communications centers.

At a table inside one of the buildings, a conference is coming to an end. Several men are rising from chairs. They are confident. A few are smiling, others look determined. They salute their leaders and are dismissed with a few words.

The men go to several buildings, set aside as barracks, recreation areas, and the like, and announce that lift-off will begin in one hour. Men suit up and enter the fleet of ships in great numbers. On the count, the ships begin to depart from the asteroid. There are almost a thousand of them. *[possible internal illustration at this point]*

## **CHAPTER TWO: Attack on Eagle City**

The gleaming towers of Amundsen City emerge into sunlight on the Moon. The latticework of buildings, constructed in a low-gravity situation, appear almost too frail to exist, but they mark the site of the largest city in the Solar System. Much of the buildings are underground; nevertheless, the amount of construction on the surface is impressive.

To one side is the sprawl of Starlight Enterprise. Hundreds of rockets are parked on the tarmac. On top of one of the complexes several space-suited figures are working on a radar dish. Close inspection reveals that it is made of very fine filigree.

Starman Mark Seaton is assisting his father Keith and others calibrate the radar dish for the last time before the realtime transmission test. Mark quizzes his father once more about the device, marveling that such a machine is possible; his father explains what it's all about, and how it will open a new era in space communications. He adds that the bulky equipment now needed for the experiment should only be temporary; however, until the space requirements can be reduced, realtime transmission will only be possible at major spaceports. Afterward, realtime transmission equipment can be installed in spacecraft.

Mark and his father are assisted by Jack and Jill, two citizens of Titan, who are noted for their remarkable dexterity and phenomenal insight into mechanical and electrical systems.

The names “Jack and Jill” are nicknames provided by humans, very few of whom can pronounce the Titanians’ real names, M’hsjewantroi and Tr’halmaheswari, in their own language.

On Mars, the time approaches when the realtime transmission will be sent from SE to David. He sits before the screen, watching the clock count down the seconds. He is surrounded by about six observers. On the Moon, Keith Seaton is seated at a similar console and initiates the transmission.

The fleet from the Asteroid Belt zooms through space toward Mars. In the lead ship, Captain Troy Putnam sends a message to Eagle City: “Captain Troy Putnam of the mining ship *Silver Spear* requesting permission to land with cargo of space pearls.” David overhears the strange request and is puzzled by the immediate response from the flight controller, “Permission granted. We will be ready for you.” All communications were to be suspended during the time of the realtime transmission.

When the fleet is within radar range of Mars, one of the men in the terminal at Eagle City notices that the *Silver Spear* is followed by hundreds of other ships. As soon as he expresses amazement, his computer screen shows snow. At David’s screen, an image of Keith flickers briefly, then also vanishes into snow. All other screens, except the one manned by the flight controller who answered Captain Putnam, show snow as well.

David moves toward this screen with suspicion all over his face. Another man in the room pulls a weapon and says, “Stop right there, Starman!” Other controllers look over with shock, some rise from their seats. Three others pull weapons and force the others to move away from their terminals. One of the pirates goes to a mike, and says simply, “Initiate.”

In less than a minute, the space port is “unplugged” and in the control of carefully-placed traitors. All communications systems are shut down except a selected few which have been pre-programmed to override a “scrambling” order.

One of the traitorous technicians radios Captain Putnam, the incoming fleet commander, and reports that the realtime transmission experiment was not completed. Putnam responds, commending the technician for the advance notice he had provided, allowing them to depart from the Belt early enough to prevent it from succeeding.

There are a few skirmishes in the city, but resistance is quickly put down. As the fleet approaches, lasers and EMP’s (electromagnetic pulse weapons) destroy pre-selected sites, such as all but a few critical power plants, supply depots, communication centers, military command posts, etc. A few local traitors add to the chaos by blowing up other sites and blocking roads.

David manages to escape from the tower<sup>26</sup> and, after an exciting chase, disappears into a building. A frantic search by traitors, who began with confidence but now are rapidly made anx-

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<sup>26</sup> This line in the summary later caused great hilarity in the Starman Team. Jon’s summary had Zip Foster in a small room at the top of a tower surrounded by about twelve armed men. Then Jon wrote, “David manages to escape from the tower” leaving David Baumann to figure out how Zip did it! This was the first instance where David drew on his martial arts training to write a scene in the Starman series. That

ious by his disappearance, is fruitless. Unknown to them, David has entered one of the tunnels which has an access point at this particular building.

The space fleet then lands and assumes power. Men debark from the ships in a very organized fashion, and run to pre-assigned sites—some in the terminal and others in the city. Within an hour, supplies such as food and water are in the control of the invading pirates and their allies.

From the far side of the city, David uses his communicator with its limited power to explain the situation and call for help. He sends it out on the same frequency that the realtime transmission was to use, jacking it up to full power in the desperate hope that someone will receive the message. He knows that full power will give greatest distance but will also drain the batteries in short moments. He is able to provide the information that a pirate group has landed with a great force of weapons and spaceships, obviously long-prepared, and that there are many in high positions on Mars who are loyal to them and have obviously been preparing for the coup for some time. He puts the message out even as he watches his batteries fade to zero power.

Several observers at various screens inside the captured headquarters, looking for just such evidence as David's message, simultaneously call out "unauthorized communication in sector 7, building H, basement!" Pirate troops, stationed throughout Eagle City to enforce the hostile takeover, are instantly dispatched to the site. They arrive in less than a minute, but the basement is empty.

### **CHAPTER THREE: The Ultimatum**

Space Command, a government agency on the Moon, receives a sudden and overwhelming number of queries from ships en route to Mars about why all communication with Eagle City have been cut off. Attempts to contact Eagle City from Amundsen City are fruitless. Speculation is that a natural disaster has destroyed Eagle City. There are numerous volcanoes on Mars, though none known anywhere near Eagle City.

Space Command, located three miles from the outskirts of Amundsen City, is a huge complex located far underground. The communication and information-gathering equipment is the highest quality, but the hangar portion of the complex is in a state of neglect. Earth, not having had much need for military forces for several decades, has put its resources into exploration and research. At best, perhaps three hundred ships suitable for a battle in space could be assembled and armed.

Keith Seaton is puzzled. He caught a brief glimpse of David's face, then his screen went dark. Repeated attempts to make contact are fruitless. After ten minutes, normal sublight lag time for radio transmission, he catches David's weak transmission. Stunned, he has it recorded, computer-enhanced, and sent over to Space Command. Silence follows as the officials sit in shock.

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led to martial arts training becoming standard in Starlight Academy, so that the Starmen—and therefore the writer—could use martial arts in their future adventures.

In the course of the conversation, it is pointed out that conquering the solar system is not quite as difficult as it sounds. Internal fighting and wars have just about vanished, and aside from a few outlaws in the Asteroid Belt and criminals on Earth, there really isn't anyone to fight against. As a result, the defense systems haven't been kept in as good repair as they might have been.

Space Command is appalled at the situation. Some don't believe it, others don't take it seriously and underestimate the situation, others are simply at a loss. The "hawks" advocate an all-out war, but the plan is scrapped as unsuitable for several reasons. The enemy is obviously well-organized and long-prepared, and there are too many unknowns. Also, Earth is not prepared with either manpower, weaponpower, or experience to wage a war.

A message then comes into Space Command from Eagle City from the enemy, stating what they have done and making an ultimatum. No ships of any kind will be allowed near Mars. They inform Space Command that, aided by a number of treacherous colonists, they have complete control of Mars, and have the capability to blockade the mines in the Asteroid Belt, vital to Earth's well-being and for which Mars is the primary supply post. The pirates also will withhold from Earth the medicines which only Mars supplies.

The pirates want Earth turned over to their control or they will attack Earth in force and establish the blockade of the Belt. They would prefer a peaceful transfer of power so as to minimize damage done should they be forced to attack. Space Command is ordered to comply with certain detailed demands and provide assurances of compliance within twenty-four hours, or the attack on Earth will be launched.

The discussion around the table at Space Command notes with desperation that Earth cannot defend itself. Unless Earth hands over control to the pirates, human civilization in the Solar System will suffer grievously. Since most of the mines are located in the Asteroids, Mars is valuable as the logical place to supply the mining operations in the Belt. Earth is too far away and its gravity is too strong, and the Moon, like Earth, is too far away—but Mars fits the bill perfectly. If Mars falls, the Asteroids will lose their supply base, and they would be in serious trouble.

It is pointed out that, in addition, Mars is the only habitat for a valuable strain of bacteria used in the medical field to produce a super antibiotic that can change to overcome especially resistant diseases. This drug is enormously valuable—so valuable that Earth vitally depends on it and is hard-pressed to live without it.

If the Asteroids fall, the pirates will have the resources and raw materials necessary to conquer the Earth and the Moon. The loss of the bacteria would be an immediate consequence; the loss of the Asteroids would be a future but enormously serious consequence.

#### **CHAPTER FOUR: The Response**

The President has received word of the attack. Since Earth does not have the resources to deal with such a threat, the President asks Richard Starlight to provide the resources of his vast empire to Space Command, and to work with them to address the situation. Rick meets with Space Command and, with them, develops a plan: while Mars can't be taken over by force (not even by SE), if Mars were sabotaged from the *inside* there might be a chance.

Space Command must delay the pirates as long as possible, in the hope of preventing them from lifting off of Mars before an invasion team can achieve its goal. Getting a team to Mars in a timely fashion would be risky and take too long by conventional means, and it is beyond hope that the pirates can be put off for as long as the journey would take. Rick meets the objections to his plan by suggesting that a beat-up cargo freighter (used to haul biological organisms around—steel would simply be shot through space and wouldn't need a cargo ship) be outfitted with a new, experimental antimatter drive now in the final stages of production at Starlight Enterprise. The team, traveling on antimatter drive, can arrive at Mars in three days.

The invasion team will be given two assignments: first, to prevent the pirates from lifting off from Mars, and second, to sabotage their defense operations. Earth's entire fleet will lift off as soon as possible with conventional propulsion, with the intention of attacking the pirates upon arrival at Mars. This would be a matter of about sixteen days. Earth doesn't have a second try at this: failure to succeed on the first try will be disastrous.

Powering the cargo freighter will require all the antimatter in the Earth-Moon system. The invasion team will include Starmen, who will use the cargo ship to get close to Mars; once it is close enough, the invasion team will parachute to the surface of Mars. Unless the controllers on Mars are very vigilant, it is unlikely that something as small as a parachute would be noticed on the radar. Moreover, the cargo freighter will plead engine trouble and will jettison various items on the approach as a mask for those who are parachuting.

Two other points that go along with this: if Earth tries to support the Asteroids directly, it will have to send shipments of supplies—and those shipments would be very easy to detect, intercept, and attack. Secondly, if Earth tried to send a fleet to protect the Asteroids, she would have to leave her own planet defenseless (because her fleet is so small and the Asteroids are so large)—and if she did that, the pirates would simply invade Earth.

Having no better suggestion, Space Command accepts the proposal. There isn't much choice for the crew. Starmen are the ideal candidates for the assignment, but very, very few Starmen like to hang around civilization. Almost all the ones at hand who could have done the job are in very inaccessible locations and would take too long to get to the Moon. As time is of the essence, Rick can't wait: he has to make do with those he has on hand.

Mark Seaton and Joe Taylor are the only two Starmen currently on the Moon, and both have only recently graduated from the Academy. They have been waiting to be briefed for their first missions, or they, too, would have been gone to some distant locale. Rick suggests them for the crew.

If the invasion team could bring down much of the Martian defense system, then Earth's small fleet would have a fighting chance of regaining control of Eagle City. It is quickly seen that this is the only reasonable hope. Noting that David Foster's presence on Mars may be an advantage, Rick and Space Command summon Joe Taylor and Mark Seaton, apprise them of the situation, including David's presence in Eagle City, and ask if they will take part in the covert operation of sabotaging the pirates' Martian network. They quickly agree.

To go along with them, Rick chooses Steve Cliff, a man very knowledgeable about the underworld of Mars, and who once knew how to get around Mars without being seen and how to get into contact with the "extra-legal" Martian underground. The two small adventuresome aliens from Titan volunteer to go also, and as they might be highly useful Rick sent them along



as well. Since they're very small, they can easily crawl through air vents and passageways and go about unnoticed, which can be a big help when it comes time to sabotage the main base. They can get to places that earthlings can't. Also, they are highly skilled in such matters as computers and wiring, which could be vital to the success of the mission. Space Command accepts the Titanians' participation.

When it is pointed out that it is near-impossible to parachute on Mars because of the thin atmosphere in all but a few places, Space Research designs and prepares (but does not have time to test) parachutes adapted for thin atmospheres. It has a much larger canopy than normal parachutes, deploys much faster, and weighs far less. Landing will still be harder than usual, but possible.

In Eagle City, David has entered the complex system of hidden tunnels. Since it is not known who made the tunnels, where they lead, and what they were for, their existence is a closely-guarded secret. The highest government officials, Mars specialists in SE, and Starmen are aware of them, but few others. The Martian underground is aware of the tunnels, but have their own reasons to keep them secret. Although the major tunnels near Eagle City have been discovered and are frequently used "unofficially" by the denizens of the Martian underground, the complete extent of the tunnels is not known. Further, most of officialdom on Mars are not even aware of the tunnels at all.

The pirates have declared the equivalent of martial law, but they are still in the early stages of their takeover, and there are still many gaps in their vigilance. Single-handedly, with the use of the tunnels, David arranges for the destruction of the largest supply depot of rocket fuel on Mars. This achieves the invasion team's first assignment, though no one on Earth can know it. The pirates are thoroughly dismayed and infuriated by the unexpected loss of their fuel. It will take them at least a month to get enough fuel to attack Earth, by manufacturing more fuel on Mars and supplementing this with a small shipment from their asteroid. The offensive capabilities of the pirates have now been reduced almost to nothing, though Earth is completely unaware of this; the pirates are able only to defend themselves against massive attack, but believe that they can do that quite effectively.

Chapter ends with manhunt after David.

## **CHAPTER FIVE: Earth's Hope**

The invasion team is brought into a large room where there are large walls of computer screens, a few radar banks and computer terminals, and lots of people buzzing around. Nearly one entire wall functions as a computer screen. A technician loads a few scenes onto the wall-sized screen *[possible internal illustration at this point]*, showing the layout of Eagle City, detailing the atmosphere generation and control system, pointing out the locations of key structures, etc. All five of the team members have some knowledge of what is shown them, but there are also many secrets shown which surprise them all, even Steve Cliff. Passages, closets, "panic" buttons, emergency shut-down switches, backup switches, are all pointed out.

Richard Starlight asks Joe what he knows about antimatter, and after Joe explains what it is Rick goes on to talk about SE's experiments with antimatter and their antimatter engine.

Someone else quizzes them on Mars to see how much they know about the planet and to fill in any gaps in their knowledge.

Space Command points out a few possible ideas for disrupting and crippling the center on Eagle City. (“Here is where you might sabotage the main power center,” “Here is where the main telecommunications computers are,” etc.). Since no one knows precisely what the situation is, there are several possibilities suggested. What made Eagle City vulnerable to the pirates’ attack also makes it vulnerable to sabotage by the resistance.

Keith Seaton reflects on the interrupted realtime transmission experiment, and says, “I’m sure that it works, because I caught a glimpse of David on the screen, apparently just as the pirates hit and the whole shebang went down. No chance to try it again, of course, until we get Eagle City cleaned up, but I’m very hopeful.”

The essentials of the operation, with a file on possibilities for crippling the defenses of Eagle City, are put onto a computer disk; it contains the details of the entire Martian defense system, notes its flaws, and contains several ways in which the system can be brought down. Each of the three humans is entrusted with a copy of the disk.

## **CHAPTER SIX: Preparing to Launch**

A decrepit cargo ship has been rescued from the Moon’s Plain of Castoffs and overhauled to make it spaceworthy. Joe and Mark and their friends are taken into the lunar defense base where they will be given their ship. Joe and Mark reminisce about the Plain of Castoffs. The descriptions produce a picture of grotesque wrecks and eerie ruins of spacecraft on the airless plain. Suspense increases with various news items from Mars on the shutdown, etc., as well as increasing panic on Earth and in the spacelanes.

Ioneers install the new antimatter engine in the freighter, disguising it to look like an old, long-used engine. They also fuel it with antimatter, using up all of both Earth’s and the Moon’s supply of the scarce particle. The organizational capacity and power of SE is shown in the success and speed of the venture.

The five invasion team members enter the cargo ship and lift off for Mars at top speed, expecting to come into orbit in just three days, after passing through the Asteroid Belt. Their speed will add authenticity to the story they plan to tell the pirates. Since the antimatter drive was top-secret, the pirates will never guess that they were actually secret agents, for there was no way (in their mind, at least) that a ship could have traveled from Earth so quickly.

On Mars, David is nearly discovered as he is on a reconnaissance mission. He is winged by a shot, but manages to escape in an alley, leading to an unlocked door which enables him to enter one of the hidden tunnels. He realizes that he cannot go out in public much more, if at all—even at night. The pirates are too vigilant and have too much at stake to allow him to be free for much longer.

## CHAPTER SEVEN: Shot Down!

The freighter zips through the Asteroid Belt and heads toward Mars. Steve is to pilot the ship, and play the role of a hermit-like space prospector coming, in apparent ignorance of the assault, to land at Eagle City after several months of prospecting among the asteroids. He is to claim engine trouble, and hopes to be able to approach closely enough to allow the team to parachute before he is told to clear out, as all other ships have been. He expects that he will be able to come in a little lower than usual, but not so out of the ordinary that he draws attention to himself. Joe and Mark, accompanied by Jack and Jill, will drop out of the cargo ship about twenty miles away from the crater, coming out of the sun, and about ten miles up. They will free fall for several miles before opening their parachutes.

Instead, upon the approach, because the pirates are trigger-happy and made uneasy by David's one-man guerrilla warfare, after minimal radio contact one of them just shoots at the approaching freighter with a laser *[possible internal illustration at this point]*. The freighter is severely damaged and in danger of imminent explosion. Anticipating such an occurrence, every member of the crew including Steve has already donned his spacesuit and parachute. Jack and Jill are inside the suits Joe and Mark are wearing, in places specially designed to host Titanians. Steve is forced to parachute with the rest of the team, much earlier than anticipated. The ship explodes after they all leave it. The atmosphere is thin, which saves them from concussion, but the chutes drop them too rapidly for comfort.

The ground rushes up. After a frightening descent, the three men slam into the Martian sand. The team members manage to land without serious harm, and find each other with little difficulty. They determine that they are about 700 miles to the northwest of Eagle City. Because they had to leave the ship so suddenly, they have almost no food supply, or much of anything else needed for a long trek. Their oxygen supply is limited.

## CHAPTER EIGHT: Lost in the Desert

Checking a map, Steve determines that they have come down in the Coloe Palus area of the landscape. It is a dark and depressed area, with more than 500 miles of rough, desert terrain to travel before they get to the sea which is to the immediate west of the crater in which Eagle City is located. The sea is actually a long and wide arm of the great ocean which straddles the equator. The sea is at least 150 miles wide at the point where it is closest to Eagle City.

The team has no way of communicating with anyone except each other. They are way out in the badlands of Mars. Tests indicate that since the area where they have landed is somewhat depressed, the oxygen content is not as thin as at most other places on the planet. It is, however, much too thin to sustain human life—only about 10-15% of normal air.

In their discussion, they are frantic about achieving their assignment of preventing the pirates from lifting off. The 24-hour deadline has already passed, and the team reiterates that Earth's forces will arrive in thirteen days—unless they meet the pirates' ships heading toward Earth, in which case a space battle will take place in which Earth's forces will be greatly out-matched. They feel enormous tension at this point, since no one else knows that they have been shot down—not David, who didn't know they were coming, and not Earth who can't see them.

They have to get to Eagle City to do their job, and even if they cross the desert successfully in a week or so, the time it will take them to get to Eagle City is still hopelessly too long.

It is mentioned here that Mars is not completely terraformed. In 2009, the year of the Great Meteor Shower, several massive meteors had smashed into Mars, releasing hundreds of tons of atmospheric gases and warming up the planet considerably. Within two decades, humans had landed on Mars and established atmosphere-generating systems in the crater originally called Crater 91. It is now called Eagle Crater, and is the only place on the planet where humans do not need to wear protective gear. Outside Eagle Crater the atmosphere is far thinner and the land basically uninhabitable except for some small oxygen-rich canyons. The process of making Mars habitable will not be completed for at least another century.

The Starmen turn in every direction, and note the arctic beauty of their surroundings. The dark blue of the atmosphere, even at high noon, is found only where the land meets the sky. About thirty degrees above the horizon, the blue darkens into deep purple, and directly overhead is the black of space. Where they stand, it is very cold—about minus 20 degrees Fahrenheit. The Martian wind blows out of the west. The five of them know that, from time to time, what is normally a strong breeze can become a fierce gale of hurricane force.

The team's situation is desperate.

## **CHAPTER NINE: The Hooded Man**

The team discusses the supply stations which are scattered widely on Mars' surface, but most in the vicinity of Eagle Crater. They contain food, water, oxygen tanks, clothing, electronic equipment, and other supplies a traveler may need. They also have solar-powered directional beacons with a range of about 30 miles.

Steve pulls out a map which was supplied by Space Command. It shows where the supply stations are. The nearest one is about fifty miles distant, but it is located almost due east of where the team has landed—not on a direct line to Eagle Crater. It is, however, the team's only hope of survival. They set out at once. Descriptions of foot travel on Mars are given. Conversations discuss the plan of sabotage, but more often than anything else their talk is about their survival. Steve provides a little insider's information on Eagle City and Mars in general. The first night is spent on the surface, under great deprivation.

The morning dawns beautiful but piercingly cold. A wind is coming up from the west, at their backs. For the first time, they make contact with the directional beacon, and learn that the supply station is still 35 miles away. Their progress is slower than they had hoped, and they are demoralized. They continue to plug along.

David is in a weakened state from his wound. It is not serious, but it is taxing and he is alone. Then some people come through the tunnels and take him through the maze to a place of safety where he can be doctored. They are a part of the Martian underground, and have quickly organized resistance to the pirates. Not all are exactly above-board, but they had discovered the tunnels some time earlier and, unknown to anyone else, had used them for secret travel and, in some cases, for housing.

At that moment, nearly 700 miles away, a hooded man approaches the helpless invasion team *[possible internal illustration at this point]*. He is wearing a seamless, but thin, lightweight suit of a kind that the team members have never seen before. They are more than startled by his appearance, but also curious. The man's head is completely covered with a hood-like helmet, dark and impenetrable, almost like smoked glass. There is a small pack on his back with tubes leading from it into his helmet. He is tall and thin, about six and a half feet tall.

The hooded man says nothing and responds to no questions. Whether he doesn't hear the radio transmissions or is ignoring them is not known. After a moment, he motions that they should follow him. After a walk of a mile or so through narrow canyons, marked with tiny green plants, he goes into a cave and through an airlock. Inside there is a large room, of maybe a thousand square feet. The room is furnished with numerous tables and chairs; there are also counters and cabinets, well-organized and filled with equipment of various kinds, some recognizable and some not, some clearly scientific and some unidentifiable. There are several passages leading out of the room, but no doors are open.

Once inside, the team tests the air and finds it to be a little high in carbon dioxide and a little low in oxygen, but breathable. If they breathe it straight, they may have mild headaches after an hour or so. All except the hooded man remove their helmets. The temperature is about 50 degrees.

Joe and Mark are surprised when the stranger keeps his helmet on. He makes no answer to their questions. They ask Steve, "Who or what is he?" Steve is as surprised as they, but suggests that he is an eccentric settler or prospector, living below ground because of the thin atmosphere. There are a number of such types on Mars, but most live in the Asteroid Belt. Jack and Jill suggest that he may be a native to the planet, but point out what everybody knows, that all the Martians had died out several thousand years before, when the planet had dried up and turned very cold.

When the hooded man sees Jack and Jill, he is greatly surprised, and utters his first word: "Varlice!" "It is the ancient name of our people!" exclaims Jill. The five are shocked. The humans then become faint, and must sit down.

The hooded man hurriedly brings them water and then some food. He speaks only a few words, such as "food," "water," "oxygen," and similar staple words. When the five again ask him questions about himself, he either doesn't understand or pretends not to understand more than the most basic words. When they exchange names, he says, "Jogren." He receives nourishment through a straw-apparatus attached to his hood.

When they are prepared to set forth, he gives each of them an NPAC (nuclear-powered air compressor; it is a small device that looks something like a scuba-diving outfit that takes the thin Martian atmosphere and compresses it to the point where one can breathe it easily without suffering oxygen-starvation). It is the same as the pack the man had been wearing on his back when he first located the invaders. Joe makes adjustments so that the carbon dioxide/oxygen balance is like that of Earth. Then Jogren brings out two land-sailers, each suitable for two riders. The land-sailer is a device like a small sailboat, but instead works on the desert and is powered by the strong Martian winds. They fold up into a compact, portable package slightly larger and longer than a suitcase.

After some discussion, the humans put Joe in charge of one land-sailer, while Jogren takes the other. With Jogren in the lead, the team sets forth.

## **CHAPTER TEN: The Pirates Take No Chances**

Within a short distance, the trekkers are in the treacherous Martian desert *[possible internal illustration at this point]*. The sun, though not as intense as on Earth, is bright and nearly unshielded due to the thin atmosphere. There are some descriptions of the travel. The team meets Martian hares, kangaroos, and dangerous desert lizards. Joe has trouble managing his land-sailer, but after a while becomes reasonably competent, especially on straight-aways.

Back in Eagle City, the pirates are frantic to repair the damage done by David's sabotage before it becomes known that they are unable to fuel their ships. They had set up a kind of martial law to keep the population under control; this has now been made very tight and intense. Pairs of armed men patrol the streets at night, and in the darkest places of the city robots carry on a sleepless electronic surveillance. There is no movement of the population permitted more than a block or two from their homes without examination of documents and official permissions, granted only for necessity. It is an occupied city.

After the team's freighter was shot but before it exploded, the pirates kept careful watch on it; only because of this were they able to observe that a number of men had parachuted from the doomed craft.

There is a discussion in Eagle City whether a few men should be sent out to the desert to investigate. Some say it is a waste of time and manpower, others that there is no way anyone could have survived the fall or, if they did, that they could survive long in the desert. Others say that they cannot afford to take any chances, no matter how small. After all, one man, the still-unfound but recently quiet Starman, has managed to cripple one critical element of their operation. In the end, six men are sent out to scour a certain portion of the desert. They depart in a small, armed personnel ship.

## **CHAPTER ELEVEN: The Mud Caves**

Meanwhile, the invasion team continues to cross the desert. There are various adventures. The terrain is rocky and characterized by fissures, various landforms, small craters, and valleys with rudimentary, small greenery. The land-sailers make good time in the wind, but frequent detours are necessary. At times, they must be carried over rock-strewn stretches or across soft sand dunes.

At one point, the six come to the top edge of a great palisade, made of strongly compacted, ancient dried mud and dropping down about forty to sixty feet. Jogren takes them to a defile, into which they make a descent. For several miles, they travel through a gracefully-shaped mud cave. Except in a few places, it is open to the sky through narrow, twisting walls. The mud cave is beautifully curved, having been formed by the rapid course of water during rainstorms that sent floods coursing through the soft earth.

Conversation speculates on the situation ahead of them. A little more is revealed about “the hooded man”—just enough to whet the reader’s appetite to know more. The humans’ conversation includes comments like, “There is no record of any prospector living out this far from the cities.”

“Since when do prospectors inform people of where they are living? They do their best to *conceal* that information.”

“Perhaps he is one of the Wind People.” A brief explanation of the Wind People follows.

Then they hear a spacecraft coming their way. Because of the thin atmosphere, it is almost on them before they hear it. They scramble to hide. The walls of the mud cave make concealment easy.

## **CHAPTER TWELVE: Resistance**

Radio communications take place between the pirates in charge of the passenger base on the Martian moon Phobos and the leaders of the assault in Eagle City. (Phobos is the larger of the two moons, and has an orbit 3,720 miles from the surface of Mars. Deimos is more than three times as far away and one third the size.) Captives/hostages on the moon overhear or in some other way come to learn of the vulnerability of the pirates. They hastily organize a kind of counter-coup so as to take control of Phobos, and so send for help from Earth. However, they fail. There is some fireworks—a laser shot from Eagle City pinpointed to a vital spot on Phobos—which quickly causes the hostages to give up. However, the shot is observed by the invasion team. They wonder what it is.

A scene with David and his friends. It has been two or three days since his rescue, and David is feeling better. He has eaten and rested, and his energy is returning. They discuss what can be done to rout the pirates. David tells them that he sent a message to Earth, but has no idea whether it was received. He gives a brief rundown of Earth’s strengths and weaknesses, but is moderate in what he shares, both for reasons of general security as well as lack of information.

The best plan the resistance can come up with is guerrilla warfare, which will probably do little more than make the pirates nervous and be very irritating, but will almost certainly not be sufficient to take Eagle City away from them. The resistance just doesn’t have the firepower, the computer know-how, or sufficient numbers to do much more than that. Their advantage is secrecy and the network of Martian tunnels. However, if they use the tunnels too much, they risk being discovered and having the entire “subterranean” culture wiped out.

They decide to go ahead, at least for a time.

## **CHAPTER THIRTEEN: The Mining Colony**

The invasion team has been traveling through the desert, trying to avoid detection from above. Their being spotted is really a long shot, since the Martian winds obliterate any prints in the sand, and the land-sailer is camouflaged. However, being the only moving object on the sur-

face can draw attention to them. They have been traveling for almost five days, averaging 125 miles a day.

The team comes to the shore of the Martian Sea. Jogren points out where there is a small fringe settlement, perhaps of miners, where they can get further help. The farewell is awkward but touching. Then he takes the land-sailer and turns back into the desert.

The team approaches the settlement. It is entered through a cave with an airlock. There are about a dozen men there and maybe a couple of women. They were first irritated, then puzzled, and are now frightened by the lack of contact with Eagle City. Their supplies are low and they are now rationing, and they don't know what has happened. They have been discussing whether a couple of the men should try the perilous journey across the sea, a trip they take maybe once a year for supplies. They are at first disturbed and wary at the appearance of the team, but quickly welcome them. They receive the news of the capture of Eagle City, then gladly permit the team to use one of their kayaks to cross the sea. Their kayaks are sturdily built, but primitive. They are used for fishing not far from the shore, but larger ones can also deploy sails for traveling long distances, such as to Eagle City Crater. Some kayaks are built for one person, others for two, and the larger ones seat three. Going to Eagle Crater is a journey of about 150 miles, and takes up to a day if the wind is right. The winds are strong and usually predictable.

The miners provide them with some food, but little more than enough to get them to Eagle City. The team decides to rest, and then set sail just before dawn. As the shadows stretch behind them across the desert, they take a kayak designed for three people, and set out. The sun lifts up over the horizon when they are a mile or two from shore, traveling rapidly in the morning wind.

## **CHAPTER FOURTEEN: Across the Martian Sea**

The kayak moves across the sea. A little background about terraforming and the creation of the sea and its inhabitants. Approach to a sargasso-type sea. Observation of a large sea animal. Sudden and vicious attack from several of them as they throw food waste over the side of the kayak.

David and his team strike a blow against the pirates. They do some sort of sabotage, maybe using outdated technology against which the electronic defenses of the pirates (who have worked so hard to be "state of the art") are ineffective. Maybe it is some sort of explosion.

The kayak continues southeastward, and in the late evening, land is sighted. Dusk falls. Descriptions of the two moons of Mars and the night of stars *[possible internal illustration at this point]*. The kayak approaches the crater wall after a day and half a night of sailing. It is now about 9:00 p.m. The team hears through the thin atmosphere, or maybe sees, the explosion, and wonders what it is.

On the Moon, Space Command is fairly confident that the invasion team has succeeded in achieving at least its first assignment. The pirates' time limit has approached and long passed,



and there has been no sign of a launching from Mars. They are puzzled, however, that there has been no word either from the pirates or the invasion team. After some discussion, it is decided to attempt to contact the invasion team by means of tight maser, but, as expected, the pirates are jamming all means of communication. They are probably watching the jamming process very carefully since David was able to get a message through within minutes of their landing on Mars. They surmise, then, that the pirates are still in control of Eagle City in spite of the absence of any signs of aggression. Space Command contacts the attack fleet and informs them that there is no word from the team, but no sign that the pirates have suffered any blow.

On Earth, Congress is in emergency session. The President is about to address the world population over the crisis. He is in a tough spot—he cannot give any indication that an attempt is being made to liberate Mars from the pirates, but can't appear to be ineffectual, either. Congress knows nothing of the invasion team, and some members of Congress are hostile to the President. Before his address begins, several of them are discussing the situation in their districts “back home.” People are afraid of suffering without necessary medications, and rationing has begun. Although real shortages haven't begun yet, there is a growing sense of panic that could erupt at any time.

The kayak is beached at the foot of the crater wall, a good mile or so from the normal docking area. The team hides it, and scales the wall. It is steep but in the low gravity not too difficult. It is about a mile above the surface of the sea, but more than two miles deep on the other side. When they reach the top, they gaze over onto the vast plain below them. Lights of several settlements are evident in the pristine air; Eagle City is nearest and largest. One of the buildings is furiously burning. It is about midnight. **[THIS IS THE SCENE FOR THE COVER ILLUSTRATION.]**

As they are looking on with strong curiosity, their vigilance has waned. They are suddenly shocked when the search ship passes over them from behind, as they are silhouetted in the city lights.

## **CHAPTER FIFTEEN: Over the Crater Wall**

The team scrambles into the crater, panicky in their speed. They become separated. The search ship makes a quick circle around and passes over them again with two searchlights scanning the terrain, but by this time the team is hidden and motionless. There is greenery on the inside of the crater, thin and scraggly, but larger than the tiny plants they encountered in the desert, and some of the scrub provides some places of concealment. The farther down the crater wall, the thicker the greenery. Toward the bottom there are thickets and even some forested areas.

The team members are able to keep in contact with each other, though somewhat separated by their hasty and desperate descent. They quickly come together again, though they still have at least a mile to descend on the inside of the crater, and then another mile to travel to the outskirts of Eagle City. The ship has passed by a third time with its lights, and now two more ships have lifted off from Eagle City to join the search.

The team finishes its descent down the inside of the crater wall, then scurries through the last mile of wilderness with ships and lights hampering their progress. There is much less opportunity for concealment on the level ground. About a quarter mile from the city, a searchlight spots them, and laser shots are fired. They scramble pell-mell through the darkness and the searchlights lose them again. Just as they come to the city boundary, they notice that a large number of armed men have secured the entrances for a wide space, and there is no obvious entry. Behind these guards, other soldiers are coming with lights and high-powered weaponry. There are searchlights on several of the buildings, also scouring the land.

They cannot approach the city, nor can they go back without being spotted.

## **CHAPTER SIXTEEN: Into Eagle City**

Steve finds a way into the city through an underground access he remembers from old smuggling days. It leads into the tunnels. They make it into the city boundaries, but find that this tunnel has been blocked off by the very sabotage that David and his friends have so recently caused. The burning building was given up by the pirates as a lost cause, and the men who were trying to fight the fire have been called off to go to the city walls to find the team. The site around the building is, therefore, empty of pirates for the moment.

Since collapsing debris has blocked the tunnels, the team comes to the surface to find that they are unobserved for the moment. They go from shadow to shadow *[possible internal illustration at this point]* until they are beyond the burning building. Steve takes them into another building just as a group of pirates comes their way. Unseen, the invasion team is able to enter the tunnels.

The resistance, who have been fearing that the pirates will conclude that underground passages are probably the only way that the resistance is able to move so quickly without detection, are carefully watching the secret door into the tunnels to see whether anyone will find them. As the invasion team opens the door into the tunnel, the resistance prepares to fire.

## **CHAPTER SEVENTEEN: Moving to the Offensive**

Of course, they don't fire. The team is pulled into the tunnel by the resistance and the door is hastily shut. There is a touching, and humorous, reunion of David with Joe and Mark, Steve, and Jack and Jill. Both sides quickly bring each other up to date. Joe and Mark are relieved to learn that David, whom they call "Zip," has already achieved their first assignment. They point out, however, that unless the second assignment is achieved, Earth's forces will be overwhelmed with firepower from the surface, and the pirates' plan will merely be delayed by a matter of weeks. There remains less than a week to destroy the pirates' defense capability.

After giving the resistance their computer data, they set up to process the information and get together a team to sabotage the Martian defense system to allow the Earth forces to land in the same way that the asteroid group did in the first place. In the underground computerized resistance base, the data is given and the computers start churning. Steve, the Starmen, and the Titanians go through file after file, looking for a flaw they can use with the resources and opportunities they have.

All at once Zip cries out, "I've got it! I know what we can do." He explains his plan and the others agree that, although very risky, it is their best hope.

The resistance team sets out into Eagle City once again. It is a few hours before the dawn of the day that the fleet from Earth is due to arrive.

## **CHAPTER EIGHTEEN: Fighting in Darkness**

Zip and a couple of dozen resistance fighters are sitting in utter silence in the front room of an old building. They are at street level, but no lights are on, either in the building or on the streets outside. A distant light can be seen on a corner two blocks away. A pair of guards passes under the light. After the guards have passed out of sight, Zip whispers, "Let's go."

His men pour silently out of the building, and break into three groups. One goes straight ahead, and the other two move to the two opposite sides. Zip carefully counts out precisely three minutes, then shoots out the street light with an old-fashioned air rifle. Within seconds, three other nearby street lights are darkened by similar weapons. As soon as the lights are out, an alarm sounds. The resistance fighters melt into alleyways and buildings. Quickly a huge force of pirates descends onto the scene, but there are no resistance fighters to be seen.

"They can't be far! There's no place to go but into the buildings!" yells the captain of the pirate guards. "Find them!" He sends them out in teams of five or six. They head out and cover a few city blocks. Zip and his men scatter, firing occasional shots, often doubling back so as not to move very far from their point of origin.

After a time, the pirate captain concludes that most of the resistance is hiding in the darkest areas of a building complex. He fires a couple of magnesium flares to illuminate the sky, and orders, "Get the reconobots!" (reconnaissance robots) The reconobots are squat, cylindrical boxes on casters that enable them to move quickly and turn in place. They are equipped with motion and infrared detectors, are not vulnerable to the usual hand weapons. The robots are drawn to warm-blooded organisms with at least fifty pounds of mass, and can thus be used to neutralize fierce beasts or to capture human beings. They are armed with non-lethal weaponry that produces a mild state of sedation and prevents muscles from moving rapidly. Thus, uncooperative human beings can be captured and put into a non-resistant, compliant mode. At full power, they can produce unconsciousness.

Three reconobots are brought to the pirate captain, who sends them into the alleys, now illuminated by the cold, bright light of the magnesium flares, suspended by small parachutes and descending slowly. Zip and twelve companions wait and watch in the recesses of the complex.

Scanning technicians on the Earth fleet, while outside of radar range, use high quality telescopes to keep on eye on Eagle City. They notice the damaged buildings and, concerned that there has been no contact with the Starmen since their arrival on Mars, assume that the lack of communication is not necessarily a sign of disaster and that the Starmen have disabled the pirates. However, they are hesitant to come into attack range.

A conversation takes place on the Earth ships along the lines of, "We haven't heard from the Starmen by now, but we're close enough to attack. Maybe they can't communicate

with us for some reason, but look, the supply depot is in flames. We haven't had any communication from the pirates, either, so it looks as though their communications may have been knocked out. Let's take a chance and get in there." The Earth fleet then decides to launch a blitz attack against Mars—seeing this, the pirates (short on fuel, of course) are pushed into a decision to lift off to repel the attack.

## **CHAPTER NINETEEN: The Hubris of Technology**

When one reconobot nears the dark entrance of the building where Zip and his companions are hiding, Jack and Jill capture it. Their mass is far too small to register with the robot. They quickly open its primary access panel, and disarm the robot. Jack then enters the robot and hides in one of the spaces large enough to admit a human hand for repairs and programming. Then Jack, concealed in the robot, pretends to capture the resistance fighters. The robot informs the pirates that the resistance fighters have been captured. The pirate captain begins to move them to the pirates' prison, apparently docile and able to move only very slowly.

As the controlled reconobot moves with the pirates toward headquarters and the prison, Jack continues to reprogram the circuits, then quietly takes a measure of control from the pirates' computer system by reversing the direction of the messages sent from the primary computers to the reconobot he has possessed. Although the Titanian cannot use the robot to take control of the entire power grid, he can send messages to the outlying pirate patrols.

Jill, meanwhile, captures a second reconobot and takes it over. She then moves among the pirates freely. When she nears a known power center, she takes the first opportunity to disarm the pirates who are in control of the center. Some resistance fighters, led by Mark, enter the center from a tunnel, and quickly destroy its machinery. Power in half the city immediately goes down.

The pirates, already uneasy at the first sign of organized resistance which Zip had led, are thrown into further disarray when the power fails. Jack sends an emergency message that the resistance has attacked at the power station (which is true), but adds the falsehood that the resistance soldiers are disguised as pirates and are trying to take over the pirates' ships. Several pirate patrols then go both to the power stations and to the landing field, and in near panic attack each other. Only a few pirate ships are able to lift off. The actual resistance fighters, who minutes earlier had abandoned the power building through the tunnel, add to the confusion by sniping from rooftops and through windows of abandoned buildings.

Jill, after capturing the pirates at the power center, has created and introduced a virus to the central computers. At first, it prevents any new incoming messages from registering. The computers at headquarters, therefore, show that "all is well." The leaders believe that their patrols have everything under control. For safety, the leaders are in an inner room without windows, and their technicians spend most of their time watching the computer screens. They rarely look out the windows and therefore do not notice that half the city has gone dark. This has not been anticipated by the resistance, but it contributes to the success of their plot. It is the pirates' dependence upon high technology that will contribute decisively to their undoing.

## **CHAPTER TWENTY: Secret Entry**

Another pirate captain is on guard, with a huge number of soldiers, at the headquarters of the pirates. His men are to be inside the building, around the perimeter, and on the rooftops of every building within sight of the headquarters. Reconobots are to patrol the streets. The light of the magnesium flares is dimly visible several blocks away. When half the city goes dark, he orders his soldiers to see to it that no one gets into the building under any circumstance. He fires off an urgent message to headquarters, and is confused, then alarmed, when there is no response.

A reconobot patrols through the street around the headquarters, then at the rear of the building goes up a ramp and enters the building.

“What is that robot doing in here?” exclaims one of the guards inside. “We need all the reconobots on the streets. Take it back outside.” One of the other guards moves to the robot. When he touches it, he slumps over limp and unconscious.

“What the ...?” cries the guard. But at that moment the reconobot lets go all of its weaponry, and every human within the corridor drops, limp and unconscious.

Then the robot goes to another room and effects the same action. He tours the building and soon the guards outside are protecting a building inhabited only by silent and unwitting men. The leaders, however, are still in their inner, windowless room, thinking that all is well.

When the reconobot enters a certain room, a plate at the back of the robot opens and Jill gets out of it. She works for a moment on a panel in the wall at the back of one of the room. It opens, and Joe emerges, followed by fifty resistance soldiers.

Joe goes to the console, disengages the jamming mechanism, and contacts Earth’s fleet.

## **CHAPTER TWENTY-ONE: Mop Up**

The resistance soldiers throw open the doors to the inner sanctum and capture the incredulous leaders of the assault. Other soldiers go out of the building and capture the guards from behind. These are disarmed and herded into the city square. From master control in the liberated building, Jill sends a message to all pirate communications that the resistance has set bombs in the rocket yard and all are to abandon that site until they can be cleared. (This is to prevent pirates from fleeing Mars.) Then Jill quickly releases the full power of the virus, and disables all reconobots and other electronic surveillance machinery.

The “state of the art” weaponry and communications systems used by the pirates now works against them, as they are prevented from communicating effectively with each other. The main buildings and the headquarters are occupied by the resistance through tunnels they have dug during the previous ten days, from the time of the initial coup. The pirate guards, who had been well-organized patrols in constant communication with each other, are suddenly turned into leaderless bands cut off from their headquarters and each other.

In space, not far away and waiting for a signal, long-hoped for but almost despaired of, are the three hundred Earth ships. When they hear from Mark, they quickly come into Martian airspace, and capture or destroy the few pirate ships which had been able to take off. Before 9:00 a.m., they have landed in Eagle City in force and by noon have rounded up all the pirates.

They are assisted by the citizens of the city, who have surged out of their homes in great numbers as soon as the pirates' control had been lost.

Eight of the pirate leaders, however, were not in the headquarters when the resistance captured it. They were in the city, not far from the disrupted power station, overseeing the search for Zip and his friends. When they saw that Eagle City was going to be lost to them, they disguised themselves as citizens of Eagle City, using clothing from a house they had broken into.

As the festivities and congratulations go on throughout the afternoon and into the evening, the eight have noted that, in spite of the warning that the rocket yard had been planted with bombs, nothing had detonated. They make their way into the spaceport. Suddenly they take off in one of the pirate ships, the *Silver Spear*. In seconds, they are out of sight.

## CHAPTER TWENTY-TWO: End of the Chase

Within moments, the Starmen are in the *Star Ranger*, the ship which Zip had used to get to Mars. Followed by ten other Earth ships, they follow the *Silver Spear*, tracking it in spite of its furious pace. Joe charts its course, extrapolating to learn that it is heading for the Asteroid Belt.

The pirate ship is not trying to evade them, only to outrun them. Nevertheless, the Starmen gradually, very gradually, close the gap. They are almost within visibility as the *Silver Spear* enters the Asteroid Belt without slowing *[possible internal illustration at this point]*. The Earth forces are compelled to slow, but are able to keep track of the enemy ship by radar. They move carefully, but as quickly as possible, to the site where the pirate ship appears to be heading.

All at once, there is a massive nuclear explosion at the site where the earth forces expect the pirate ship to be. The electromagnetic radiation which is released clogs the radar screens and provides a temporary but very effective screen.

"What was *that*?" asked Joe.

"I think they must have struck an asteroid," said Mark, quietly. "They were going fast and recklessly enough."

"Would that have made such a huge fireball?"

"Who knows what kind of weaponry they had on board? Remember they were ready to attack Earth."

"Colliding with an asteroid wouldn't set off any fireworks like that, no matter what they had on board," asserted Joe.

"We'd better investigate. Look for wreckage," ordered Zip. A quick scan shows nothing out of the ordinary. A more thorough scan provides no further information.

"Well, I guess that settles it," said Zip, but his brow is furrowed. He is uneasy with the conclusion.

Zip's suspicions will bear fruit, in a way far worse than the Earthmen's most horrifying dreams, in the next volume of the David Foster Starman Adventures, THE RUNAWAY ASTEROID.

## Letters

Here are a few of the letters we exchanged about the plot for Assault on Mars...

*DATE: WED, 10 FEB 1999 16:39:31 -0800*

Further plot notes,<sup>27</sup> very rough--for your thoughts and suggestions before I put them into the chapter summary:

When the rebels send a reconnaissance robot after the resistance in the streets of Marsport, Borin and Genang<sup>28</sup> capture it, reprogram it, enter it, and the pretend to capture the resistance fighters. The robot brings in the fighters to the rebels' prison.

Borin and Genang, through the robot, quietly take control of the rebels' computers. From HQ they send messages to the outlying rebel patrols telling them that the resistance has attacked at a given point and are disguised as rebel soldiers. The patrols then go to that spot and attack each other. The resistance fighters add to the confusion with sniping, etc. The HQ computers, however, show that "all is well." It is the rebels' dependence upon high technology that will contribute decisively to their undoing.

Then a message is sent to all rebel communications that the resistance has set bombs in the rocket yard and all are to abandon that site until they can be cleared. (This is to prevent rebels from fleeing Mars.) Then HQ computers go down and the "captured" resistance are set free by the robot. Resistance take over Marsport<sup>29</sup> HQ and Earth forces come in, etc.

*David*

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<sup>27</sup> By this point we had been discussing our concepts for Dig Allen #7, *Mutiny on Mars*, for about eight months (since June of 1998). This is the earliest e-mail I could find; the others have been lost.

<sup>28</sup> The two "little green men" featured in Dig Allen #2, *Captives in Space*. When we drafted the plot for our *Mutiny on Mars* story we tried to include as many previous characters and machines from the series as we could. The e-mails have long-since been lost, but we even had detailed discussions examining how we could get away with having vacuum tubes (a staple in Dig Allen adventures) appear in our stories without losing credibility.

<sup>29</sup> The capitol of Mars in the Dig Allen series.

DATE: THU, 25 FEB 1999 19:30:17 -0800

My father read the summary while we were traveling, and liked the story a lot. I think he's the first person to read it cold, without any prior knowledge of the Dig Allen series. He liked it very much, but had one suggestion. He thought that the hooded man's appearance on the scene after Con,<sup>30</sup> Jim, and Ken landed was too easy and therefore too hard to accept. He thought the landing team should (1) be better prepared and (2) suffer a little before their rescue.

My father was a pilot in WW II, and said that parachute equipment included a survival pack. He suggests that, if the team had enough foresight that they had their spacesuits on as they approached Marsport, then they also ought to have had enough foresight to have had a survival pack with them. This could include some oxygen, some food, directional equipment, etc. It shouldn't be enough to get them to Marsport from where they are shot down, but it also shouldn't make their situation so immediately desperate. They should parachute in and set out for Marsport even though they know they won't survive the trek with the equipment and supplies they have.

He adds that Jogren should have some sort of equipment to detect intruders, and this is how he learns that the team is nearby. When they approach, he emerges from his cavern and meets them. (I had assumed that Jogren had been following the team from the moment it entered the atmosphere and so was waiting for them when they landed; however, I didn't ever make this clear in the writing, and don't recall what you two had thought of.)

Personally, I like the suggestion of a survival kit, followed by a hopeless trek of a few miles (10-15) before they meet Jogren. But I also think that Jogren has been following events in Marsport and has been aware of the team's entry into Martian atmosphere from the beginning. After all, his is the technology of a race that was in space 2,000 years ago.<sup>31</sup> There's bound to be a few things they can still do well. Jogren doesn't need detection equipment for his environs, because he's already aware of what's going on all over, through stuff that's more sophisticated. He goes to meet the team ready to aid

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<sup>30</sup> Con Krag, a character in Dig Allen #2, *Captives in Space*.

<sup>31</sup> This I find interesting. Two thousand? Later on in the series the figure we used was 12,000. I have no idea when we pushed back the year everything took place.



them, as our story sets forth. But it IS a bit too much of a coincidence that the team parachutes into the very place where he's living.<sup>32</sup>

*David*

*DATE: THU, 25 FEB 1999 23:04:52 EST*

I will comment on the summary as soon as it arrives.....But for now I can say that I love the idea of a survival pack and sort of expected the SEs to have them. I must admit that I like the idea of their pressing on despite their insufficient supplies. I agree that their meeting with Jogren must take place after some suffering or suspense.

*Mike*

*DATE: THU, 25 FEB 1999 23:05:35 -0800*

I also suggest that we rethink the placement of Marsport from Crater 91. As I check out the map of Mars once again, Crater 91 is quite large. It is about 40 to 50 miles across. Is that too big for our purposes? Or maybe it *\*is\** just about right, considering what it has to contain. It is located, by the way, at about 25 degrees North and 276 degrees West. (The Pathfinder landed at 19.33 degrees North and 33.55 degrees West.) If you think we need a smaller crater, I'll find one on the map that satisfies our geographic needs and suggest it to you.<sup>33</sup>

*David*

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<sup>32</sup> We were always very critical of coincidences and tried to avoid them as much as we possibly could. If a concept wasn't plausible then we either tweaked it until it was plausible or we threw it out.

<sup>33</sup> The geography we use for the adventures set on Mars is based on an actual map of the Martian surface. Although we feel free to "fictionalize" the terrain, one can actually find on the actual Martian terrain the craters and other major landforms in the Starman saga. We have not adhered to the actual distances, but plan to go back and rewrite the first five books to make even the distances accurate.

*DATE: SAT, 24 APR 1999 18:10:03 -0700*

Within a short time (next couple of weeks, maybe) I plan to revamp the summary<sup>34</sup> according to our Red Halen world, and send the same to you and Mike by postal mail. And by mid-June at the latest I plan to get started on the ACTUAL TEXT, with completion date by end of summer.

The artwork has slowed down a bit, because my son is only mildly interested, but even there I have ready backup. The project is very much GREEN LIGHT with me.

*David*

*DATE: FRI, 30 APR 1999 17:03:20 EDT*

I don't see our story as dead in the water, but rather in a healthy hiatus period.<sup>35</sup> I would like to take this time to suggest one more plot direction/adventure. What if the Badwater sea had a "Sargasso Sea" type area within it....one that just beats the heck out of the semi-mythical Sargasso sea recorded by Columbus. What if we invented a real scary environment, floated by large "sea grapes", little explored, and filled with strange lifeforms (some intelligent?). We could take all the myth of the earthbound Sargasso and just run with it!<sup>36</sup>

*Mike*

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<sup>34</sup> While the plot stayed the same, the summary still had to be rewritten to make use of the altered characters, altered background plot (no more vacuum tubes in the Starman world!), and so forth. This took quite a bit of time! Unfortunately, the details concerning the revamping have been lost; I don't have any of the e-mails that were exchanged between February and April of 1999.

<sup>35</sup> This was in response to a message I wrote. Not much had happened since February of 1999, and by April of 1999 I was concerned that the series was dead before the first chapter had even been written.

<sup>36</sup> This idea, of course, made it into Starman #1, *Assault on Mars*. Mike was great at adding cool ideas like this to the series. I do remember that the idea of parachuting onto Mars was his idea, and I'm sure that many others were too that I have since forgotten about.

*DATE: FRI, 18 JUN 1999 08:12:25 -0400*

One factor to be aware of, that I don't think was ever mentioned in the Dig Allen series, nor have we mentioned it: travel time between the planets, asteroids, etc., depends upon where each planet is in its orbit. Sometimes Mars may be close to Earth, and at other times may be on the opposite side of the sun.<sup>37</sup> Same for the asteroids, Venus, and Mercury. For Jupiter and the planets beyond, this won't be much of a factor since the orbit of Earth is relatively small compared to the distances we're talking about here. I've already plotted where these outer planets will be in the mid-22nd century, so we'll know just what we're writing about when we get to that point.

*David*

*DATE: 8/23/99 11:57 PM*

Further questions: In DA#7, the reason the pirates want to take over Mars is so that they can control the uranium mines and so paralyze Earth. Is this still our premise? Does that square with the David Foster world?

...

Regarding placing Mars and Earth in a certain proximity for quick travel at the time of DF#1, I'm afraid I don't have the capability of determining the relationships of the Inner Planets at any time, much less in 2151. Maybe Mike knows how get the information. And I don't know that we need to put that much work into finding out. I kind of like the idea of starting on July 4. Believe me, if someone wants to look for anomalies and points out that we're wrong on the positions of the planets, we can welcome the information for a revision. If that's the worst they find, it will compare well with Hal Goodwin's 90 second trip to the moon in Rick Brant #1. I want to be accurate and plausible, but not to the point that we're getting too buried.

*David*

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<sup>37</sup> Several years later Valerie Kramer confirmed our original, somewhat haphazard, research so that we knew where the planets were located when the Starman series began in the middle of the 22<sup>nd</sup> century. Our travel times were set to match reality.

DATE: THU, 2 SEP 1999 07:06:58 -0400

Second: how about adding a section to the web site, called something like, "A sample of the story"--like the plug for the first Rick Brant that appeared at the back of the Hardy Boys, etc., in the 1950's. I can write a brief episode of a page or two (I'm thinking of when the "cargo ship" was shot down on its approach to Mars), which can then be posted on the site. After all, eventually it will be the actual text that is the end product of all our work, and nobody's seen that yet--even me. People--including us, right now--want to see how that's going to go. After all the work we've put into this, maybe my writing won't be very good. If you like the idea, I'll get to work on that as soon as I finish the notes, and can maybe have it ready in a week or so for your approval and eventual posting<sup>38</sup>. Then we can formally announce the web site. After that I can move on to the summary of Assault on Mars.

David

DATE: 9/6/99 6:49 PM

P.S. That reminds me! If the sample writing from AOM is the arrival of the Starmen and Oritz into Martian airspace, we have two theories of what happens: in one, a trigger-happy pirate shoots them down (an early idea of ours from DA#7); in the other, they pretend to develop engine trouble or something, and the ship itself blows up as a decoy to the radar personnel while the three men parachute or use a small lifeboat, hoping to avoid detection. Which are we using? I kind of prefer the first, but the problem was that parachutes would be visible to observation. But isn't that part of the plot too? For the plot's sake, the three have to land far away from Eagle City and cross the desert, rather than bluff their way directly into the spaceport as they had intended. They need to be shot down unexpectedly for that to happen. The pirates do send out a ship to find the parachuters. Also, I think they would be spotted either way. Let me know if I'm off base here, since this is the next thing I have to write.

David

---

<sup>38</sup> David wrote a sample section of *Assault On Mars* to put this idea into action. The very first portion of the actual text of the Starman series is found in *Assault On Mars*, from page 58 ("The antimatter drive worked perfectly!") to page 65 ("This is not good," said Mark.).

*DATE: 9/7/99 9:56 AM*

- > Also, there's the chance that the pirates might not have paid any attention*
- > to them at all... which didn't happen, as turned out.*

Even when they are shot down, the pirates probably still think that they are just asteroid miners. The pirates may be paranoid (hence, the trigger-happy shot) but they're not expecting an invasion by one ship. Their search for the parachuters is a bit of an after-thought and not too urgent.

- > How long is their trek through the desert going to be?*

I think the DA#7 plans calls for at least a week. They land over 700 miles away from Eagle City, and use the land-sailer to cross the desert. Then they need a day at least to cross the sea. This was the plot before we came up with the idea of the antimatter drive getting them to Mars in three days and the fleet following them taking 2-3 weeks. With that time difference, then we have plenty of time to get them across the desert and into Eagle City, and then achieve their goal.

- > Given this rather long delay, what, exactly, is Earth's plan?*

Yes, introducing the antimatter drive does alter the plot a little bit. The advantage of the antimatter drive is that it gets the three people to Mars faster than anyone would have thought possible, thus not tipping off the pirates that the ship is from Earth and part of a Plan. That's the only advantage, since the retaliation from Earth can't take place until the fleet arrives in 2-3 weeks. Thus, Joseph, Mark, and Steve have at least 2 weeks to do their job. The tension is on THEM when they get shot down, to get to Eagle City, but no one else knows about their being shot down--not David, who doesn't know they're coming, and not Earth who can't see them. THEY have to get to Eagle City to do their job, and even if they cross the desert successfully in a week or so, their time in Eagle City is still half what they'd expected.

- > they sent the trio*
- > ahead, giving them enough time (hopefully) to deliver the data and dislodge*
- > the pirates, and the minute they left they launched their entire fleet at*
- > Mars with the idea that they would attack the minute they got there. Earth*
- > didn't have a second try at this: if they didn't get them -now- they would*
- > be sunk, for once the pirates got the Belt all would be over.*

Right.

- > *If I'm reading this right and that's the way it turned out, then we*
- > *probably need to make sure that the trio's hike through the desert really*
- > *does take two or three weeks.*

Could be easily adjusted.

- > *Secondly, what would you think to having the trio arrive a bit*
- > *-late-? Perhaps by the time they deliver their disk Earth has already*
- > *arrived, assumed that the trio didn't make it, and launched their attack --*
- > *and started losing? Perhaps while the trio is crawling through Eagle City*
- > *doing their sabotage work a huge 'firework' display of lasers and exploding*
- > *ships is going on overhead.*

A new plot idea. Could easily work, and involves more action.<sup>39</sup> I have felt that the arrival in Eagle City and subsequent action was a little weak.<sup>40</sup> This has possibilities. But we don't want to change the plot to the point that the cover art isn't accurate any more. We can't have lasers beaming away when they top the crater wall.

- > *The pirate ships at Eagle City could have an added edge over*
- > *Earth's ships: all of their radar and a lot of their controls and flight*
- > *are computer AI controlled, coming off a main unit on Eagle City. That is,*
- > *that -was- an edge until the trio came in and destroyed it -- at which*
- > *point the pirate ships were suddenly crippled and became sitting ducks...*

Now you're moving into high gear. It's getting better and better.

After I write the brief "actual text" for the web site, I'll redo the summary with these ideas in place.

*David*

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<sup>39</sup> I always liked action and explosions and was ready to suggest adding things like that any chance I could.

<sup>40</sup> I think we were all concerned about that; the ending just didn't feel right. Eventually we hit on the ending that we actually used, but we didn't think of it until most of that book had been written.

DATE: 9/7/99 11:32 PM

Good stuff on the pirates, timing of the attack, etc. But would Earth attack before they hear from the Starmen? Remember, Earth doesn't know that the pirates are already disabled since David blew up some of their important stuff. Unless we have some sharpie on the Earth side scanning Eagle City who recognizes that the key building is in flames and assumes it is a good time to attack. Actually, that's plausible. Wouldn't Earth be scanning Eagle City closely, even from out in space? Maybe there can be a conversation on the Earth ships along the lines of, "We haven't heard from the Starmen by now, but we're close enough to attack. Maybe they can't communicate with us for some reason, but look, the supply depot is in flames. We haven't had any communication from the pirates, either, so it looks as though their communications may have been knocked out. Let's take a chance and get in there." What do you think?<sup>41</sup>

David

DATE: 9/8/99 10:06 PM

- > July 4, 2151 -- ASSAULT ON MARS begins
- >       Pirates attack Mars
- >       The Spud Peeler leaves Earth for Mars

Can this actually happen on the same day?<sup>42</sup> I envisioned at least three or four days for Earth to reel in shock, have a meeting, and decide on a plan. (How do you like the name Spud Peeler? It came to me out of the blue as I was writing the new summary for the plot. Hard to be more unthreatening!)

David

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<sup>41</sup> This is what we eventually did!

<sup>42</sup> I gave a wholehearted yes to this question! I thought it would be really cool if Starlight Enterprise could size up the situation, outfit a ship, and send off a crew just a few hours after the emergency arose – it would sort of show off that firm's capabilities and superb organization. Sending off a mission a few days later was probably more plausible but it didn't seem as exciting. This was the 22<sup>nd</sup> century: surely they ought to be able to do something like that. That turned out to be how we wrote the scene.

*DATE: 9/17/99 5:35 PM*

Jim Ogden's comments are well taken. I thought about one syllable names, and we might want to think about it more together. David Foster will become Zip, and I guess Joseph could become Joe, at least most of the time. And some slang needs to be there, too, I suppose, and maybe that will come into the writing with practice. At the same time, I don't want to risk losing the quality to a lowest common denominator. Our audience is probably really going to be well educated people rather than teenage kids. But for the most part, I agree with his insights.

*David*

*DATE: SUNDAY, APRIL 02, 2000 7:49 AM*

Dear Jon and Mike,

I've gone through three pages of comments made by our first reader, and also found a couple of notes made by her 14-year-old grandson.<sup>43</sup> Made a lot of corrections of typographical errors and changed a few sentences to make the flow easier. A few other changes need to be made, which involve inserting a few paragraphs:

We need to clarify the differences between Mars/Earth time. I just wrote "9:00 a.m." on Mars, etc. Both readers questioned this independently. I just assumed that, since the Martian day is so close to Earth's, that no explanation would be necessary. Obviously it is. But that will be easy to fix.

The medicine from Mars that the pirates are blockading will have to be explained better. We'll have to deal with it carefully, since it has become a staple medicine in great demand on Earth in the 22nd century, but we don't want to make it look like an addictive drug. It'll take some reworking to get what we want. This affects two areas in the story: the description on pages 27-28 and Mr. Johnson's alarmist speech in the Congress.

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<sup>43</sup> As indicated later, the first reader was Marge Avery, who later became the first of very many "real" people to be brought into the series. Marge Avery became Marjie Prester. Her grandson is Stephen Avery, who coined the name "greegles."



She said that the invasion team followed to hooded man too readily, and we need to explain again how desperate they were, so that they would be willing to follow a stranger.

And finally, the two-day planning period before deciding on a plan to fight the pirates went by too quickly. That needs a little more description to show how desperate and hard-working they were.

That's it! Final comment on her list was "Terrific ending! No one killed. Lovely touch--the giving of water."

First evaluations: a solid A!

*David*

*DATE: MONDAY, APRIL 10, 2000 5:07 PM*

Dear Jon,

Thanks for the extensive editing of the MS. I've taken a thorough glance through it, and think that just about everything you noted is right on target! You're an excellent, gifted editor. Revising the actual text will take some work, as you note, but will be well worth it.

Your dad's comments on the President are well taken! I never thought of him that way, of course, but I can see why a cold reader would. This is another reason why having a few people read it in advance is very helpful. All of our readers have really done us a good service.<sup>44</sup>

I think we ought to just take that section out. It was a bit of a challenge to write it as it was. We can still keep the aquarium scene with Commander Lewis, but leave it as a scene with his reflections. How does that sound?

---

<sup>44</sup> This concerns a speech made by the President roughly in the middle of *Assault on Mars*. We read the passage one way, but it turned out that our readers interpreted it entirely differently so we took it out. The actual passage that we took out can be found in Appendix 1 of this document.

Regarding cranking out the books at a high rate of speed, I think it's a good idea. I wonder if our audience, so matter how enthusiastic, will wait around long enough for one or two books a year.<sup>45</sup> People change and it will be hard to get new readers. We are really depending on hobbyists to carry the project.

I can and will email the major structural revisions. Haven't done more than one or two brief and easy ones so far, and will need time to do the rest. Then I'll get them out to you in email.

> *I've done some research and found another good printer that might be*  
> *an option.*

What will it cost?

Lots to do. More later.

*David*

*DATE: WEDNESDAY, APRIL 12, 2000 7:00 PM*

Dear Jon,

> *Just wondering: is there anything that I should be doing on TRA? That*  
> *is, do you like the summary, should I revise it, etc.*

I haven't had a chance to look through your second draft yet. I've been very busy getting ready for the major services of Holy Week and Easter with all that that entails, and haven't had a long enough stretch of time to devote my attention to Starman. I should be ready soon, however. I'm hoping that I can devote the whole of next Monday to nothing but Starman--all the revisions in AOM<sup>46</sup> and everything else. As far as I'm concerned,

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<sup>45</sup> This was a very serious concern, and we tried to find ways to write more than just two books a year. We looked into getting other writers and writing the books more quickly, but in the end our efforts failed. As it turned out though things were fine and our fears were unwarranted.

<sup>46</sup> AOM is our abbreviation for *Assault on Mars*. We always referred to all our titles by their acronym: *The Runaway Asteroid*, for instance, was always referred to as TRA.

you can go ahead and start plotting the next books,<sup>47</sup> because I think that the TRA first draft was good enough to move on--so the second should be even better!

My father is visiting this Sunday and I've cleared the afternoon. Part of what we'll do is go over AOM and line up some new illustrations.

Last Thursday-Saturday I went back to the desert that has the mud cave. This place is really my model for 22nd century Mars. This time we visited the wind caves--places in soft stone carved by centuries of strong winds. Not as impressive as the mud caves, but still an inspiring place--especially for a planet noted for high winds.

Good observation on the inappropriate mention of "Martian" in AOM in connection with Jogren. I'll take out the line.<sup>48</sup> And the Martian logo is a terrific idea! Also how you plan to use it. Sounds absolutely inspired!

Are you sure about those prices for printing? The price is really not bad at all, but are the hardcovers really cheaper than the paperbacks??<sup>49</sup>

Best wishes!

*David*

*DATE: THURSDAY, APRIL 27, 2000 12:40 AM*

Dear Jon and Mike,

> *Are you going to send a copy of the revised text to anyone or are you going*  
> *to ship it straight to Fred?*

---

<sup>47</sup> This I did! I tried to stay two books in advance. While the fourth book was being written I had already finished the plot for the fifth book and was deeply involved in the details for the sixth Starman book.

<sup>48</sup> That line was an off-handed comment made by one of the Starmen, saying that Jogren couldn't be a Martian because all the Martians had died out. My sister pointed out to me that a line like that gave the game away, because whenever a statement like that appeared in other series books it *always* turned out to be the case that whatever was said to be impossible was actually the case. We wanted to keep the identity of Jogren a deep secret that would only be revealed in the fifth Starman book, so the line was deleted.

<sup>49</sup> This is actually true. Paperbacks are only cheaper if they are done in enormous print runs.

Our first reader was Marge Avery. She wrote the poem "Come Home" and is the model for Marjie Prester. Her husband Richard did not read the draft at that time, so I ran off a copy of the text as it now stands after all revisions, and he is reading it now. I asked him for a response by the end of the weekend.

> *It [the term Darjeeling] sounds fine to me! I'm happy with it... I've never heard of that term before but it has a nice ring to it!*

It's a real term. It is an actual kind of tea, pronounced "Jarling."<sup>50</sup> The reason I asked if it "fit" is that it comes (I believe) from India, and if it appears in AOM we have to assume that India survived the Collapse and is still producing tea. I think it's a reasonable assumption for our story.

> *Maybe these things ought to be altered a little*  
> *so they don't remind readers of what they already know.*

All your suggestions work for me, Jon. There are answers to all this stuff.

Our imaginations seem thoroughly inspired, especially you two--miles long fish which are nuclear powered, a tenth planet which orbits a brown dwarf in a figure-eight orbit, etc.<sup>51</sup> I don't think anybody has ever thought of stuff like this. AOM is good, but the next few books are going to get better!

*David*

*DATE: THURSDAY, APRIL 27, 2000 10:56 PM*

Dear Jon,

I think we ought to put out a general message to everyone on our fan/interest list and tell them that the first Starman book will be available in early summer. Maybe send them a teaser. Would you like to do that or would you like me to do it? They've been contacting you, so you might be best; on the other hand, I don't think anyone will care

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<sup>50</sup> David later discovered that in fact this pronunciation is wrong. Darjeeling is pronounced darj-EE-ling.

<sup>51</sup> These elements did not appear in the saga until *Descent Into Europa*. You can see that we were already working three books ahead, even as *Assault On Mars* was in production. We still work that far ahead.

who writes to them and I have a complete list of their names and addresses. Probably you do too.

Maybe we should wait, now that I think about it, until we can definitely say that the text has GONE TO THE PRINTER and refer them to the Message Board once we have a few postings. Maybe mid-May. What do you think?

Jim Ogden said he felt honored to be our first contributor to the Message Board, and hopes to finish reading AOM this weekend.

Richard, our new reader, has now finished the final draft of AOM and liked it. He found about a half dozen teeny typographical errors. I'll get his list of corrections this weekend. Then I think we'll be DONE. This time REALLY! Probably...

*David*

*DATE: FRIDAY, APRIL 28, 2000 4:59 PM*

Our homework is really paying off. We spent over a year designing the world of the 22nd century, then AOM took only 2-3 months to write. I think it will take less than that to write the others, just because we've got experience now.<sup>52</sup> And we're on a roll.

*David*

*DATE: MONDAY, MAY 15, 2000 7:23 PM*

Dear Jon and Mike,

Both Thayne and Jim O. questioned details about our rockets' propulsion. I think we answered Thayne's observation by having the refinery on Mars process deuterium. Jim's question I am less sure of.

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<sup>52</sup> It turns out that it took the same amount of time to write the others – sometimes, if we ran into trouble, it took a great deal longer. Three months for 220 pages seems to be our average.

When Richard Starlight is talking to Joe and Mark on the Moon, he says, "As you know, in the last century, we harnessed fission for propulsion." Jim crossed out fission and wrote fusion. So what do I do here? I just don't know what I'm talking about when it gets to this stuff.

When you get me back an answer to this one, the text will be absolutely, finally, and completely FINISHED!! And, I think, much improved by everyone's comments.

*David*

*DATE: TUESDAY, MAY 16, 2000 8:58 AM*

Dear Jon and Mike,

> *When my cousin Ben read that part he said he couldn't understand how the  
> little Titanians could fit inside the reconobots: to him they sounded like  
> very small, short boxes one or two feet tall -- much too small to allow a  
> Titanian inside.*

Actually, the description does say that they were "squat" and rolling on casters. I picture them as small--maybe 2-3 feet tall, a little like R2D2. The terror they inspire is due not to size but to function.

There is a small space for the Titanians inside--in the fight scene when they enter, it is pointed out that there is an access port for internal adjustments and the Titanians fit inside it.

Normally I would adjust this to clarify it, but I'm already well along in printing the master copy at this point, so I think I'll leave it as it is or I'd have to reprint the last 50 pages or so.

Thanks for the other information. Text is now absolutely complete and, as I say, well along in the printing stage. (Printing takes a couple of hours since I have to run each page through my printer by hand to make sure it sits right on the sheet--two pages on each sheet of paper.)

*David*

*DATE: TUESDAY, MAY 16, 2000 12:15 PM*

By the way, the Master Copy of AOM is now COMPLETELY PRINTED! It looks really good and the illustrations are cool. I'll make the authors' copies (that's us) in the middle of the night tonight, when no one is around at the church to bother me, and send the Master to Fred tomorrow. I'll bind our copies in the next couple of days (that's a little bit of a time-consuming job). Jon is visiting out here this weekend, so I'll give him his in person,<sup>53</sup> and I'll send yours, Mike, priority mail probably on Thursday.

In my opinion, we can all be proud and satisfied. We've done a good job.

*David*

*DATE: WEDNESDAY, MAY 17, 2000 11:56 AM*

It's done. I was up until 2 a.m. and am coming down with a cold or something now, but we have three copies hand-bound. They look kind of makeshift, but that's only because they are.<sup>54</sup> They're really just souvenir copies, but I think we'll all like them. What Fred will produce will be much better.

*David*

*DATE: MONDAY, JULY 03, 2000 2:01 AM*

I discovered our first anomaly! On page 30, it says, "It was night on the Moon." But on page 44, it says, "Amundsen City...always saw the sun on the horizon," implying that there is no night there--that is, the sun rotates around the horizon because the city is at the south pole. I suppose we could fudge it and say that they were driving the moonbus

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<sup>53</sup> This was done! I met David for the first time after we had finished writing *Assault on Mars*. When he met me he gave me two things: my author's copy of AOM and what eventually turned into Chapter 3 of *Starman #5, The Lost Race of Mars*. I had a fantastic time.

<sup>54</sup> David got much better at producing these as time went on, until the final product looked professional. David got so good that Mike mistook his author's copy of book 4 that David produced as coming from a professional printer! These are beautiful hardbacks and I treasure mine.

(on page 30) in an area off the pole where there could be night, but still...it's really an anomaly. Let's see if anyone else catches it. It's real subtle.<sup>55</sup>

*David*

*DATE: SATURDAY, SEPTEMBER 02, 2000 11:41 PM*

Dear Jon and David,

I remember the early days of the series...in which we were "designing the crater, etc." The subject of atmosphere was looked at and several alternatives were discussed.....To the best of my memory, we decided that a constantly leaking crater wall with a constant resupply would be the best compromise. I had suggested that we use a CO<sub>2</sub> atmosphere in the crater and have everyone wear oxymasks. (CO<sub>2</sub> being much heavier than O<sub>2</sub> and therefore leaking much less, besides being a better "greenhouse gas" to help warm things up a bit) However, the constant leak of oxygen over the crater rim is not all bad as some of it gets redistributed to other parts of Mars.<sup>56</sup>

Jon, your Dad is right on this one. There is no easy answer...but there ARE answers. FACT: during the Viking lander experiments in the 70s, scientists were surprised to find that water and heat added to the Martian soil resulted in a liberation of oxygen.....this makes it more plausible that "atmosphere plants" are practical. We could locate the majority of these plants inside the crater. Our crater could be chosen for its deepness...it might even be the one created by the comet impact that initiated the natural thawing of Mars. A deep crater makes the scheme more plausible. FACT: the recently discovered underground water on Mars could be electrolyzed to produce O<sub>2</sub>. (Probably in great abundance, enough to compensate for a loss factor.) The comet impact started a natural release of gasses on Mars, so all areas are slowly building up atmospheric pressure...we just have artificially accelerated this process in the crater.

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<sup>55</sup> As a matter of fact, no one caught it.

<sup>56</sup> This discussion took place after my Dad made a comment along the lines that the crater in which Eagle City on Mars was housed was too shallow to hold the amount of oxygen that would be required to make it habitable without a spacesuit. Why would the air pressure in that one fairly shallow (just a few miles deep) crater be high enough to create an Earth-type environment when the regions just outside the crater require a spacesuit for survival? By the time this issue was raised the first book had been released, so we couldn't go back and change the crater; we had to find a way to make the crater we had work. In the end we abandoned the issue because (a) there really wasn't a good answer, and (b) no other reader mentioned anything.



If worse comes to worse, we could explain it with "dream science" .....you know, the atmospheric force field invented by Starlight Enterprises that keeps the air in like a lid (All that hardware looking stuff at the circumference of the rim)

*Mike*

*DATE: SUN, 03 SEP 2000 16:08:50 -0700*

Dear Mike and Jon,

> *Jon, your Dad is right on this one [keeping oxygen in the crater]. there is no  
> easy answer...but there ARE answers.*

Maybe we ought to keep all this stuff on file, and when we get back to Eagle City in book five we can bring out how the crater keeps its oxygen. I like the idea of oxygen generating plants working in concert with the terraformation process that releases oxygen into the atmosphere. We have to keep in mind, though, that it is vital to the plot that the "surface" of Mars requires NPAC's, and that the interior of the crater have enough air that it holds dust for a while. That's already been written into the published work.

*David*

*DATE: MONDAY, JULY 30, 2001 5:32 PM*

> *Last night I read the final version of AOM all the way through for the  
> first time.<sup>57</sup> I have to say that I really enjoyed it! I thought it was a  
> great, exciting book: if I had found it on a shelf in a bookstore and read  
> it, I would have been motivated to find the rest. I'm going to read the*

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<sup>57</sup> I did this shortly after receiving my author's copy of Starman #3, *Journey to the Tenth Planet*. As is the case with every book, I spent many hours reading the manuscript over and over, trying to catch every little thing that was wrong with it. After I sent in my comments and David corrected the manuscript and sent it off, I just couldn't read the story yet again and enjoy it – I was too close to the story. I usually didn't read the final edition that was released to our customers until after the book had been out for a few years.

> *final version of TRA through tonight for the first time and I'm looking  
> forward to it. These books are better than I thought they were!*

I'm looking forward to reading the entire first five straight through in a few years. THEN maybe it'll hit me almost as a new book. I'm glad to know you enjoyed the story.

*David*

## **Passages cut from *Assault on Mars***

This book is the only one for which we wrote a lengthy passage that we later ended up cutting. I've preserved the passage we ended up cutting, which at one time was at the begging of Chapter 13. Here it is:

His eyes moved to the clock on the wall. The President was about to address a joint session of Congress, to be broadcast live throughout the Earth-Moon system. The Commander had personally briefed the President just twenty minutes earlier. He did not envy the President. He was in a tough spot—he could not give any indication that an attempt was being made to liberate Mars from the pirates, but couldn't appear to be ineffectual, either. Congress knew nothing of the invasion team, and some members of Congress were hostile to the President.

Commander Lewis turned on the videoscreen in his office. He saw the chamber filled with the members of Congress. A few were seated, looking morosely forward into their communication units, heads resting on tented hands. Most were standing and talking animatedly to one another.

The Speaker of the House came to the lectern and asked everyone to be seated. He then announced the President. Silence fell almost immediately. The President entered the chamber and strode confidently and quickly to the lectern. After a few introductory remarks, he got to the heart of the message:

"As you know, we made contact with the pirate leader Troy Putnam immediately after his initial communication with us twelve days ago. Negotiators successfully arranged for the extension of the 24-hour deadline. Since that time we have gained every concession we sought in our communications.

"At this time, there is no sign of any kind indicating aggressive activity from Eagle Crater. The asteroids remain free. We have every hope that the situation will be resolved in the near future without violence. However, we are prepared with a military response if that becomes necessary. We expect that the crisis will be over within ten days. I have no other comment at this time."

The brevity of the report took most of the Congressmen by surprise. At least a dozen of them jumped to their feet at the end of his remarks, eager to raise questions and calling for attention. The President looked to the Speaker, who then called the meeting back to order. The Speaker recognized one Congressman, and called on him to ask his question.

"Mr. President," began the man who had been recognized. He was a florid individual known for a touch of the dramatic. "The situation in my home state is becoming, well, a matter of some alarm. People are afraid of suffering without the necessary medications we import from Mars, and rationing has begun. I'm afraid that if this situation is not resolved soon, rationing may turn into rioting—at least in some places. What assurance can you give us that our people will not suffer during this crisis?"

"None, Mr. Johnson," responded the President. "I have never considered it my responsibility to keep people from suffering, especially in circumstances beyond the control of any of us. But at present there are no real shortages—only the fear of them. Your concern for the citizens of your district, Mr. Johnson, is commendable. Show that concern by encouraging them to make whatever sacrifices may be necessary to support a solution to the crisis. Such an attitude had always strengthened the populace. I have already said that we expect that the crisis will be over within ten days. That is long before our supplies will run out. I am working to resolve the crisis; during this time I am looking to you, Mr. Johnson, and all the members of Congress to keep peace at home."

There were a few other questions, but Commander Lewis wasn't interested. He turned the videoscreen off. He had been impressed with the President's address; when it came to the questions afterward, he found the aquarium more interesting. He watched an angel fish swimming unhurriedly through the water, very slowly spiraling upward.

Why was the passage removed? Well, we intended for this passage to be a stirring speech on the necessity to make sacrifices and be willing to undergo difficulty in the times of crisis. However, it ended up coming across as being uncaring, so instead of revising it we just deleted it – the book could go on just fine without it.

## Writer's Notes

### THE FLOW OF THE STORY

1. The bad guys and then the good guys get introduced
2. The bad guys take over Eagle City
3. The military shows that its inherent limitations make it unable to address the problem
4. Richard Starlight is introduced as a symbol of vision and general competence in contrast to the military
5. The parallel tracks of David Foster and the invasion team begin—David in Eagle City and the invasion team in the desert—in both cases, after a measure of success, they run into hazards
6. Both get deeper and deeper into trouble at the same time—the invasion team gets lost and the weather gets colder and visibility diminishes almost to zero (both literally and symbolically); David gets wounded and exhausted to the point that he is in deep darkness (both literally and symbolically)
7. Both are rescued by unexpected friends—and the rescues happen simultaneously
8. Both David and the invasion team are comforted by their friends, and then are accompanied by them (at least in part) as they re-enter the fray with some successes against the pirates
9. They join forces
10. They fail in their initial attempt to overcome the pirates
11. They triumph, with sufficient lack of resolution to allow for a sequel

### EXPLANATION OF NAMES

Bill Castle	Bill is a nod to the project artist, Bill Baumann
Quentin De Koven	named for a great Episcopal priest of the 19 <sup>th</sup> century, James de Koven
Mel Golden	Golden is a nod to a project supporter William Golden-Wilkins
Jacksie	a nod to the name C. S. Lewis chose for himself when he was small
John Lewis	another nod to C. S. Lewis
Wynn Sturgess	the name is chosen as an ironic contrast since he is on the losing side
Pirates' Names Gripp, Huss, Lurton	named, in the style of Charles Dickens, to be symbolic of their nature: Gripp for someone who is a grasping pirate; Huss, reminiscent of "hiss;" and Lurton to echo "lurk"
Marjie and Richard Prester	named for Richard and Marge Avery, members of the Episcopal Church in Placentia, California. Richard is an Episcopal priest, and "Prester" is an old-fashioned word for priest
Troy Putnam	Troy is the city conquered by the ploy of the wooden-horse
Michael Sayer	a nod to Dorothy L. Sayer, English Christian writer of the 20 <sup>th</sup> century
Fred Stensaas	Fred is a nod to the project printer, Fred Woodworth

Stavri Thalassa  
Uneven Stephen  
when

Stavri is a made-up word; Thalassa is the Greek word for “sea”  
nickname given by Richard and Marge Avery to their son Stephen  
he was born, since one side of his neck was not fully developed (Exercise corrected problem in six months)

#### INTERESTING FACT

There is a very minor character named Zip Foster in the book, *The Boy Ranchers in the Desert*, published 1924. He doesn’t even appear in the book, but is mentioned twice by one of the main characters.

#### OTHER SUBTLETIES

The contrast between the good guys and bad guys is demonstrated in several ways:  
The Starmen enjoy fellowship and camaraderie with the Tunnel People, the Mining Colony People and Jogren. They share banter with Steve Cliff. They enjoy good food several times.  
The pirates are presented as being boring and disconnected. There is no mention of joy or of eating among them. Troy Putnam uses “Mr.” almost every time he addresses them.

#### CHRISTIAN SYMBOLS

1. The cross imposed on the Starman logo.
2. The comment by Richard Starlight, “[my father] took a name to signify light in the great darkness, as stars are points of light in the darkness of space. Maybe overwhelming darkness, but still characterized by light, the inspiring light of beauty and adventure, which the darkness cannot overcome” is deliberately reminiscent of John 1:5. The teaching sets the theme not only for *Assault On Mars*, but for the entire Starman series.
3. Thomas Starlight is presented as a visionary in contrast to the literally-minded Apostle of the same name, who nonetheless had deep faith which was brought out by a spiritual trial. Thomas Starlight is also a man of mystery, presented as choosing to have no beginning, symbolically born without ancestry (suggestive of Melchizedek in Genesis 14:17-20, who is himself anticipatory of the Messiah as noted in Psalm 110:4 and Hebrews 7 ).
4. Mark rejoices in the “treasures of the cosmic darkness”, a phrase echoing Isaiah 45:3.
5. The description of the “fullness” of space and the beauty of the heavens at the beginning of “Shot Down!” is intended to convey a sense of the numinous—the mysterious Presence of God, reminiscent of Moses at the burning bush. It is dependent upon the description of space in C. S. Lewis’ *Out of the Silent Planet* (1947). Some of the imagery is dependent upon a written meditation by Marge Avery of Placentia, California.
6. The line, “Light which is light’s living spring” is a quotation from an ancient hymn composed by St. Ambrose of Milan (340-397), in which he addresses Jesus as “O Light of Light, light’s living spring”.
7. The poem “Come Home”, written by Marge Avery, is expressive of the desire for union with God, referred to in the poem as “the Beloved”.
8. Reference to Thanksgiving Day in Amundsen City.
9. Stavri Thalassa says “a few words” over the meal the Tunnel People share.

10. The angel fish in Commander Lewis' aquarium is to be suggestive of a sign of peace and angelic protection, which moves symbolically "upward."
11. Bread and wine, the focus of the meal enjoyed by the Tunnel People and the Starman team, are consciously suggestive of the Bread and Wine of Holy Communion, seen here almost as viaticum: the "Food for the Journey" as the recipients go into battle—as Stavri Thalassa says, "Tonight we go out to do battle, and we will come back victors!"
12. Marin Asta wine is intended to suggest the word Maranatha, a Christian exclamation in New Testament times and used by Paul. It is an Aramaic word with a double meaning: "Lord, come!" and "The Lord is coming!" (1 Corinthians 16:22)
13. The *St. George* is the name of the flagship for the Earth fleet which liberates Mars. It is named for the Saint who fought the dragon and won.
14. The conquering citizens of Eagle City give the captured pirates water, and Zip specifically gives Wynn Sturgess a cup of water, suggesting the verse, "If your enemy is thirsty, give him a drink." (Romans 12:20, quoting Proverbs 25:21)







# **Book Two: The Runaway Asteroid**

*The enemy digs a trap and scoops it out,  
But he falls into the snare he made himself.*

*Psalm 7:15*

## Introduction

Writing the second Starman book was a bit different from writing the first one. Before we started writing any Starman books at all we designed the plots for the rest of the series as well as an overarching plot that connected all the books and that was gradually revealed as the series went on. The plot summaries we designed in advance were pretty short, though, and had to be expanded if we wanted to turn it into a book.

The original summary for *The Runaway Asteroid* was simply this:

Angered by the defeat of their plans of conquest, the defeated conquerors direct their secret asteroid base on a collision course with Earth. The pirates are certain that the asteroid will hit Earth and destroy it. Everything is in their favor: not only is the asteroid naturally very dark and practically impossible to spot against space, but the ancient Martians outfitted it with a sheathing device that makes it impossible to spot via radar. No one will see it until it is practically on top of Earth, and by then it will be too late to divert the hundred-mile-long asteroid—and the Earth will be destroyed!

From that rather short blurb we had to create a full-fledged plot that included a summary of the events that occurred in every chapter. For the previous book that was accomplished over the period of about a year via numerous e-mails: we'd discuss the plot, David would make the changes, he'd mail us the revised summary, and then we'd discuss it some more.

This time I just took that summary, wrote a plot for it over a period of a few months, and then e-mailed it to David and Mike. However, instead of spending a year getting the summary right, we instead started writing the book immediately: as the plot needed adjusting, we just adjusted what was written.

Did the plot need adjusting? Absolutely. We exchanged quite a few e-mails discussing the weaknesses in the plot and how we could fix them. It was pretty intense at times because this book was very complicated: a great many things were going on simultaneously on different fronts, and we had to make everything work together, make sense, and stay interesting. In the end we came up with one of my favorite books in the series: it was work, but it was worth it.

What follows is the original plot summary I wrote, followed by the letters we exchanged while writing the book and the writer's notes. As you can see, tweaking the plot to get it exactly right was not an easy matter...

# Plot Summary

Editor's note: each [\*] indicates a location. If the location changes (maybe one scene is on Mars and the next one is on Earth) I will add a [\*] to make that clear. Also, everything in brackets are Editor's Notes.

[BEGIN]

## CHAPTER 1: Regrouping

[\*]Lurton Zimbardo (sp?) is inside his ship, speeding through the Belt. He and his men are tense; the radar man cries out that the Starman's ship is getting closer. Zimbardo barks out orders to keep up speed as they plunge into the Belt and engage computer guidance to avoid hitting the asteroids. The men are tense: they are speeding through the Belt at speeds much too high for comfort. The radar man cries out that the Starman's ship has slowed down; Zimbardo slightly relaxes.

Soon the gigantic asteroid looms ahead. Zimbardo barks out a command, and the huge airlock door opens. The ship touches down, and Zimbardo races for the control room in the Asteroid with a group of his men racing behind him. Once inside, he races to the control room and quickly presses a series of buttons and enters a numeric code. While no noise is heard [in space there would be no shockwave or no explosion noise!] all the radar screens immediately cover with snow. Zimbardo has set off a hydrogen bomb that was hidden in deep space, hundreds of miles from Tharsos: now the Starman's radar screens would be clogged and they would be unable to find him. If he's lucky, they might even think his ship hit a rock and exploded.

While the radar is fuzzed over, Zimbardo orders that the asteroid be moved out of the Belt on a set of predetermined coordinates. A whole fleet of police ships is following the Starman, and it would ruin everything if their base was discovered now. While the shielding works, Zimbardo is not going to take any chances.

Zimbardo flicks a switch and announces over the intercom that he wants everyone in the Meeting Room in five minutes. The pirates assemble there and are demoralized and upset. Victory was within their grasp, but it was all blundered away. Lurton (a charismatic leader) tries to calm the pirates, telling them that all has not been lost. He has a plan that can turn the tables; in a few days when the Starman go home they can begin again. They will get their revenge! The pirates are still upset but they are somewhat reassured; Zimbardo dismisses them to their posts.

Lurton, tired, walks down the halls past various doors and down elevators and retires to a chamber deep in the heart of the asteroid [passing, almost thoughtlessly, through two double doors with a huge, rich golden version of the Martian symbol embossed on it]. It's a beautiful place, known only to him:

"As Lurton stepped into the room he gasped; his dozen prior visits still had not taken the surprise out of the room. Each time he stepped into the Chamber he seemed to be stepping foot into another world; he knew he was still inside the asteroid but his senses told him otherwise.

Lurton seemed to be standing on a high mountain overlooking a vast plain on some forgotten planet. A pale blue sky was overhead, and a light wind was blowing. Down below on the plain he saw a river snake its way through a green forest; if he listened he could hear the water.

In the distance Lurton saw a fantastic alien metropolis of beautiful glass skyscrapers; he could just barely make out ships hovering over it and small vehicles driving around in the distance. Clouds sailed gently overhead; it was near dusk.

Lurton knew that the room was actually fairly small (no more than a hundred feet wide), but the display was seamless. He could not even make out where the door to the room had been; for all the world he seemed to be standing on another planet on a peaceful afternoon. He had never been able to find out how the room worked or where the wind came from, but he suspected the display was generated by some sort of holographic projectors.

Lurton suspected that the scene was from the home planet of the asteroid's builders; perhaps the distant city was their capital. He had spent hours watching the room and never tired of it, for the scene always changed: after a certain number of hours dusk fell and the city lights came on. He had watched different kinds of weather and seen glorious sunsets and sunrises. Occasionally he caught a glimpse of a huge alien starship; he had seen many strange things in the Chamber and he doubted that he had seen them all.

Lurton liked coming here when he was upset or annoyed; the room had a peaceful air that rested and soothed him. He was certainly upset now...

[There are a couple reasons behind this Chamber scene. It is the first hint that the asteroid base was not built by the pirates (which we led our readers to believe in AOM). It hints at the existence of an alien race far in advance of anything Lurton can believe -- an alien race that no longer seems to exist. This scene is also a nod to the Observatory at Eros in the Dig Allen series: remember the telescope? Finally, I think it's a cool place...

It would be good if we could mention that only Lurton knows about this room. Troy selected Lurton to go over the asteroid and he did -- but he kept a lot of things back. This will come into play later.]

Lurton sits and rests, gazing over the landscape at the alien city. He fumes at the Star-men and at the stupidity of Troy Putnam (he agreed to the attack but refuses to admit it even to himself). He mulls over another plan and wishes the Starmen would hurry up and leave so he could begin again. He still has plans! The Starmen will still live to regret what they have done to him. [Chapter ends on a foreboding note.]

## CHAPTER 2: First Mission

[\*]The Starmen are still inside their ship, cruising around the Belt. The explosion had just gone off and the three (with Steve who is still with them) had their discussion that's at the end of AOM. Mark radios Mars, tells them what happened, and asks for orders. Mars responds, tells them to cruise around the area looking for any signs of the ship, and to stay there until the police ships arrive. Once the ships arrive the Starmen are to head back to Mars for their mission briefing (they hint that it's too sensitive to be let out over the radio). They do so.

The Starmen are ushered into SE's amazing regional HQ on Mars (not at Eagle City but elsewhere). The HQ is an incredible complex:

"The Starlight Enterprise regional headquarters on Mars covered several thousand acres of the Martian desert. From the landing area Joe could make out the airport, the hangar, the huge laboratory and research buildings and the manufacturing centers. Men, robots and machines scurried around the plant. Security was very high; ever since the pirate attack SE had redoubled its efforts to keep out unauthorized personnel. This was the area from which Starlight conducted its Martian operations.

Inside, they are brought into Oritz Konig's office (see character file; this person is the head of SE's security division). The Starmen are surprised to see him here instead of at SE's HQ on the Moon. He explains that after the recent attack on Mars SE wanted to beef up security precautions here and so it was necessary for him to come. He flew in with the invasion fleet, actually -- speaking of which the three Starmen were wanted on Earth for some special recognition. Steve Cliff and the Titanians were already on their way to Earth; the Starmen were to follow -- but first he had a brief mission for them.

It has been about a week since the Starmen left to chase Lurton, and Konig has spent that time interrogating the pirates. Konig's men have learned that the pirates came from a base in the Asteroid Belt: but it's no ordinary base. Most of the pirates don't know its origins but they can describe it.

Many of the key, knowledgeable pirates escaped with Lurton. SE is puzzled that the higher-level pirates they have captured will not talk: some of them have hinted that the invasion is not over yet. [SE did not learn about the radar sheathing of the Asteroid; only the high-level pirates knew of it and they weren't talking. The pirates knew Zimbardo -- the real brains -- had escaped and they also had a vague idea of his plan.]

SE learned that the asteroid was not built by the pirates but was discovered by an old asteroid miner by the name of George [a good name can come later -- hey, this guy could be the miner with the antique equipment and the golliwogs!]. SE knows that something isn't right about that asteroid: from the pirates they got a good idea where the asteroid -should- be -- but it isn't there. George is their only clue, but he's a bit reclusive: an approach by the gov't might scare him off but an approach by the Starmen probably would not.

SE wants to find the pirate base -very- much; they are concerned that the pirates could cause trouble. SE would send in a whole fleet to scour the Belt except (a) the pirates would probably either evade the fleet or leave the belt temporarily and (b) SE needed all its resources to rebuild and strengthen Mars after the invasion.

The Starmen, then, are dispatched to look for George. George was well known at Ceres and shouldn't be too hard to find. The Starmen head to the base at Ceres to do some investigation.

[\*]The scene shifts back to the Asteroid and Lurton. Lurton is in an office -- not the Chamber but somewhere else. He has called together his generals and is discussing plans. He

has been discussing for a while; the reader gradually gets to hear their voice in the middle of their conversation:

"Lurton was taking with his generals inside an office, deep in the Asteroid. They had been discussing strategy for hours now. Lurton was pointing with a pen at a map of the Asteroid Belt that was hanging on the wall. The generals at the conference table were nodding their head.

Zimbardo is speaking. "...Yes, gentlemen, I think this will work. These asteroids will suit our purpose; they are near enough to Mars to work. The manufacturing work will begin tomorrow; within a week we should be ready. Once the sheathing device has been proven we can begin work on the Asteroids and rebuilding our fleet."

One of his generals looks at a stack of papers and speaks up. "What about George, the asteroid miner? If SE discovers him he could put a serious crimp in our plans."

Zimbardo looks annoyed. "George will be dealt with when the time comes. I have not forgotten him; you can leave that to me. He will never speak to them; rest assured of that."

### CHAPTER 3: Beginnings

[\*]The next day finds the Starmen zipping toward Ceres. As they get closer they are greeted with an incredible sight:

"Ceres was the hub of the Asteroid Belt. It was here that miners first arrived and were farmed out to various asteroids; this was where miners and corporations bought supplies imported daily from Mars. Ceres was a hub of activity: it was surrounded by a cloud of starships. Joe could count 40 just from where he stood...

The Starmen, of course, are noticed when they land: Starmen are hard to find and these three have just been in the news... At this point Steve Cliff leaves them; he thanks them for the ride but says he has some errands to run and some friends to meet.

The Starmen landed and began hunting for George. They eventually get word that a certain reclusive asteroid miner [here is the Fred character] is a close friend of George; he, if anyone, would know where he is. The Starmen then take off to visit this reclusive asteroid miner.

The Starmen don't take their own ship to visit Fred; the Star Ranger was built for interplanetary travel, not for traveling in the Asteroid Belt. While they could take their own ship, they decide to take a special SE ship instead that was built specifically for travel among asteroids. Zip points out that it would be safer, much faster, and wouldn't tip off the pirates about their presence.

The SE ship they take is a small, beat-up primitive passenger carrier: it's all SE had available at the spur of the moment. The SE man who gave them the ship warned them that the active shielding of the atomic pile wasn't working quite right: it was due for an overhaul but hadn't been done yet. The Starmen, then, change out of their uniforms into radiation-shielded lead-lined miner's suits to protect themselves. It was inconvenient and cumbersome, but there was no way around it. [This is important later on -- it's important that the Starmen aren't wearing their uniforms later on in the story.]

So the Starmen went off to see the reclusive asteroid miner. [Here is where to put your Fred-inspired scene!] After talking with him, visiting him, etc. eventually the asteroid miner tells them that George is working at the local asteroid mining facility Z25 [or whatever its name is].

The Starmen thank the miner, and took off in their beat-up ship for Z25. They were due to arrive in a couple hours.

#### CHAPTER 4: Activity

[\*]While waiting for the Starmen and pirates to clear from the area, Lurton was busy. The asteroid had some extensive manufacturing equipment, and Lurton was keeping the pirates busy making electronics and other strange devices. The pirates wonder what was going on: they let slip to the reader that he is building power units, propulsion units, and things of that nature.

[Editor's note: his plan is to sheath asteroids and launch them at Mars. To sheathe and aim them he needs equipment -- and he's building it now.]

The pirates are also busy reworking their small remaining fleet of spaceships; they are dismantling them, rewiring parts of them and rebuilding them. [Editor's note: they're installing the sheathing system on all ships so they can raid with impunity; the reader gets a hint that something big is going on but only a hint.]

The pirate crewmen are startled to see the ships of several other pirate/smuggler factions enter and dock in the asteroid and go to talk with Zimbardo. Rumors fly that Zimbardo is unifying these various groups for some purpose, but no one knows for sure.

[\*]At the same time, in another part of the asteroid belt, a pirate ship is heading toward an asteroid mining base. The ship is cloaked; one of Lurton's henchmen is on board and pleased to see the ship is working properly. From orders barked to its crewmen, the readers learn that the run is a test run: the pirates are testing a cloaking system by attacking base Z25 with the intent to raid it and capture all on board. The chapter ends with the base looming in the viewport and the pirates about to open fire.

#### CHAPTER 5: Attack

[\*]The personnel carrier with the Starmen on it arrives at Z25, docks, and unloads his crewmen. The Starmen are given a brief overview of the mining operations at the asteroid and then meet George. George is a bit skeptical at first; he isn't sure whether he can trust the off-worlders.

Suddenly red-alert sounds: the base is under attack. The alert only lasts for a few seconds; before anyone can send a call for help a laser beam fries the local power plant and all power goes dead. The emergency generator kicks in, and some lights are restored. Joe sees the ship hovering out the window, but when he glances down at the radarscope he is shocked to see that it isn't on the scope. No wonder no pre-alarm was given of an approaching ship...

The pirates call the base and tell them they can surrender or be destroyed. With no choice, the commander of the mining colony agrees to surrender. The pirate ship docks and pirates rush into the base and start carrying everything off. The pirates load all of the crewmem-

bers on board their ship as prisoners. They take no notice special of the 3 Starmen but simply treat them as miners; since they are dressed in miner's clothing they assume they are asteroid miners that worked at George's base. The miners, needless to say, don't bother to correct the pirate's mistake.

Soon the pirates have everything loaded up and they head into space. Before leaving they turn their laser cannons on the asteroid base and reduce it to a heap of molten metal. Satisfied, they zip off into space.

[\*]Nearby, a small ship with Steve Cliff in it sits silently, hidden, watching. When he left the Starmen on Ceres, Konig contacted him and asked him keep an eye on the Starmen. Konig was concerned about the Starmen and didn't want anything to happen to them before they could be recognized on Earth for their valor. Steve saw the whole battle and noticed the ship did not show up on radar; after the pirate ship left he radioed SE and told them everything that had happened.

## CHAPTER 6: Conferences

[\*] The location is SE HQ on the Moon, a few hours later. [Here we mention that SE HQ is located 40 miles north of Amusden City -- about 10 miles away from the Field of Obsolescence. Thus we fix the anomaly in AOM!]

Several important people are there: Richard Starlight, the President, and his advisors [perhaps Lewis from AOM]. Konig is on Mars and hence not present; Steve Cliff is in the Asteroid Belt and thus also not present. John Rwakatare is there, as is Allen Foster, Keith Seaton, and Charlie Taylor [the fathers of the Starmen]. Robert Nolan of Nolan Mining Enterprises is also present [here he makes his first appearance; at this point he's a friendly well-meaning insider].

These men would normally be scattered all over the solar system, but they were brought to the Earth/Moon system to attend a special celebration for the liberation of Mars. Now they have come at Richard's urgent call; he has something to tell them.

Richard begins by reiterating what had been learned about the pirates and their asteroid base. [We could (if we wanted) just say something like 'Richard told them what they had learned....'; we already said all this in Chapter 2.] He emphasized the estimated size of the base; the pirates must have left a lot of men behind to man it. The war, perhaps, is not yet over.

Richard then told them about the mission of the Starmen -- how they went to Z25 and were captured by a pirate ship that did not show up on radar. Gasps go up around the table; the men are astonished. Richard tells them that SE had been working on such a radar bender for decades and had failed.

To him, he said, this meant several things. First, the pirate base is probably cloaked; it can't be seen with normal methods. Second, the pirates have probably outfitted this device on all their ships; soon they would begin raids on a massive scale to recoup what they lost on their assault on Mars. Since the battle computers of the ships of Earth all track and attack ships based on radar data, it would be difficult to guard against such pirate raids.

Thirdly, it was highly improbable (the computer estimated the chance to be .00001%) that the pirates invented the radar device on their own. It was much more likely that they got it from some alien civilization: some highly advanced alien civilization. Perhaps their base was



built by these aliens, or perhaps these aliens are still alive and helping the pirates. At any rate, where the radar bender came from other things might come too -- things Earth has no defense against.

The room is silent. Everyone is stunned; when Mars was recaptured they thought that ended the conflict. Now they see that they are in still deeper trouble.

The President motions for silence, then speaks up. What Richard said is true, but that is no cause to panic. He quotes from the Bible: "Some trust in chariots, and some in horses: but we will remember the name of the LORD our God." (Ps:20:7). Our strength, he says, does not lie in superior science or in superior numbers. Troy Putnam recently placed his trust in superior strength and technology: the soundness of such a foundation can be seen by his fall. Zimbardo might have things we cannot imagine and he might do great damage, but he will only be a blip in history. Evil might have its day, but in the end it will always fall; the forces of light will overcome it as it decays from within.

He then opens the table for discussion. Does anyone have a suggestion as to how we can meet this crisis?

Voices begin to speak up. The scene then shifts to another conference in the Asteroid Belt...

[\*] Zimbardo is speaking to a large group of men -- both his own and various important pirate and smuggler leaders from around the Belt. In mid-sentence the intercom buzzer sounds. Lurton goes up to answer it. It speaks: <The ship Silver Cloud [or whatever its name is] has returned successfully from its mission, Commander. It has a load of prisoners on board.> Lurton, pleased, speaks into the intercom: <Very good, corporal. Place them in cell block 258 for now. I will deal with them presently.>

Lurton then turns back to the table and resumes his speech. "As I was saying, it is simply a matter of choosing an appropriate target to convince them we have the capability. What should our target be? Well (gesturing at a map) here, gentlemen, are the five major atmospheric generation plants on Mars. Each is valued at \$2 billion Solars and would take years to replace. If they were destroyed, SE's terraformation project would have a severe setback -- possibly as much as 3 to 4 years. The Superiors [note first hinted reference at the existence of the Xenobots!] desire such a setback very much and have requested that we make it happen. Now, data gathered from analysis has shown that the plants can be removed very easily by the proposal we have suggested. Is everyone in agreement?"

Nods around the table.

"Very well, men. We will begin Phase I in the morning."

## CHAPTER 7: The calm before the storm

[\*]The next day has dawned. Inside the asteroid, a buzz of activity is going on. Manufacturing has gone into full swing. The inside dock is once again filled with hundreds of spaceships -- pirate and smuggler ships gathered from all around the solar system. Generals are in conference, pouring over maps of the system and suggesting where raids should take place.

From a window in the wall of the asteroid, the three Starmen look down and see the furious activity of the pirates. They chafe from inaction. They want to do something -- anything

-- to stop them. [They know they are in the secret base, but they have no idea where in the Belt it is located -- or that it is of alien manufacture. At one point Zip proves his ignorance by commenting that the pirates must have worked like bees for decades to build such an elaborate setup; no one disagrees.]

Zip and Mark and Joe have a discussion with George, who is now more trusting. He tells them how he found the asteroid on a lonely mining trip, and how he went back to Ceres and started spreading the tale around. No one believed him -- or so he thought. He was a reclusive old man (an old prospector) and so he just shut up about it. He went back, but he was tailed: some men took him aside and explained that it would be healthier for him if he didn't spread the word around. Since no one believed George anyway he just shut up -- but now he is eager to help defeat the pirates.

Zip, talking with his cellmates, finds that they, too, want out and would be willing to take part in a plan. He draws them into conference and begins to discuss a plan in careful whispers.

[\*]On other parts of the solar system, feverish activity has begun in response to the special conference on the Moon. All places are at a state of red alert and under full guard. Interplanetary travel has been temporarily halted; valuables have been locked down in deep underground vaults. The Asteroid Belt is being evacuated under command of Allen Foster, specially brought out from retirement.

Earth has realized that it cannot defend itself against an attack from ships it cannot see, and has chosen to minimize losses by withdrawing. By evacuation they are also hoping to give Zimbardo too much confidence and cause him to overreach -- and then Earth would come back in force.

In SE labs, scientists are working around the clock to alter spaceships to where they can track objects via sight instead of radar. Also, technicians working under Stephen Hoshino [here he makes his first appearance!] and Keith Seaton are busy trying to find a means of detecting a ship that can't be seen on radar; so far they have had little luck.

The planets are waiting for a strike they know will come. The system is in heightened suspense, waiting, wondering...

## CHAPTER 8: The storm strikes

[\*] In Zip's cell, the men have a plan. The asteroid is a hive of activity; ships are being loaded with equipment and about to take off. Now is the chance to make a break for it if they ever will. George said that, if he remembered correctly, this prison block had two exits: the main one and a special vent in the wall. If they could disarm the guard, they might be able to make it through the vent -- he knew it led to another section of the asteroid but didn't know much about that section.

The prisoners, using an old trick, make a huge racket and act like they're killing each other. The door opens and guards rush inside -- and are soon disarmed and knocked out. Now armed, the prisoners rush out. A red alert sounds over the asteroid; a computer blares that the prisoners have escaped. The prison block seals itself; it looks like the prisoners are trapped...

Down below, the pirates on the launching field have stopped, unsure of what to do. Lurton blares over the intercom to get on with their work and take off. He then sends a squad to subdue the prisoners. Guards rush down the corridor toward the single entrance to the prison block.

Inside, Zip shoots the vent in front of the air duct; it turns into molten metal. He then gets down and quickly crawls in; the other men rush in behind him. A few men stay behind in the prison to give the Starmen a better chance of fleeing; they knew they would be captured quickly but every second counted -- the fleeing Starmen need to get as far away as possible before the pirates brought out robots. The prisoners who stayed behind slide a bulky filing cabinet in front of the air duct to try to hide it.

Crawling through the duct, Zip heard the asteroid shake as the fleet lifted off. Closer, he heard lasers firing. The men were having a standoff; he prayed that they were all right.

He spotted a vent leading down. He lasered it, then dropped down through it. His men followed. He was in a darkened corridor; very pale lights gave a dim glow to the area. A thick dust on the floor gave him the impression that no one had been here for ages. Barking out a command, he ran down the hallway. Behind him he heard muffled shouts; the pirates had discovered the vent. Before he turned the corner ahead he heard a sound that made his blood run cold: the pirates were sending a robotic flying Seeker after them...

The Starmen and the group with them are running down the corridor, desperately trying to get away from the Seeker. They hear it following behind them; it starts shooting bright laser beams at them down the hall. A few men turn around and try to shoot at it, but the Seeker easily dodges the beams. Soon they see another one... and another... Things look grim.

Turning a corner, Joe spots what looks like an elevator to the site. Shouting to the group, he runs up to it and presses the button. It opens. The men pile into it. Quickly, Joe scans the panel inside: it has dozens of buttons. George has been here before; he remembers that at one particular level he went to there were some weapons and maps. George pressed the right button.

The elevator takes them down. Above them they hear frying metal; the Seeker has fried the elevator door and is trying to cut its way into the shaft. The metal is resisting the Seeker's beam but it won't hold out for long.

When the elevator arrived the men pile out. Joe pushed one of the lower buttons and sent the empty elevator down, hoping the Seeker would lose track.

Once inside, they quickly spread out to search the area. Unlike other floors, this one looks recently inhabited: it is somewhat clean and doesn't have the same air of decay. There are no pirates to be seen, however; it is now deserted. Zip is uneasy.

One of the men runs up and says they have found some sort of control room. Zip goes to look and finds out that he's right: it seems to be some sort of monitoring room. There are maps of the asteroid, grid designs, databanks... There is nothing with which to control anything, but a complete layout of where everything on the asteroid is located.

Another man comes up and announces that he's found a cache of food and weapons. Zip goes to look; the food and weapons are foreign to him but they will do. Now they are armed and have supplies; with luck they can rest and plan a course of action. Perhaps they have a chance against the pirates after all.

Above, Zip feels the asteroid shaking. The pirates must be launching... he wondered where the ships were going.

## CHAPTER 9: The Attack

[\*]Pouring like flies out of the mouth of the asteroid, hundreds of pirate ships flew into space. They divided into five distinct groups and flew away. Lurton was not on the flight; he remained behind at the base and sent his subordinate. The group his subordinate was on headed toward a more desolate area of the Belt. Upon arrival, the fleet spread out and vaporized the electronic satellite observers that had been placed in the area. [They were placed to watch asteroids and send data to ships about their location. They could detect heavy masses by gravity; the pirates did not want this. Also, the sat's knew where asteroids were supposed to be and would know if one was missing. This is explained later.]

The pirates encountered a few ships, but not many. Most of the pirate ships spread out in a huge sphere guarding a central asteroid -- a dark 1000-foot wide clump of dirty rock. Quickly, a massive pirate ship docked at the asteroid. Crewmen got out and began tedious construction work on it. [They're trying to install sheathing and engines and power plants to run the sheathing so they can launch the asteroid at Mars. The reader gets the idea something important is going on but nothing clear just yet.]

The job is eventually done. Quickly, the pirates load up and go back to base. The sphere of ships guarding the central asteroid then fanned out and started on a wild raid through the Belt.

[\*]Hours later, Richard (or some other important character) stood by a data readout at SE HQ. The losses were heavy in the Belt, but less than expected: their precautions and evacuations had largely successful. The pirates did not have the fuel to leave the Belt en masse, and hopefully before they could mine it a way would be found to neutralize them.

What puzzled him most was that the first thing the pirates did was destroy the satellite observers in the Belt. The observers were no threat to the pirates; they served only to help a ship's computers know where the asteroids were. [Here we would tell what the sat's were for.] Unless there was something about the sats that the pirates did not like...

## CHAPTER 10: The plan

[\*]Back at base a few days later, Lurton is pleased with the progress. All ships have returned and have brought in a lot of supplies. Everything has gone to plan; he is happy.

At a central computer terminal, he makes contact with the asteroids he has engineered. He then has the asteroids nudged out of the Belt and begin their trek towards Mars. They will start arriving within a week and a half, and he is pleased. [Before the reader only has hints; now Lurton's plan is plainly showed.]

Lurton also has his asteroid base (which he is in) change its direction: he puts it on a collision course with Earth. [This was never even hinted at; it should come as a total surprise to the reader. Think: climactic moment here!]

[\*]Underground, the men have eaten and rested. For the past few days they have explored their floor and searched for any equipment. They have seen no sign of the pirates or a Seeker; Zip wonders why.

The men wonder where the asteroid base came from. At first Zip thought the pirates built it, but the equipment design and weapons he has found makes him guess that the pirates simply found the base and used it. The language on the labels and documents they have found is like nothing they have ever seen; Zip suspects that an alien culture built this rock for some unknown purpose. Zip also suspects that someone is still living on the asteroid: the pirates obviously don't know about the floor they are living on (they would have taken the weapons, etc.) and yet it is clean without dust, and the equipment is in good repair. No one knows if it is just an asteroid miner or if the original builders are still around, but Zip suspects they have an unknown ally hiding in the shadows - an ally, for the food was fresh and obviously set out for them. Then, too, something happened to the seeker...

The men devise a plan. Mark has been analyzing the readouts from the power plant of the asteroid. He thinks he understands how the power and propulsion system works and could deactivate it. If they could control electricity, the pirates would have to surrender: without power they can't run life support and wouldn't last long.

The problem is that the power system is well guarded and deep inside the pirate-occupied portion of the base. They will have to create a diversion to draw off forces, then work their way toward the power core. It is a desperate job, but they decide to try it.

## CHAPTER 11: The attempt

Late that night, the men start creeping down a corridor. The elevator isn't the only way out; George knew of a secret access corridor that lead from their section to the pirate occupied section.

The men have been divided up into groups. The three Starmen have had the most training with large energy systems; they have been put together with the group that is to approach the huge energy core. The others have been put in a group that will attack the central command post. The hope is that a direct attack on the command center will convince Zimbardo the attack is directed there, and draw off troops from other areas.

The attack commences and soon a furious battle is going on. Zimbardo is upset with the attackers; he does call up troops to attack the invading group - but then as his pirates and the miners begin battle he remembers the atmospheric controls. Why not just put a sedative in the atmosphere? It would be easy to knock all the miners out.

This he does. Slowly the miners are overcome and drop. The battle is soon over; the miners lost.

David, near the power, hears the battle above and then hears the noise die off. The troops were not called away from the core; something has gone wrong. There are too many pirates to break through and capture it; he is in trouble. He can't capture it now; he'll have to try again later.

He starts to call his men to retreat, but a red alert sounds. Zimbardo has discovered that some of the miners were not present; he has ordered all areas sealed off and the asteroid to be searched. Zip realizes he can not make it back to his 'base'; he will have to try something else.

Quickly, Zip tells the group to make for level B. The electronic map he examined showed that a small escape ship was stationed there for emergencies - and this is an emergency. It's not big and it can't go very fast, but it's a start.

David and the group (George is there) manages to fight their way to the ship, get in, and leave. The ship launches out in space. The men are free at last! Cheers erupt - and are quickly silenced when a laser beam cuts in front of their ship, almost hitting them. Their ship isn't cloaked; it's open for anyone to see...

## CHAPTER 12: Flight

[\*]Back in the asteroid, Zimbardo was in the control room when an alarm sounded: the emergency ship at level B had left base. Zimbardo realized that the miners had left the base: this could ruin their plan entirely. Furious, he dispatches a host of pirate ships to go out and look for this one ship. He also sends out a fleet of unmanned robotic drones. At all costs they must find this ship!

At first they see it and start shooting at it, but then they lose sight of it. What happened? The pirates are uneasy.

[\*]In the small escape ship, David talks with the few men he has with him. There are seven men there: the three Starmen, George, and three capable miners. They managed to elude the pirates, but they are in trouble. The pirates are after them.

Moreover, David discovered that all the communication satellites in the belt have been destroyed; there is no way he can radio for help. The little ship he is on doesn't have the power to radio directly; asteroid ships were built only to reach the comsats which then relayed the message. Something has happened in the Belt; Zip suspects that the pirates have taken it over but he and his men aren't sure. If they have taken it over, Earth is in grave danger: and so is Zip, who is millions of miles away from help and has probably been given up for lost.

A conference is held and Zip asks the men what they should do. The asteroid they escaped from is already at the outer fringes of the Belt and well on its way to the orbit of Mars. They decide to head back to the Belt and look for help there; they reason that there is certainly no place for them to hide in deep space, and they think there might still be friendly forces in the Belt. [Remember, they have no idea what has been going on.]

They need to get in contact with SE: they have a lot of valuable information, and perhaps SE could tell them how the Starmen could best be used. Mark has a digital copy of the layout of the asteroid, combined with information on the power plants, propulsion structures, and sheathing equipment...

## CHAPTER 13: Impact

[\*]A week later. Out in space, an asteroid [not the big pirate base] is flying towards Mars. It gets closer and enters the Martian atmosphere. Down below is a huge atmospheric generation facility, used to help generate and sustain the atmosphere of Mars. The asteroid hits the automatic facility and pulverizes it easily, creating an impact greater than a thermonuclear warhead. Massive shockwaves are sent out around the area.

Other asteroids are screaming through space at the same time. One hits and pulverizes another atmospheric facility. A few hours later another one hits, and then a third one takes out the last major atmospheric facility.

Later: the public is in an uproar. No one understands why the asteroid weren't spotted; none of them showed up on radar. People are upset that it hit the atmospheric facilities; it means a huge loss for Mars. SE estimates that it will take years to rebuild it. People on the news think the asteroids were definitely planned by the pirates and aimed carefully. They speculate that the asteroids were seen on radar but that someone screened it out: perhaps there are still pirate traitors at Mars. A manhunt is launched; SE checks everyone out but finds nothing. The public is upset and worried.

The people on Mars are furious and frightened. The leaders of Mars are very worried; all their atmosphere machines have been pulverized. The atmosphere on Mars won't vanish overnight, but it means a huge loss to the terraformation program. They are also frightened that someone could just take out all those facilities like that: it wasn't spotted on radar. They don't know what to do. The people of Mars are panicking and there is general unrest.

## CHAPTER 14: Hope wanes

[\*]Back at the ship, it has been a week now since the little band set out. Since then they have come across a number of asteroid bases; all of them have either been completely deserted and emptied or else they have been turned into molten slagheaps. So far there has been no help and they have seen no friendly faces. Supplies are beginning to dwindle; they still have no idea what is wrong in the Belt but it looks like it is firmly in pirate control. Pirate ships are everywhere; Lurton left behind a large portion of his fleet to guard his holdings. The men are getting worried; it looks like the pirates have driven SE out of the Belt altogether. It looks like repelling the pirates from Mars wasn't enough to stop them: in the end they got the Belt anyway.

The men are tempted to despair but decide to press on. Joe knows of a secret SE base in the Belt where some ships and equipment are kept for emergencies. Perhaps that base has been left untouched. They decide to make for it; they cannot keep hiding from the pirates forever.

Mark and Joe have been working on setting up a sheathing system for their ship to keep it cloaked. From spare parts they finally got one to work, but it doesn't work all that well: although he had the plans he didn't have all the right parts, and his model tends to fail at the wrong times. It cloaks the ship from some radar beams but not from the more powerful, complex ones. But it's a start. The secret asteroid is well within pirate-held territory; they need the shielding to make it to the base.

## CHAPTER 15: The ultimatum

[\*]It is the next day. The solar system is in an uproar over the asteroid attack on Mars. Lurton beams a message to the populus that at 8 PM that day he would go on the airwaves with his demands.

At precisely 8 PM Lurton (who had found a way to break into the Comsat satellites around Earth) broadcasted his message to all people on Earth, Mars, Moon, etc. His message this: he, Lurton Zimbaro, was behind the asteroid attacks on Mars. He has found a way to cloak asteroids; no one could detect anything guarded with his equipment.

Lurton tells the public that he has installed his sheathing equipment on an asteroid a hundred miles wide. He then launched that asteroid on a collision course with Earth. This asteroid would hit Earth in 31 days and cause immense devastation, possibly cracking the crust of the planet and wiping out all life on Earth.

He, Lurton, is willing to give Earth a choice. If they surrendered all control of Earth to him, he would stop the asteroid and change its course. If they did not, he would let the runaway asteroid continue on its course and Earth would suffer the consequences -- and once Earth was in shambles he would just go ahead and invade. Either way, Earth would be his.

Lurton's message initially causes rioting and panic all over Earth. The people are very upset, but they gradually pull themselves together and begin to seethe with furious anger against Zimbardo. The President holds an emergency conference with SE and asks what the chances are of discovering the asteroid. SE says they might be able to do it; they have some leads they intend to follow up.

Robert Nolan (present at the conference, and of NME fame) urges the President to give in to Zimbardo, saying it is folly to play such a desperate game with the lives of billions of people. Zimbardo is a crazed maniac: if Earth defied him Zimbardo really might let all life on Earth die. Find the asteroid in 30 days -- impossible!

But Richard overrules him, saying they cannot give in; SE has a chance to find the asteroid. A man as desperate as Zimbardo, willing to destroy an entire planet simply to satisfy his own greed, would be an evil ruler on a scale unknown to mankind: so long as there is a slim chance of defeating him it must be taken. Earth must not compromise with evil.

The President then addresses a joint session of Congress and says that Earth will not give in to Lurton's demands. He gives a moving speech that is broadcast to all the system. The people cheer: they are furious at Lurton and support the President's decision.

[\*] Back at his base, Lurton is angry at the blunt refusal but is determined. He bides his time; he thinks that Earth might change his mind. He has enemies within the Earth government that will try to spread despair.

At this point the asteroid is between Earth and Mars (millions of miles away from the Belt and the Starmen) picking up speed. Lurton has the thrusters on full-blast and is accelerating. The asteroid should hit Earth in 30 days.

## CHAPTER 16: The search

[\*]SE gets together, forms a plan to find the asteroid. SE, working with Stephen Hoshino, comes up with an idea to make millions of little space probes (each about the size of a microwave). The idea is to release these in a systematic fashion over millions of square miles. They know the weaknesses of the sheathing from various pirate raids: ships using it can be seen, and the ships still have a gravitational pull. With the data from these probes they hope to get a picture of space and detect any massive objects that shouldn't be there -- the pirates can't hide the gravity of the asteroid!

SE [and Keith Seaton, Charlie Taylor and the Rock are in on this] begins to manufacture these probes by the millions. They are small things, about the size of a microwave. Each



has radar and gravity instrumentation. They are all connected by a neural network and thus act as one, with all data being fed back to the local ships accompanying them.

[Time until impact: 26 days]

[\*]In the Belt, David and his men are still cruising through it, trying to make it to the secret base. Pirate ships lurk everywhere. David has tried to elude the pirates, but they seem to know the general area in the Belt where he is. In a daring move he tries to break through their ring of forces and give them the slip. He almost makes it; he would have made it, except that one of the larger ships there spotted them with its more complex beam. The little ships can't see him, but the big ship can and starts shooting at it, blowing up asteroids and grazing the ship. Shrapnel from asteroids hits the ship and seriously damages it.

The ship manages to escape and get away, but the pirates are still tracking them. It's clear that they cannot hold out for much longer. They are rationing food severely, their fuel is low, and their ship is damaged. Moreover, the reactor core temperature keeps climbing higher and higher...Mark tries to get it under control but doesn't know how much longer it will last.

## CHAPTER 17: The pirates attack

[\*]The devices are loaded onto a series of huge cargo ships. The whole manufacturing center is densely guarded with ships flying overhead, armed guards, etc. SE is taking no chances. [Time until impact at this point: 24 days]

On liftoff, the 6 SE cargo ships take off into deep space accompanied by several squadrons of fighters. The actual cargo ships are robotic with no personnel on board, but there are many men in the flagship leading the way and in the surrounding fighters. The formation is roughly a sphere with the cargo ships in the center. All ships are on Red Alert.

Suddenly alarms go off. Sensors have detected gravity fluctuations: there is a fleet of pirate ships in the vicinity. SE has managed to produce a visual scanner that can provide a good idea of the location of 'sheathed' enemies, and here it proves its worth.

A fierce battle ensues. The pirates are beaten off, but not before the six cargo ships are pulverized and blown into pieces.

Oddly, the fleet commander [perhaps the same fleet commander in AOM?] doesn't seem too upset. He orders the ships to proceed to the rendezvous point. They do so, and the crew, puzzled, discusses what happened.

A few days later, they arrive at the point between Earth and Mars in deep space and find several cargo ships waiting there. [Given Lurton's deadline SE has a rough idea where the asteroid must be; plus they were able to trace the signal from the asteroid to figure out what general direction it was in.] It turns out that the whole thing was a feint: while the pirate's attention was focused on this huge armed squadron, the real devices were dispatched on ordinary cargo ships. Those ships arrived just fine, and the devices were preserved. [Time until impact at this point: 21 days]

[\*]The Starmen [now quite hungry and famished] on their dying ship are in trouble. In a last-ditch attempt to get to the asteroid before they run out of fuel, they race in a beeline toward it in the open. They no longer have the fuel to dodge them and sneak around; the last battle fried

some fuel tanks. It's a desperate move but they try it. They can see [visually but not on radar 'cause they're cloaked] pirate ships in the distance - but no big ones.

They made it: they entered the secret colony. Cheers erupted. They looked over it and found that it was in pretty good shape; there really is a mothballed war-class starship in it, plus fuel and food. It doesn't look like the pirates found this base. The Starmen and the miners with them get it out and start working on it.

On the long-range interplanetary radarscope, Zip noticed that there was a huge mass of SE starships between Earth and Mars. He can't imagine why; he would try to contact them via radio but there were no satellites to bounce signals off of [they were all vaporized by pirates, remember]. He chafed at the delay; they were so close...

## CHAPTER 18: Release

[\*]Now the real work begins. The technicians release the probes. [The Rock is not there; he is at SE running operations there. Keith Seaton also stayed behind; he can't leave the moon, remember. Charlie Taylor could go, though.] Several squadrons of fighter ships guard the probes; the gravity scanners have been perfected now and the enemy pirate ships can no longer hide. The pirates make another attempt, but they are easily driven off.

Time is going on, however. They have so little time -- so little time! [Time until impact: 20 days]

[\*]Lurton began to be worried. SE was dead-on in its calculations; they are very close to the Rock. It would only be a matter of hours now before they found the asteroid, and he could never hope to fight off all the forces of Earth. He could not change the course of the asteroid without making the rock miss Earth altogether. He had to try something desperate to keep them off, and he had a plan.

The probes SE was using to find the asteroid were rather delicate things; they could easily be flooded by a strong burst of EMP (electromagnetic pulse). The asteroid had a lot of equipment on it; he was certain he could create such a wave and fry all the electronics of the probes.

His engineers warn him that would be highly inefficient and would take a lot of power; they aren't sure they can pull it off. But the men are getting closer: they have little choice.

[\*]Back at SE, the people are getting more excited. Their nets are drawing closer; it's only a matter of time now... Then, suddenly, a powerful signal sweeps through the system. Outside the ship, the probes explode in little flashes of light. The ships have enough shielding to protect themselves, but the probes did not: in seconds the entire grid goes dead. It is heartbreaking: the deadline is so close that there's no way they can make that many more probes in time. Besides, the delay would give Lurton a chance to move the rock; they would never know where to look for it in all the millions of miles of space... It looks like they have lost.

## CHAPTER 19: -- with mixed results.

[\*]But the power surge was too much; Lurton overloaded the asteroid's grid and all power went out. The sheathing system died; the asteroid [only a few hours' journey away from

the fleet position; remember, it is no longer out at the Belt but instead between Earth and Mars and quite close to Earth] was immediately spotted by SE.

Lurton tried to repair the system, but the power plant was just a mass of molten metal: it would take weeks to repair. Lurton immediately orders evacuation of the asteroid. Everyone (except for the miner prisoners which were left behind) boards a small fleet of starships he had gathered, and they race off into deep space.

Lurton is upset but not too upset: he could no longer run the asteroid, but neither could anyone else!! The power system was in shambles; it was impossible to run the atomic drives without weeks of repair work. The asteroid was already far too close to Earth to be diverted by an atomic blast; a blast would simply blow the asteroid into fragments -- and the fragments would then pulverize Earth just as well. Earth was trapped; all Lurton had to do was bide his time until the asteroid hit -- then his forces holding the Belt could sweep into the shattered Earth and take over at last!

[\*]When the asteroid shows up on radar there are loud cheers. The entire SE fleet immediately heads toward the asteroid. When they see the pirates rush out, the fleet splits in half: half chase the pirates into space and the other half descends onto the asteroid.

The men are in awe of the huge, obviously alien place. They quickly organize a search and mapping mission and find it deserted -- but also discover with crushed hearts that the power plant is dead. They had pinned all their hopes for diverting the asteroid onto using its drive system, and now that can't be done...

There is a conference at SE HQ concerning what to do. Preliminary studies and records on the asteroid indicate that it easily has power to divert itself. However, the drive system is totally alien; no one knows if it can be figured out and repaired in time.

SE decides to give it a shot; it's their only hope. [Time until impact: 19 days]

## CHAPTER 20: Haste

Hordes of engineers [including Jesus Montoya; he would be useful and this would be a good time to introduce him, while workers are worried about the decimation of Earth] and mechanics descend onto the asteroid to investigate and study it. Submicroscopic robotic probes are used to provide detailed maps of the wiring, machines, and other equipment on board. Data is sent back to SE and it is debated. Plans slowly form, experiments are done. Everything is hurrying along. Concern grows: they discover that the rock will hit Earth within 16 days.

[At this point we might want to mention that many people on Earth had been mass evacuating to the Moon, orbiting colonies and other places. All ships leaving Earth leave with a full load of people; SE thinks it can divert the asteroid but wants to evacuate as much as possible in case they fail. They can't move very many people though...]

Other Starmen are on-board the asteroid, coordinating teams, working on engineering, managing security, and generally applying their specialized scientific knowledge wherever it is needed. The Holochamber is discovered and awes them, but they put it aside until later.

Cargo ships with equipment begin arriving at the asteroid. A few days go by; there is now only four days to the point of no return. The equipment is hurriedly installed and checked out. Will the system work? Engineers feverishly install the new plant and try to ignite it.

The plant revives the power grid and restores lights, shielding, etc. to the asteroid, but it is not nearly enough power to engage the drive. The rock moves, but not nearly enough; something isn't right. [Time until impact: 11 days]

[\*]The starship Zip and his men. found is at last repaired and ready to go. They leave the asteroid and find that the SE fleet is engaged in a heated battle against the pirates in the Asteroid Belt [when the fleet divided in half to chase the pirates, the pirates went here: the fleet followed]. They quickly join in and radio their friends that they're back. There are cheers; there had been [to say the least!] grave concerns over their fate.

The battle is going very much against the pirates. The pirates, demoralized yet again and vastly outnumbered, break apart and start to flee for their lives. Some ships surrender and are captured. The ship carrying Lurton veers off at high speed and heads out beyond the Belt. In the general chaos of trying to round up the pirates, his ship is missed [and this doesn't exactly please the fleet; all of Earth hated Lurton for his threats].

David and the men with him board the SE fleet's flagship and talk to the commander. One of the first things said is that Mark has a data disk detailing the asteroid - including the power plant. The data is rushed to the asteroid over the RTT hyperwave system; the flagship and fleet then heads to the asteroid at top speed. Mark knew what the power plant was like and how it worked before it was destroyed; with the data he provided and his own personal knowledge, perhaps he could fix the problem and divert the rock before it was too late. [Time until impact: 11 days]. There is grave concern: it will take them 8 days to get from the Belt to the asteroid. The rock will hit Earth in 11 days, but the point of no return is only 9 days away [if the asteroid is too close to Earth it can't be moved away in time]. Once the Starmen arrive they will have only 24 hours...

## CHAPTER 21: One last try

[\*] The Starmen arrive at the asteroid with 24 hours left. The plant has been rebuilt according to Mark's ideas, but when they tried to engage it the plant failed: it produced no power at all. Mark and SE had discussed it via radio but it hadn't helped. Now Mark is brought to the physical plant: can he fix the problem?

Feverishly, Mark checks out what they have done; it looks good. Then he suddenly realized something: SE has built the plant to route power directly to the ship's drive, since (when the plant melted down) that seemed the most efficient thing to do: it made sure all power was channeled to the drive. Mark remembered that the original system didn't do that; it channeled the power through a couple different machines first at various parts of the asteroid. This wasn't on the plans because the plans were of the power plant alone, not of the whole electrical grid. Perhaps this is the problem; he can't imagine what the devices would do but it's all they have.

With a desperate hope, the engineers go into the plant and rewire it according to Mark's idea. The work is difficult: it takes 12 hours before it is ready.

With worried, drawn faces the plant is started again and the drive is engaged. Mark is out of ideas: if this fails then they are sunk. There might be 12 hours left, but they might as well be 12 minutes... But it works! Power surges through the system and the drive is activated. New coordinates are fed into the course computer. Slowly, but with building speed the asteroid shifts

its course. With cheers and relieved expressions, the asteroid is diverted into an orbit around the Earth. The Earth was saved!

## CHAPTER 22: Thanksgiving

[\*]The President declares a national holiday of thanksgiving and praise to God. Cities celebrate; everyone is very happy. The thousands of crew and technicians that were engaged in finding the asteroid and diverting it were roundly praised in a huge celebration at the Capital grounds and, one at a time, awarded medals.

At this point the three Starmen and the crew that landed on Mars and liberated it were gathered together and thanked for their efforts that were so pivotal to the victory. At last, the pirate threat has been finally defeated; Earth can rest easy.

But the three Starmen are not so sure. Joe tells them that one of the ships got away -- the ship with Lurton in it. It was last seen heading out beyond the solar system, in a region where there were no known planets. He might have lost his power, his base and his men but he was still dangerous and a potential threat. He might be gone but he was not forgotten: the Starmen were going to find him, someday...

But today they rejoiced.

## The Letters

The following are a number of the letters the Starman team exchanged while writing the second Starman book. These are not all the letters we exchanged by any means; these are just the most interesting and most pertinent ones.

*DATE: THURSDAY, MAY 11, 2000 1:09 PM*

I've been gathering ideas for new names as you can see above. Sim Sala Bim was a neighbor of mine in the 1960's--a professional magician. Sabbath George I can see as an asteroid miner who is known for "keeping the Sabbath"--he can be our first overt believer. Montezuma Vly is actually a street in a town in the Anza-Borrego Desert, Vly being an abbreviation for Valley. And Beowulf Denn will obviously be called Wulf Denn--he can be a bad guy of some kind. What do you think?

*David*

*DATE: MONDAY, JULY 24, 2000 11:24 AM*

> *Didn't ask about doing a forward for #2<sup>58</sup>; I thought I'd wait until he had read  
> #1 first.*

Good idea; but his<sup>59</sup> comments about seeds already sound like a good beginning for a forward!

*David*

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<sup>58</sup> The second Starman book.

<sup>59</sup> Paul Greene's; we had asked the son of Joseph Greene, the author of the Dig Allen books, to write an introduction to *The Runaway Asteroid* for us.

DATE: WED, 9 AUG 2000 22:39:33 EDT

Dear Jon and David,

About the laser light going into the crystal ball.....You are right that laser light (being of one frequency) will not scatter into a spectrum of colors like sunlight (or whitelight) through a prism.....HOWEVER, laser light CAN hit impurities (like you say, flaws) and cause secondary emissions of light of all sorts of color (more impurities, more colors)...not unlike a blacklight on a fluorescent poster. I suppose we could have any impurities we want in our crystal balls. Perhaps you may have meant MECHANICAL flaws in the crystal may cause the light spreading.....this I am less certain about....."crystal" inferring the LACK of flaws in the lattice...I will check on it. If crystals can have significant internal flaws, then you are right...the light could be mechanically diffracted....but I doubt the frequency (color) would be changed that much.

Mike

DATE: WED, 09 AUG 2000 21:44:31 -0700

> *HOWEVER, laser light CAN hit impurities...*

Good. This is really what I had in mind, I think. I looked over the text again and it doesn't say that it is the laser light that is refracting, but it doesn't make it clear that it's not, either. I'll write a bit more clearly to indicate that it is the impurities that are the source of the light.

> *Perhaps you may have meant MECHANICAL flaws...*

I got the idea because I remember visiting the Smithsonian Institution in 1967 and seeing this huge crystal ball, over a foot in diameter. It was described as the largest ball without impurities known in existence. So I inferred that there must be balls of whatever size that DO have impurities--cracks, grains, bubbles, whatever. I'm thinking that Vly's ball will have invisible mineral deposits or something trapped in the crystal which react to light. It was mined on Adamant, the asteroid around which Montezuma's Castle rotates and its parent body, so we can invent some plausible explanation, perhaps, for the phenomenon, since it does not originate on earth.

David

DATE: THU, 10 AUG 2000 13:55:50 -0700

Dear Jon and Mike,

Today I read aloud the Montezuma Vly portion of TRA to a friend. It really helps to read the text aloud,<sup>60</sup> as I made several minor revisions in the text. I also revised the portion of the text dealing with the laser in the crystal.

Definite--a draft of chapter one by the end of the day.

*David*

DATE: FRI, 11 AUG 2000 08:16:20 -0700

*> I liked the way the chapter ended: the beauty is very apparent.*

I hope you like it! Almost all the words there are yours. I changed your summary very little here. It is indeed very beautiful--a great scene! Gave a good opportunity to display Zimbardo's emotional depth, which can happen only when he's alone and protected. He's a hardened, self-protective, emotionless villain who has concealed and suppressed his emotional side but can't obliterate it for good.

*> I also think that #2 is well enough defined to allow  
> the reader to figure out what's happening even if  
> he's never read a Starman book before.*

Do you really think there will be anyone who will read [book] #2 without having read [book] #1? I suppose it's possible. I'm trying to allow for that possibility, just in case<sup>61</sup>.

---

<sup>60</sup> In fact, it helped so much that we eventually formed a reading group that we read the manuscript of the books to as they were being written.

<sup>61</sup> As a matter of fact, each book in the series has sold fewer copies than the one before it. This is to be expected. Detailed research performed by others has shown that the same phenomenon occurs in every series, included Tom Swift, Ken Holt, and Rick Brant.



> *I think the only thing we'll need to be careful of*  
> *is that \*early on\* we clearly explain what side the*  
> *reader should be rooting for.*

Won't be a problem, believe me. Chapter 2 will make it very clear, just in case there is any doubt left from Chapter 1. Interesting that so far our books begin with the bad guys.

Glad you liked it, Jon. So did I. I think it'll be better than AOM.<sup>62</sup>

*David*

*DATE: FRIDAY, AUGUST 18, 2000 11:24 AM*

Dear Jon and Mike,

I'm glad you got the second chapter, Jon. I realized after I sent it that I'd sent it to wv-cis and not your other server--but I didn't have that address on file anywhere.

Good insight into the characterization of Konig. I'll flesh him out a bit.

I also questioned the [Starlight Enterprise] Base appearing suddenly in TRA when there was no mention of it in AM. The concerns your father raised, Jon, were mine too, but I didn't think to bring them up--I'm glad he did. And your explanations are very credible. I'll work them in somehow.

Sometimes we're going to have ideas that are terrific additions to the story line, but which logically ought to have been mentioned earlier if we'd thought of them before. Nothing we can do about that except just keep going, I guess, and make the new idea as plausible as we can.

> *The characterization in TRA is much better, David: you're doing a terrific*  
> *job.*

---

<sup>62</sup> Assault on Mars, the first Starman book.

Thanks. Chapter 3 is already started and in a day or so should catch up with the point where the Starmen find Montezuma's Castle. Then, of course, we'll move on to Sabbath George, aka George St. George. There's a real person I'm basing George on, too.<sup>63</sup>

Blessings!

*David*

*DATE: FRIDAY, AUGUST 18, 2000 8:08 PM*

Dear Mike and Jon,

Here is the dedication I've drafted for TRA. If you both like it, I'm happy with it. And I think that we ought to just put it in the book without telling anybody so that it will be a surprise--especially to Fred who, I am sure, will be deeply moved by it.

All of your comments on the SE<sup>64</sup> base on Mars are well-taken. I would suggest that, as a result of AOM, SE decides to build a secret base. My thoughts are that SE would definitely have a strong presence on Mars, that it would be separate from Eagle City, and that it would be near the north pole--in the TRA text I put it there because of the recent discovery of possible water close to the surface there. I think it would have been sabotaged by the pirates but because of the high quality of SE's security most personnel would have been loyal--therefore at Mars Base there would be only a few traitors but they would be smart enough to shut the base down for a time. This is how I rewrote the passage. A secret base would not have been thought of before the piracy because no one would have thought there was a need. Remember that everyone in the Earth-Moon system was completely surprised when the pirates attacked! This kind of thing was just not done in the 22nd century. However, since it WAS done in 2151, maybe Richard Starlight or someone would suggest that, since the pirate incident had taken place, SE should produce a small, secret base somewhere on Mars whose knowledge was restricted to Starmen and a few others. Could be mentioned in the next book or two, and then become a factor in The Lost Race of Mars, book #5. Maybe this is one reason why

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<sup>63</sup> Most of the secondary characters are based on real people. In many cases, their photographs are posted on the Starman website in the "Images" section. The characters may be based on real people for their appearance, their name, or their personality type, or a combination of the three.

<sup>64</sup> Starlight Enterprise

Ortiz Konig is at Mars Base. If you two like this idea, should Ortiz mention this purpose to the Starmen in chapter two of TRA? My feeling is, why not?

Congratulations on the NASA experience, Mike! Someday I hope we can all get together and share these things. I'd love to see your zeppelins and what you can do with them.

*David*

*DATE: FRIDAY, AUGUST 18, 2000 9:34 PM*

Dear Jon and Mike,

Here is the first draft of the beginning of chapter three, which should bring us right to the point where the sample text begins--the approach to Montezuma's Castle. How does it sound?

Jon, regarding the dedication: I'll give that line some more thought. I'm not sure that your revision answers the problem, since "books of a previous age" could mean the 15th century even more easily than "librarians of a previous age" could. I really did mean librarians of a previous age. Are you familiar with the phenomenon that many librarians of the early and mid-20th century tried to ban series books and would not carry them in libraries, wanting children to read the "classics" instead? This is what I'm referring to, and I think that most collectors who are baby boomers would be familiar with this. What do you think, Mike?

*David*

*DATE: FRIDAY, AUGUST 18, 2000 11:38 PM*

Dear Jon and David,

By the mid sixties, teachers were reading series books in class to us elementary school kids (along with anything else that they thought might capture us as readers). I suppose television had put a hurting on kids' reading habits and the elders of that period

were happy to get any reading out of these later boomers (during this period in our history, education owed a lot to Sputnik!)

However, I have encountered the earlier phenomenon David speaks of....it probably was seen as less than acceptable for kids to be reading what amounted to "juvenile pulp in hard cover".

As far as David's phraseology is concerned, I understood it to mean the more modern "previous age" (early to mid 20th century). Whereas the term "previous age" may technically refer to Jon's 15th century, David is using mild hyperbole for dramatic effect, perhaps unconsciously, as many people do. (i.e. "Hey Bud, were'd ya pick up that relic and will it get us to the football game on time?")

I am sorry to say that I have not yet been able to read either the 1st chapt. of TRA or the dedication because my computer is apparently missing a file necessary for opening them! I will continue to work on this, but if either you can think of an alternative, then please advise!

*Mike*

*DATE: MONDAY, AUGUST 21, 2000 9:48 PM*

Dear Jon and Mike,

*> I think it sounds great! It had some wonderful touches in it: it went very smoothly.*

Thanks.

*> I think that the name Sim Sala Bim was repeated just a few too many times.  
> It's a neat name, though! It has a definite foreign influence in it.*

You're right. I reduced all references but three to the name Sim. I don't know if I told you about this name before, but it is a real name. When I was growing up in the 1960's, near my house (where my father still lives) there was an old house--it had been there for many years. The sign in front said Sim Sala Bim. Turned out it was a retired stage magician. I thought the name was really cool and remembered it. The sign has been gone for a long time and someone else lives in the house now. Where Sim Sala Bim went, whether he is still alive, I don't know. But he lives now in TRA.

BIG QUESTION: The story, as usual, has developed in the growing beyond the summary. Now we have Zimbardo and company looking for George St. George to eliminate him. We have the Starmen going to Z25 to save him. At the same time, by coincidence, we have Zimbardo's man (he will be Mr. Lather) heading out to Z25 to turn it into slag and capture the Starmen (who are incognito). WHAT THEN HAPPENS TO GEORGE ST. GEORGE? He is now in the clutches of Zimbardo. Does Z. know he has George? Or is it that he doesn't know what George looks like or who he is at Z25 and, when Z. is looking for him, G. is safe in custody on the asteroid? If Z. doesn't know he's got George, how can Mr. Lather destroy the base and not know who he's got? Does he just gather up all the people without caring who they are and herd them aboard? It could be rather interesting to have G. St. G. on the asteroid while Z. is looking all over for him. And will Z. learn about Montezuma and threaten him? In a movie today, this would certainly happen and Montezuma's Castle would be left a smoking ruin. If Z. does not learn about Montezuma, why not? Many people, especially on Ceres, would know of the connection between M. and G.. Or does Z. just plant spies in various population centers G. is known to frequent in the hope that he shows up one day. What is Z.'s plan to find G.? Is all this clear? I kind of need to know since that's the next part of the story to get written.

*David*

*DATE: MONDAY, AUGUST 21, 2000 10:41 PM*

Dear Jon and David,

How about.....George St. George is thought to be a spy by Z., but not for the right reason!...how about we portray Z. as paranoid and suspects G. St G. for ERRONEOUS reasons. Just a thought.

And yes, David it looks as if a couple of long e-mails would help me out. I still cant open the Chapters you sent.....Only if it is not much trouble.

Thanks,

*Mike*

DATE: TUE, 22 AUG 2000 07:49:46 -0700

Dear Jon and Mike,

> *David, what do you think of all this?*

I read all the emails at once, and I can see the plot developing just fine. I can put it together in words and see what you both think. I had thought that Vly's solar energy could come into the picture some way in a kind of defense mechanism--he must be threatened now and then with stalkers, etc... So we have a plausible explanation as well as one that is more mystical. Works great! The hardened criminal Z. has a superstitious side--we've already seen his propensity for such things in the Chamber. He appreciates beauty but has no moral side to ground it--which can lead to superstition. And it gives us a chance to have the Starmen interact a bit on the matter--mostly incredulity, but we also have Mark who leans to the mystical side, too. With his moral side, he will see the truth more clearly than any of them.

I'd say the problem is solved. Let me get to the writing and then get back to you in a week or so, whenever it's done.

Any more ideas or developments, shoot them my way. Thanks, both, for the great ideas.

*David*

DATE: THU, 24 AUG 2000 10:44:25 -0700

Dear Jon and Mike,

> *GSG was*  
> *wonderfully fleshed out: he definitely has character,*  
> *and is easy to distinguish.*

Glad you like him. I can see him being noted for using odd, scholarly sounding words now and then. Not like Mr. Damon in the original Tom Swift, who was just too cute and eccentric for my taste ("bless my mouse"), but still, a character. But since he's the first overt Christian we've got, we don't want him too eccentric, either. He'll be kind of a

scholar/field miner--a real unusual person. And his faith will come out in the next chapter--naturally evident, not "in your face."

- > *The bit about where Vly radioed to GSG the whole*
- > *story was also a great idea. That could easily explain*
- > *how Z. located GSG: he just traced the comm. beam. It*
- > *wouldn't be that hard; it's similar to tracing a*
- > *telephone call. (Perhaps a Starman could make this*
- > *observation early in the next chapter -- i.e. 'the*
- > *pirates must have traced the conversation!')*

Exactly my thought. HOWEVER, the Starmen (Zip and Joe) who are unconvinced about the greegles will conclude that these five ships are the same five who tried to coerce Vly, and will further assume that Vly's base has been destroyed. The pirates are not going to advertise that their ships were so roundly and easily defeated. Mark will reserve judgment. Sound okay? Wait'll you see it in the text of the story.

*David*

*DATE: SAT, 26 AUG 2000 20:01:27 -0700*

Dear Jon and Mike,

I'm well into the 6th chapter and have a nice scene in which Zimbardo is scanning the asteroid belt to choose a few fitting candidates to be sent to Mars. The question comes up: would he really direct the pirates' asteroid to Earth, or would he just find a bigger asteroid from the belt? He has become quite fond of his asteroid and if he has the power of sheathing and directing asteroids, why destroy his own? Do we want to stay with this part of the plot? --if so, is there a plausible reason for doing so? If not (my personal preference), how do we get the pirates' asteroid into the hands of the Starmen and eject the pirates from it--since this is the end we want when TRA concludes?

*David*

DATE: MONDAY, AUGUST 28, 2000 7:12 PM

Dear Jon and Mike,

- > *What an asteroid! When you think that the asteroid is extensively*
- > *developed, and see it as a 40 square mile building, it becomes extremely*
- > *impressive. It's probably the largest building ever built.*

But keep in mind that not the entire interior has to be built up. AOM says it is about 45 miles long and 25 wide. There has to be a fairly thick crust, but the extent of the inside is up to us. Whatever we do, I don't think we'll ever get to the point where we run out of space!

- > *Tharsos, then, could \*easily\* devastate*
- > *Earth (think if it hit the Pacific Ocean -- what tidal waves!) and perhaps*
- > *even crack the crust of the planet. I could see in the meeting when they're*
- > *discussing how to respond to Z's demand, perhaps running a computer*
- > *simulation, showing what would happen if Tharsos hit. It would (as they say)*
- > *be a bad thing.*

Right. It's going to be a great scene. The tension is very gradually building up in TRA. As you observed, we've got the Starmen captured and the pirates swiftly building back up with increased ruthlessness. And nobody on Earth, the Moon, or Mars knows yet!

- > *Actually, that is what I had in mind when I was writing the summary! A*
- > *rock a hundred yards across would be easy to move (no easily-detected*
- > *nuclear explosion needed) and would get the point across.*

Okay, that's better. I'll change the text to make them 100 yards.

- > > *do we really want him to wipe out all 5 atmosphere plants?...*
- >
- > *I was thinking about that this afternoon. My original reasoning was this: ...*



How about this? Let's have Z wipe out all 5 atmosphere plants. After all, if the Superiors want them wiped out and Z can do five almost as easily as one, why not do all five? And if we decide that we want Mars to rise earlier in the series, we'll just write it that way when we get there.

*David*

*DATE: MONDAY, AUGUST 28, 2000 10:21 PM*

Dear Jon and David,

Wow! Lots of stuff to keep up with.....I have not yet finished reading the chapters, but will soon

Firstly, you ask about the size of the asteroid....and the size described will do the trick....interesting consideration here.....a smart enemy would pick the smallest one that would still "do the job". Moving more mass than you need to in space is just a waste...and we are already stretching credibility. The 30-mile-type asteroid is just fine. If need be we could use a smaller one.

*Mike*

*DATE: TUESDAY, AUGUST 29, 2000 12:17 AM*

Dear Jon and David,

EXCELLENT! EXCELLENT! EXCELLENT! I just read all the chapters together....and it is really a well done story.....David's writing is so perfectly matched to what our goal is.....I had a good time reading it...I almost hate to say this, but it is BETTER than any DA story. It is beautifully descriptive, inventive, action packed, thought-provoking, and wholesome.

I only noticed minor "possible" problem areas:

Firstly, in the koalang scene, one of the Starmen is spooked by a koalang, and ends up knocking over a couple of boxes.....we must remember that this is a very weak gravity field we are in and any knocking over and spillage would be in extremely slow motion.(for instance, the big Asteroid Ceres has about 1/35th the gravity of Earth...and

Vly's asteroid is much smaller than Ceres. I guess I am assuming here that Vly does not have a gravity field generator of some sort)

Secondly, I hope the name SIM SALA BIM will not be taken as a slur by any group.....it is a great and inventive name (hey, didn't Hadji {Jonny Quest} used to utter it every once in a while?) Perhaps David, you have already thought about this, and judged it OK.

About the 4 gigawatt solar cells.....please let me check on the practicality of this.....That is a lot and the laws of physics are at play here...the Belt probably only gets about 1/4 the sunlight concentration we do here at the Earth's orbital distance (true, there is no atmosphere to degrade the lights power at the asteroids.) What really bothers me is that the point being made in the story is that Vly's solar cells are supposed to be more efficient.....well, really poor solar cells could be ganged together to make 4 gigs or any amount needed...that is just a question of surface area. Current solar technology has about 25% efficiency at best.....and 50% is all we could ever expect realistically.....so if Vly got 87% efficiency or greater...now that would be 22nd century high-tech!

In chapter 5 the "canons" should have three "n"s , I think.....unless David was making a literary metaphor for the design of the laser banks!

*Mike*

*DATE: TUESDAY, AUGUST 29, 2000 1:37 AM*

Dear Mike and Jon,

- > *I just*
- > *read all the chapters together....and it is really a well done*
- > *story.....David's writing is so perfectly matched to what our goal*
- > *is.....I had a good time reading it.*

GREAT. Glad to hear it!

- > *I only noticed minor "possible" problem areas:*
- > *Firstly, in the Koalang scene, one of the Starmen*
- > *is spooked by a koalang, and ends up knocking over a couple of boxes.....we*
- > *must remember that this is a very weak gravity field we are in and any*
- > *knocking over and spillage would be in extremely slow motion.*

Oh, right!! But then how could Vly live in low gravity? Maybe we need to give him a gravity generator or solve the problem some other way. Any ideas? Remember that miners have been out there for a century at least and must have run into this problem before.

- > *Secondly, I hope the name SIM SALA BIM will not be taken*
- > *as a slur by any group.....it is a great and inventive name( hey, didn't*
- > *Hadji {Jonny Quest} used to utter it every once in a while?) Perhaps David,*
- > *you have already thought about this, and judged it OK.*

As I wrote to Jon before and perhaps forgot to copy to you, Mike, Sim Sala Bim is the name of a real person who lived near me when I was a teenager. He was a retired stage magician. I don't think it will be taken as a slur any more than Lee High Eagle or John Rwakatare would. At least I hope not!

- > *About the 4 gigawatt solar cells.....please let me check*
- > *on the practicality of this.....That is a lot and the laws of physics are at*
- > *play here...the Belt probably only gets about 1/4 the sunlight concentration*
- > *we do here at the Earth's orbital distance (true, there is no atmosphere to*
- > *degrade the lights power at the asteroids.) What really bothers me is that*
- > *the point being made in the story is that Vly's solar cells are supposed to*
- > *be more efficient.*

What I'm trying to convey here is that Vly is a genius who has actually invented something magnificent that improves on the normal solar cell. If we put into the story that Vly can invent such things, that is what is important; I don't think we have to explain how he does it. That is, the gigawatt measure is really a statement about Vly, not the solar apparatus. But if there are some real physics problems here, we need to deal with them. What do you think?

- > *In chapter 5 the "canons" should have three "n"s , I think.....unless*
- > *David was making a literary metaphor for the design of the laser banks!*

You're absolutely right! Consider it fixed!

*David*

DATE: MONDAY, SEPTEMBER 04, 2000 3:24 AM

Dear Jon and Mike,

Two of the glitches that got caught when I read the story aloud yesterday took place in this passage, which is now rewritten. One, the first draft had Zimbardo and crew pretty quickly finding suitable asteroids on a schedule that made them ready to get down to business in a week. Later passages contradicted this and fit better into the overall timeline, so this one had to be changed. Also, if Zimbardo's paranoia about St. George was that GSG knew where to find the asteroid, that didn't make sense since Z. had moved it out of the Belt--GSG couldn't find it anymore. So the reason for Z's search for GSG had to change. Oritz, the Starmen, etc. didn't know the asteroid had been moved so they are still looking for GS for their original reason. Anyway, here's the new passage.

*David*

DATE: TUESDAY, SEPTEMBER 05, 2000 3:01 AM

Dear Jon and Mike,

> *I liked the part where GSG said he could only access the first 5 floors:*  
> *according to THE KEY TO THARSOS that's all anyone can access until the Key*  
> *is retrieved. That could be a fascinating mystery: why only those first 5*  
> *floors? What's beyond those floors?*<sup>65</sup>

Except remember that Z. has found a way to bypass the restriction and get "somewhere else"--the place where the Chamber is. I put it the way I did in GSG's mouth because USUALLY people could only get access to the first 5 floors--but we've already revealed that Z, and Z alone, can get past the barrier.

> *First, the text states that GSG went out to search for uranium after*  
> *finding Tharsos. I think that, by the 22nd century, no one would care*

---

<sup>65</sup> *The Key to Tharsos* was the name of either a novel or a short story we were considering at the time. At some point it may still be written. This reference, however, was developed to become the hidden Ah-manyan city of Olovanda, first revealed in *The Lost Race of Mars*, and named in the short story, "Return to Europa." Its first appearance was in *The Runaway Asteroid*, pages 206-207.

> *anything about uranium...Mike, what do you think? Would uranium still be  
> valued in the 22nd century? What would a veteran asteroid miner like GSG  
> spend his time looking for?*

I just threw uranium out as the first thing that occurred to me. Whatever you all decide is fine with me.

And I've got a good idea for the escape scene, which I think you'll like! The "fake fight" in the summary seems to me a little bit too contrived, so I've got another approach. I'll write it up and then you can tell me what you think.

I'm glad you like the rest of it!

*David*

*DATE: TUESDAY, SEPTEMBER 05, 2000 3:40 AM*

Okay, here's the revised ending. Question: Evacuating the entire Belt is a HUGE enterprise. Remember that Yellow City alone has 100,000 citizens. How many ships would it take to evacuate them? Where would they go? Where will the ships come from in the first place? And what is the reasoning behind the evacuation? Would that not just free up the Belt for the pirates to do as they wished without opposition? How about a limited evacuation or some other response altogether? I can't see the population just picking up without a lot of protest, just because the President issues a decree one morning, no matter how urgently made or how strongly worded. After all, these are citizens with homes and livelihoods to worry about. And if Allen Foster oversees the evacuation, he's got to travel out there when (1) he had been grounded [but see below] and (2) it'll take him about two weeks at least to get out there. Anyway, think about it and see if there is a more plausible course of action.

*David*

*DATE: WED, 06 SEP 2000 08:24:36 -0700*

Dear Jon and Mike,

Better ideas on the Belt evacuation. I'm not very good at envisioning (and therefore writing) big events like this. I'm much better describing actions and conversations in a room than in a Solar System. But here's another thought.

How about if the authorities on Earth do nothing publicly. As soon as you put information out, it gets spun by a lot of people and you lose control over the information--and in this case panic will certainly ensure in at least some quarters, and you tip off the pirates that their cover is blown. Armed with that information, they can change their tactics and still have the element of surprise. In a matter of security, you usually keep a tight lid on information until it does become a matter of public safety. So how about this?

Information goes out to Oritz Konig, Sim Sala Bim, etc.--all the Space Command and SE centers, NME centers, etc.--explaining the situation. This is kept secret since the pirates DO NOT KNOW that they were observed at Z25. As far as they know, their invisible ships are still a surprise. After all, the very worst that the pirates can do, as far as the authorities know, is raid a few bases--probably in the Belt but maybe a city or two on Mars. Far less likely, the Moon or Earth. So the likely targets are urged to prepare for such an attack. The people who are warned are put on high alert for VISUAL attack and made ready for instant response. Then they all wait to see what the pirates will do.

The pirates' next move, of course, will be to hit the atmosphere bases on Mars--far worse than the authorities imagine. Once again, the pattern in our book goes on--the good guys underestimate the pirates. The reader sees it coming, but the good guys don't.

After our exchanges and a lot of thought, this scenario seems most likely to me: the good guys are all informed, the public is not panicked, the pirates are not tipped off, the good guys think they're ready to surprise the pirates, and tension builds.

*David*

DATE: FRIDAY, SEPTEMBER 08, 2000 1:11 AM

Dear Jon and Mike,

The photos<sup>66</sup> look marvelous. We can create the sound, heat, etc., as we want when we need the text. But the photos make it much easier for me to describe the scene. Thanks! Big Scary Power Plant! What a missed opportunity!

David

DATE: SATURDAY, SEPTEMBER 09, 2000 9:19 PM

Dear Jon and Mike,

Got the corrections to the outline but haven't read them yet. I'm sure they'll be very welcome because, as you say, the story is developing along lines a little different from the summary as it was first done. Thanks, Jon. I'll give the file some time on Monday and redo the summary from your new notes before going any farther.

> *The great thing is that no one would ever connect this asteroid to Mars.*

I wonder if the Starmen would recognize that the writing on the crates and the control panels is the same as what they saw in the place where Jogren is. So far I've just ignored that. What do you think? The only clue we've given so far is the three-moon logo, which is only mentioned in chapter one. The Starmen don't see it on this trip.

> *I imagine that Zimbardo will figure out that three of the miners were*  
> *Starmen -- if the pirates even merely took a picture of them, the Starmen*  
> *should be recognizable on sight. Even if they didn't, they'll figure out*  
> *that there were 3 more men than they should be, and their spies should help*

---

<sup>66</sup> These photos were of the internals of a coal-fired power plant located near Hurricane, West Virginia; David used them to describe what the interior of Tharsos looked like. When the plant was being constructed, they had two choices for a name for the plant: they could have named it after the nearest city or after a politician. Since the nearest city was named "Big Scary," they decided to name it the John Amos Power Plant. I can't imagine why they wouldn't want a plant named the Big Scary Power Plant!

> *them piece together who those other 3 men are.*

Let's give this a little thought. I wrote earlier that Lather was not interested in anybody else once he was sure that he had GSG. And he wantonly, unnecessarily destroyed Z25. I don't know if the pirates would know how many assistants GSG was supposed to have. Question: Do we want Zimbardo to know that there are Starmen aboard? If not, then we say that they have no photos or videos and Z just wonders how mere asteroid miners can do what they're doing. If so, then Lather can produce photos and the trio can be identified as the ones who scuttled the pirates' Martian attempt. I don't think it makes much difference to the plot either way. What do you think? I lean a little bit toward having no photos and leaving Z wondering.

> *I do have one suggestion: in the part about the Seeker, I think that it  
> got destroyed a bit too soon.*

I wondered about that, but my reasoning was that the target was a bunch of 14 men who are huddled together and not far away. They are sitting ducks for the Seeker. One beam and they're captured. We could have the crowd scatter at Zip's command as soon as his beam bounces off the Seeker, and they can speed through the aisles of the large room while the Seeker hunts them one by one. How's that? Could be great scene! I think that having a mysterious figure appear to destroy the Seeker is premature--much better if the figures appear for the first time in the dark while Mark dozes. That way both pirates and escapees wonder what happened to the Seeker. And exploding the thing in the elevator shaft is deliberate, so that the pirates have it blow "in their faces." That can still happen, I think, if there is a hunting scene. I'd like to write that in but not put in the mysterious figure. Is that okay?

> *Mark was falling asleep when he saw the  
> Martians. What if opinion was divided concerning what he saw?*

Sure, I'll write some doubt in the scene somehow. I expect to get to it on Monday.

*David*



*DATE: SUNDAY, SEPTEMBER 10, 2000 11:35 PM*

Also, why couldn't we have Vly's power come from the "vacuum energy" that I mentioned a while back, this might be much more interesting than solar cells, and perhaps the reluctant Vly could share the secrets of his discovery with the Starmen at a future date.

*Mike*

*DATE: MONDAY, SEPTEMBER 11, 2000 2:19 PM*

Dear Mike and Jon,

*>>I wonder if the Starmen would recognize that the writing on the crates and the  
>>control panels is the same as what they saw in the place where Jogren is....*

*>*

*> I think that it would be best if they didn't notice the similarity*

I agree. It's probably best just not to mention it. The worst that can happen is that somebody who reads the fifth book might say, "Hey--those guys should have recognized that the writing on those crates was the same as the writing they saw in Jogren's place!" Our answer could be, "In Jogren's place it was lettering; on the crates it was mostly numbers."

*> It might help that book if the pirates already knew who the Starmen  
> were, and that these are the same Starmen who escaped their clutches and  
> smashed their plans in book #2.*

Good. Okay, we'll have Zimbaro view a video somewhere and figure out that three of GSG's companions are the infamous Starmen. He had them in his clutches and didn't know it until it was too late.

*David*

*DATE: MONDAY, SEPTEMBER 11, 2000 7:24 PM*

Dear Jon and Mike,

I've reread the summary of TRA and have a couple of questions.

How did the emergency ship the Starmen were in escape from the asteroid successfully? The summary merely says that it was seen by pirates, shot at, and then disappeared.

Why would Lurton aim the asteroid at the Earth? Jon answered why Z would use the asteroid for his major weapon very plausibly, but if Z really didn't expect Earth to reject his demands, why not aim the asteroid to move into an orbit around Earth (much more convenient for his plan) and just SAY that he'd aimed a big asteroid on a collision course. How about if we say that he did this and then, when things looked hopeless to him, THEN he aimed it at Earth as an act of defiance and revenge and then took off--also to cover his escape, hoping that the SE forces would leave him alone in order to try to stop the asteroid? It'll take a little tinkering with the text, but it makes more sense to me. Maybe he can do it while the backup system is on and he still has some power, but when the backup system goes out it's irreversible. Thus, as far as SE is concerned, what happens is: Z says he's aimed a big asteroid at Earth and everyone panics. Then Earth discovers the asteroid and learns that it's really just in an orbit trajectory, and they breathe a sigh of relief. Then Z changes the trajectory so that it REALLY is heading toward Earth, and everyone panics again.

Also, the panic scene on Earth would no doubt be what happens, but it will be hard for me to write. I'll give it a try, but such a huge canvass is really difficult and I'm apprehensive about writing it. I think it's unprecedented in series book literature--which of course hasn't stopped us before! Let's see how the scene works when we get there.

Finally, when SE is aboard the asteroid and plotting out its every corner, I think we ought to keep a major portion of it inaccessible. This is where some Martians live, and they are keeping others out. How about if there is a "false wall" that appears to be all there is to the inhabited portion of Tharsos—but later we learn that beyond the wall there is another vast colony of sleepers--or perhaps the major documents, artifacts, etc.--needed for the renewal of Mars. We don't need to decide now, but we might want to keep the idea of a "false wall" around. Toward the end of TRA Mark and the others might wonder what happened to the shadowy figures Mark had seen.

*David*

*DATE: MONDAY, SEPTEMBER 11, 2000 11:58 PM*

Dear Jon and David,

Also, about the asteroid heading for Earth.....these orbital mechanics are tricky and often counter-intuitive. I am certain that an impact trajectory would look quite different from an orbital insertion trajectory...sorry, but that is the fact. Actually an asteroid would have a really hard time even going into Earth orbit at all...it would require significant deceleration or loss of speed, (either braking rockets or aero-braking.....actually entering the upper atmosphere at a precise angle and letting the atmosphere do the braking....unfortunately, I doubt it would be enough to slow a massive object such as an asteroid down enough to allow for orbital capture.)

As for the actual path of the asteroid, there are two basic choices:

- 1) A slow spiraling in from the asteroid belt.....as the asteroid is robbed of its momentum by the braking rockets or other propulsion system...it is basically de-orbited from belt altitude down to Earth altitude (as seen from the sun). This path would look like a spiral section. There is the option here of a "slingshot" effect by flying by Jupiter or Mars and using either planets' gravity to assist in the final acceleration.....here one actually "gives up " some of the asteroids' orbital energy(speed) to the planet. This path would resemble a marble slowly spiraling down into one of those "horn cones".
- 2) A much more direct (shoot the Earth) approach is to suddenly decelerate the asteroid with some great and immediate force (lasting a day or at most a week)....resulting in what looks like a comets orbit.....a long "hot dog" shaped path, this would be removing all velocity from the asteroid. ....it then just falls straight toward the Sun, and if the event were timed so that the Earth is in the way.....its goodbye time. The problem with this method is that I bet the sudden deceleration stresses necessary would rip the asteroid to pieces.

I hate to have to say it, but the option of putting a large asteroid into Earth orbit is going to necessitate a very powerful braking force at the receiving end.

A good compromise may involve using the Earth's atmosphere several times for the purpose of Aero-braking...but this would be a years or decades long series of accurately timed "entries" and would not likely be tolerated by people of Earth.

As for the story, we could have the asteroid be sent on a fly-by of the sun, and this "just happens to pass REALLY close to the Earth, or is it actually a collision course?!

I know what you are trying to do in the story, I just think it will be a little difficult to stay within 'the acceptable science zone" The smaller the asteroid, the more plausible all this becomes. What if we used that nasty Uranium dump asteroid we spoke of? It could be very small and still be useful as a nuclear waste dump.....what a horrible thing to aim at the Earth.

*Mike*

*DATE: TUESDAY, SEPTEMBER 12, 2000 2:59 AM*

Dear Mike and Jon,

*> I am certain that an impact trajectory would look quite different from an  
> orbital insertion trajectory...sorry, but that is the fact... I know what you  
> are trying to do in the story, I just think it will be a little difficult to  
> stay within 'the acceptable science zone"*

How about if we have Zimbardo aim his asteroid in a loop trajectory so that it approaches Earth from the opposite direction to the planet's orbit, i.e., like two cars on the freeway coming opposite directions to make a really big blammo when it hits. Then what the Starmen do in the climactic moment of TRA to save the day is shift the asteroid's orbit just a bit so there is a near fly-by miss rather than a big blooey. The asteroid then goes into orbit around the sun in an orbit similar to Earth's but in the opposite direction. Then, after TRA is over, the Starmen can go about their business in books #3 and 4 while leaving SE people to take what time they need to spiral the asteroid gently into an orbit around Earth. It will take a few years, perhaps, but that's okay. When we get to book #5, when the Starmen are aboard the asteroid, they can be checking progress of the capturing of the asteroid into orbiting the Earth rather than the Sun.

This scenario would also answer a question I meant to email you earlier today that I forgot: if the asteroid hits Earth, there will be nothing for Zimbardo to take over. We really can't have Z threaten that "if you don't hand your planet over to me, I'll smack it with a big asteroid and then take over what's left." Therefore Z's original plan needs to be to have the asteroid do a near fly-by, maybe with deceleration to achieve orbit, but when he sees his plan is doomed, he abandons it and directs the asteroid into a collision course before heading out beyond Pluto. The deceleration forces ripping the asteroid

apart? Well, could we relegate this to the Martian propulsion system as a "plausible impossible" for the sake of fiction?

*David*

*DATE: TUESDAY, SEPTEMBER 12, 2000 3:15 AM*

Dear Jon and Mike,

> > *The summary merely says that it was seen by pirates, shot at, and then  
> disappeared.*  
>  
> *Um, I was hoping you could come up with something, the way you did with  
> the "David went over and blew up a refinery." I imagine the most plausible  
> idea is to use the Martians, but I hate using them yet -again-. Perhaps they  
> flew near a very large rock, and the radar didn't have enough resolution to  
> tell them apart from the rock, so they seemed to 'vanish'. Maybe it was  
> greegles. Maybe they cut off their engines and floated in a pile of space  
> rubbish (rocks, etc.) and Tharsos couldn't spot them.*

Okay, I'll enjoy the challenge. Thanks for the ideas! We'll see what turns up.

> *Why would Lurton aim the asteroid at the Earth?...*  
> *we can make your idea work! Here is how we could do it:*  
>  
> *1] Z. has the asteroid leave, and head toward Earth. His plan is to make it  
> orbit the Earth.*  
> *2] Z. announces to the world that he's going to pulverize Earth. Massive  
> panic reigns.*  
> *3] Halfway to Earth, Z. begins to slow down Tharsos.*  
> *4] SE goes out hunting for the asteroid, and find it -- and discover that  
> it's slowing down, hence it's going into orbit and not on a collision  
> course.*  
> *5] Z, angry, speeds up Tharsos as fast as he can get it to go (burning out  
> the power plant), abandons it, and lets it go on its merry way.*

Good. I think we're moving into something dramatic and plausible. It'll really build the tension with success in the hands of the good guys several times, and then slipping away into something even worse then before.

*> If I wrote it, it would turn out like this:...*

Looks good. A paragraph like that is probably all we need.

This Saturday I have another reading session of TRA to the small group. Between now and then I hope to get chapter 10 done!

*David*

*DATE: TUESDAY, SEPTEMBER 12, 2000 11:40 AM*

Dear Jon and David,

I have been thinking over this asteroid orbital situation.....There must be some gentle way to get an asteroid to go from the belt and into a stable orbit about the Earth.....after all it happened to Mars twice! (and apparently without help!)

It may just be a situation of very narrow opportunities...very specific trajectories that can coax an object into orbit. (Even though an EXTREMELY rare occurrence, it happened to Mars at least twice in history because of its proximity to the Belt.) Therefore, if it can happen naturally, why couldn't we have a designed event occur?

OR , are Phobos and Deimos just orbital litter left over from a really big asteroid that smacked into Mars and a couple of the resulting chunks just happened to get bounced back into the right orbit? As I understand it, science cannot yet explain the orbits of Phobos and Deimos with certainty. They are truly mysteries of the Solar System.

One option we could use is to have the plan be that Z. claims to want to put the asteroid into one of the LaGrange points of the Earth -Moon system.....I am not sure, but I suspect that would be a bit easier than an actual orbit about the Earth. However it would realistically take time, perhaps a few years.

I am beginning to really like the option that utilizes the great power built into the Tharsos asteroid/spaceship. Here's an idea....what if we end up with the asteroid hurtling toward an impact with Earth...all hope is lost, until the Starmen get onboard and at the last minute figure out how to activate the deceleration drive.....saving the Earth! This

might be done with valuable knowledge from Jack and Jill. Tharsos is then placed into a safe and accessible orbit! I am not sure if it can be written this way at this point, but I must admit that I like the scenario!

*Mike*

*DATE: THURSDAY, SEPTEMBER 14, 2000 6:48 PM*

Dear Jon and Mike,

Wow, we've been remarkably prolific in the past few days. My work is cut out for me just to get caught up.

- > *There must be some gentle way to get an asteroid to go*
- > *from the belt and into a stable orbit about the Earth.....after all it*
- > *happened to Mars twice! (and apparently without help!)*

Good point!

- > *One option we could use is to have the plan be that Z. claims to want*
- > *to put the asteroid into one of the LaGrange points of the Earth -Moon*
- > *system.....I am not sure, but I suspect that would be a bit easier than an*
- > *actual orbit about the Earth. However it would realistically take time,*
- > *perhaps a few years.*

Of course, in the book, we don't have a few years. I haven't read through all the emails yet, since I am answering as I read here, but I did catch a glimpse of something Jon asked--namely, just where are we on this problem? Where I think we are is:

1. Z wants his asteroid to orbit Earth and sets controls for that procedure. That means accelerating to midpoint, then decelerating to go into orbit. The asteroid's controls permit this. With Earth so far away, he can only approximate the course and plans to fine-tune it as he gets closer.
2. Z makes his demand and tells Earth that he has sent a huge asteroid on a collision course their way. He does NOT tell them that it is HIS OWN asteroid or that he merely intends to orbit the planet. In short, he is bluffing.
3. Earth responds in the way the story is laid out and the asteroid is found out just before the point he is ready to decelerate. In his panicky and pride-filled re-

- sponse he tries to "gun" the asteroid and burns out its power systems. When this happens, the backup system comes on. It will last only a short time, however.
4. Realizing that he has lost the game, Z decides to retreat, taking as many of his men with him as he can. To do so, he has to abandon the asteroid. In revenge, while the back up power is still on, he really DOES aim the asteroid at Earth before he heads for the outer solar system. Thus, we have "the runaway asteroid." He is close enough to Earth to the aiming accurately.
  5. When the Starmen save the day, the asteroid misses Earth and goes into orbit around the sun. SE takes the next few years to learn about the asteroid with the intention of bringing it into orbit around the earth.

How's that sound? If you like that scenario, then the following recent exchanges we've had fit into the picture:

- > *I am beginning to really like the option that utilizes the great power*
- > *built into the Tharsos asteroid/spaceship.*
  
- > *let's keep in mind that Earthmen probably*
- > *>would not have mastered all the intricacies of piloting Tharsos.*
- > *>This is what leads to Z's frying the power plant.*
- > *>...*
- > *>Our hope, I think, is that Z overestimated Tharsos' potential!*
- > *>If we need to have its power plant burned out for the story's*
- > *>sake before the asteroid gets to Earth, we really don't have*
- > *>to solve the problem of impact versus orbital trajectory.*

Are we on track with the above scenario then?

- > *did you get a chance to look over the summary info I sent out*
- > *regarding some errors I found in the summary?*

Yes, and I've incorporated them all into my working document.

*David*



*DATE: SATURDAY, SEPTEMBER 16, 2000 11:53 PM*

Dear Jon and Mike,

Read Chapters 4-6 to four people today--three adults and one kid who seems to be our biggest fan. Another very helpful session. Their comments:

I mention keyboards in the 22nd century computers. Wouldn't they be voice-activated by then?<sup>67</sup> We can almost do that now. (My thought. I don't know. We want the books to be identifiable with today's readers. I don't think it would take too much effort to re-write. We don't want to copy Star Wars, etc. in any direct way--some comments we have received from readers of AOM are already along that line. They are positive comments, but still compare us to Star Wars, Star Trek, etc. I could go either way and defer to you two.)

The Chamber is very popular with this group. They ask--If Zimbardo (or any other person who finds the Chamber) wants to walk into the city, could he do so? Or is the person limited to the 100 foot square space? How good is the holographic program, in other words?

They also noted that it is obvious to them why Z wants to keep GSG alive--GSG knows more about the asteroid than Z does and Z wants GSG's information. Well, that wasn't our plan, but it works. Do we want to agree with that statement? If so, do we want to write it into the story? It might even be more plausible than Z's superstition about the greegles, although that part of the story is very rich with theological possibilities. Of course, both can work.

They also suggested that I use the word "encrypted" rather than "scrambled," so I have made that change unless you two see a reason to retain "scrambled." "Encrypted" is today's language, "scrambled" is the 1950's-1960's.

They also suggested that I make it clear that when the pirates find Z25 through the message Vly sends, that the pirates cannot read the message--or else they may know that there are Starmen going to see GSG. A good point--so I made the change.

---

<sup>67</sup> Eventually we decided to do both. Computers can be controlled by keyboards in crowded spaces with a lot of noise, but also can be voice activated for quiet areas.

They made a few other observations and suggestions about tone, etc. which involve minor changes for major benefit. E.g., the meeting of Z with his lieutenants--make the pirates a bit more boorish when they are in the consultation room with its automatic chairs, scented air, fine sherry wine, etc. (By design, this scene is the first one in the series in which the pirates have anything to eat or drink. Up to this point, only the good guys share "table fellowship." Here, the bad guys do, but it is intended as a parody. The group suggests that this be made more explicit. Good point.)

So you see how helpful it is to have these people listen? They see things that we don't. And they LOVE the story! We read three chapters every time we meet--takes about an hour.

I'm having doubts about whether I'll be able to finish the writing by the end of the month. That's about ten chapters in two weeks. I'm lucky to get two or three chapters done in a week. We may be looking at mid-October until we're done. But we can still get TRA into our customers' hands by year's end, I think.

Your thought?

*David*

*DATE: SUNDAY, SEPTEMBER 17, 2000 7:42 PM*

Dear Jon and Mike,

As I am working on the next chapters of TRA, I see that the summary indicates that the Starmen and miners try to sabotage the power plant to force the pirates to surrender. This seems to be unrealistic to me, and it is not critical to the plot. Even if the power plant fails, the good guys suffer equally from lack of power, and then we have fourteen good guys opposing a hundred or more bad guys. If it sounds good to you, I'd like just to have the good guys escape. They still think they're in the Belt and will reason that if they can escape they can locate the asteroid again and return with a fleet. It isn't until they're free that they realize that they're outside of the Belt. And the way I've got it figured, Z won't even realize that they've escaped for some time. Let me know what you think.

On to chapter 10.

*David*

*DATE: SUNDAY, SEPTEMBER 17, 2000 9:24 PM*

Dear Jon and David,

Voice activated computer sounds good, definitely right around the corner...perhaps we can figure out a way to differentiate it from Ship's Computer on Star Trek. Perhaps the Starmen would need a code to access their computer (as others could easily fake voice, retinal scans and fingerprints by 22nd century).

I like 'encrypted' better than scrambled.....a good catch by whomever!

*Mike*

*DATE: MONDAY, SEPTEMBER 18, 2000 4:47 PM*

> [Mike] Voice activated computer sounds good, definitely right  
> around the corner...perhaps we can figure out a way to differentiate it from  
> Ship's Computer on Star Trek. Perhaps the Starmen would need a code to access  
> their computer(as others could easily fake voice, retinal scans and  
> fingerprints by 22nd century)

Probably a combination of keyboard and voice activation will be standard for some time--just as there are ebooks and paper books today.

>> Just got this from Paul... "I would be pleased to try my hand at writing an  
>>introduction to the next Starman. Thanks for the invitation. What is your  
>>timetable? And, how many words for the introduction do you envision?"

> An introduction worthy of the son of Joseph Greene might be about 400 words.

400 is not very many, once a person gets writing. One of our chapters is about 2500 words. I'd suggest 1000 or 1500 words for Paul, with a reminder that we may want to edit it a bit and if we do so will run the final text by him for approval.

- > *>I see that the summary indicates that the Starmen and miners try to sabotage*
- > *>the power plant to force the pirates to surrender. This seems to be*
- > *>unrealistic to me, and it is not critical to the plot...*
- >
- > *I see your point of view; you have a good point: I wasn't very specific,*
- > *was I? Here were my thoughts, David:...*

That makes sense. I guess what I'm feeling now, as I look through the rest of the summary, is that the plot is getting a bit complicated and makes the writing difficult. There are several side incidents going and it will make it difficult to keep the tension up and the story line clear. TRA could verge into the genre of adult science fiction rather than series book.

- > *Sabotaging the power plant is a*
- > *bad idea -- but say they gained control of it. Joe could snip a few control*
- > *wires making it so that the power in the asteroid was only controlled by the*
- > *computers in the power plant area. The pirates themselves would have no*
- > *control over the plant anymore -- but the Starmen would.*

I just suspect that taking over a power plant and wiring system big enough to operate the entire asteroid is going to involve more than snipping a few control wires.

...

The best writing, I think, uses few characters and spends most of the time on small scenes. For example, the scene in which Mark sees the visitors in the night and the subsequent escape will read better than the scene of world panic. If we have the pirates capturing and sheathing asteroids at the same time we have four small pirate fleets raiding in the Belt, and the Starmen and miners hiding in the asteroid, and Space Command and SE maneuvering for position, suddenly we have about four stages of action. It will be hard to write and therefore probably hard to follow. I'm trying to keep the story going without introducing any new characters, too. It seems that the tension has been built up to a high pitch, and then we're moving into three or four simultaneous arenas that can diffuse it.

I'd like to have the Starman and miners escape (I can put the power plant scene in here very beautifully!), have Z and cronies get the asteroids headed toward Mars, and SE and Space Command get on the ball when they see that something's happening. That's three simultaneous fields of action as it is. Anything else will be distracting and lengthen the book considerably. I'm using all three arenas, but just skimming over the SE and SC parts, doing the pirate parts with sufficient detail but not a lot of action--just informational writing--and putting most of the eggs into the Starmen. That will keep the reader informed but not distracted.

The image I have is that Jon paints large canvasses and Mike mixes the colors. I'm the guy who takes the colors and the broad strokes on the canvass and brings out the details. And as the details emerge, occasionally I have to go back to you two to say that the painting is flowing in another direction and how do we fix that?

For example, in the summary, after the sats are destroyed by the pirates, Richard Starlight or another leader wonders what's going on. Makes sense. But when I began to write it (first part of chapter 10), it came to me that the first person who will learn that the sats are out will be some technician somewhere. So I put Mel Golden on Eagle City (from AOM, chapter 1) back into the story. He tells his superior (a new character) who tells Oritz Konig and the Space Command big guy, both of whom are on Mars so that communication is instantaneous. Remember, they've all been warned by the President to watch for anything out of the ordinary since they don't know what the pirates are going to do next--and time is of the essence! The big guys of SC and SE then have to make a decision about what to do, and then they make the communication to Richard Starlight and others in the Earth-Moon system. I think this is logical, but it also could make for a complicated scene which turns the reader's attention away from the action. So I put all that into a couple of paragraphs and then we go back to Zip and company.

Now the sabotage of the power plant on the asteroid per Jon's explanation. That scene can be used in some way. What I have in mind is that the Martians lead the Starmen and miners to a distant part of the asteroid where there is a "back door" and several ships. They will use one of them for their escape in a way you will learn about in a chapter or two. I'm thinking of a passage similar to Gandalf's taking the Fellowship of the Ring through Moria--hence the power plant scene. Some sabotage can be done there but then the question arises: if it's that easy, why didn't the Martians do it from the beginning? After all, it's their plant and they know it better than anyone. So I think that Joe will suggest the sabotage and Zip says, "Well, take a look Joe, but I think that if it were that easy our hosts would have done that a long time ago." Joe looks it over and says, "I see what you mean. This is a really complicated operation and I don't want to take any

chances on pulling the wrong plug. Let's just escape and bring back the fleet." Something like that. George St. George had similar reservations--remember when he told the Starmen about not wanting to fiddle with the controls too much? Also remember the Starmen still think they're in the Asteroid Belt. When they finally get out into the void, they'll have a journey to make they hadn't counted on!

Well those are my thoughts. I hope to have chapter 10 done by tonight and get it off to you.

*David*

*DATE: TUESDAY, SEPTEMBER 19, 2000 1:35 AM*

*> The scene when the Martians took them through the asteroid was marvelous, and  
> the power plant was incredible.*

I'm glad you liked it. They're not through it yet! More to come!

*> I noticed a few things. One thing I noticed immediately was this:  
> > "Only George was able to get beyond the fifth floor"  
> How did Joe know that? I didn't think that George had ever stated he  
> made it beyond the fifth floor, but even if he had, how did the Starmen know  
> the pirates hadn't? And as a matter of fact, one pirate (Zimbardo) -had-  
> made it past the fifth floor.*

Hmmm, right. Maybe I'll take that line out or add another one earlier in the book so that Joe would have that information. Of course, he doesn't know that Z had made it past the fifth floor, but the reader will.

*> I began wondering: how in the world was SE going to fix that machine when  
> Zimbardo  
> blows it out? That will truly be a hopeless task: there is just no way SE  
> could comprehend everything that was going on in so short a time.  
> But -- perhaps SE doesn't have to! Maybe just a core piece burnt out and  
> SE just has to replace it. That is still no small task, but it's not near as  
> challenging as rebuilding the whole system.*

Right. Good point.

- > *Later on, Mark's knowledge of the power plant is what*
- > *saves the day: that, plus the plans of the plant that he brought with him. I*
- > *noticed that, so far in the summary, Mark hasn't made copies of any plans of*
- > *any kind. Do we want to keep this part of the plot? If we're going to have*
- > *Mark save the day, he needs to be familiar with the plant at least on some*
- > *level.*
- > *Mark likes power plants, doesn't he? I could see him studying it for*
- > *hours while their escape ship tries to get back inside the Belt, trying to*
- > *figure out how it works. Perhaps -- just perhaps -- he was very impressed*
- > *with the plant, and remembered the aliens bringing up a diagram. If they*
- > *passed another data panel on the wall, maybe he stopped and pulled the*
- > *diagram up again, and then had the data printed out (and was aghast when*
- > *a -very- thick book came out a slot in the wall). He then studied it on all*
- > *those lonely miles...*
- > *Just a thought!*

That sounds perfect. I'm running into a slight time problem in the events, and this scenario could help. The Starmen and miners will have been gone only a couple of days when they reach the "back door" but Z can't launch his asteroids for at least a week after that. That may not be too much of a problem, but I can buy some time for the pirates by having the Starmen and crew have to figure a few things out at the back door. They'll need at least a day of effort before putting their escape plan into action. Maybe the Starmen will also have to spend time learning a few things in the power plant (as when they had to study SE's plans in the Tunnels). At that time, Mark will explore the power plant a bit, find some data, and make a copy as you suggest.

Thanks for the comments!

*David*

*DATE: TUE, 19 SEP 2000 22:51:30 -0700*

Dear Jon and Mike,

While sitting in the barber's chair today, I was thinking about how TRA is developing and came up with an idea. Now that we have an enormous power plant at the heart of the asteroid, it seems unrealistic that Mark will be able to come in and in twelve hours or so restore the power system no matter how good he is.

But we can't forget the Martians on board. Certainly they're not going to recline on their sofas in whatever quiet place they've got and ride a collision course into Earth. So how about if we have them "help" Z burn out the system and cause him to abandon the asteroid. Then when Mark and company are frantically trying to fix the system, they help out again. I can see Mark at a computer screen drawing up diagram after diagram, all in some alien language, and pulling his hair out. Suddenly the screen takes on a life of its own and the right diagrams come up and show him what to do--just the way the lights in the corridors guided them to the power plant in the first place. Maybe only Mark sees this happening. But at any rate, it keeps the Martians active and hidden at the same time. And it's more believable than if we limit the Martians' participation to providing food and turning on a few lights at the right time.

Why if we leave it at that, their names could be Aunt and Gertrude.

What do you think?

By the way, the newspaper arrived today Jon.<sup>68</sup> Thanks! I'll make copies and pass them around.

*David*

*DATE: SUNDAY, SEPTEMBER 24, 2000 11:16 PM*

Dear Jon and Mike,

---

<sup>68</sup> The Starman Series was featured on the front page of the local newspaper in Hurricane! I sent David and Mike a copy of it.



> *Just read Chapter 12! It really looks great: another fine chapter!*

I'm glad you like it.

> *\* The multi-colored laser makes sense! I'm not sure how it would work, but I think theoretically it's a possibility.*

Actually, I've seen one, which is where I got the idea. At the Reuben H. Fleet Space Center in San Diego about ten years ago there was a half-hour lecture on lasers, and the speaker demonstrated lasers of various colors. He popped balloons with different colors of laser, showing how green and blue do nothing, yellow slowly heats up the surface until it pops, and red pops it instantly.

> *\* The escape problem is good! I liked the way Zip phrased the problem: that was funny. Their escape really does pose a potential problem.*

You'll see the solution in the next chapter!

> *\* Also it was neat that Mark revealed that the asteroid is a spacecraft! I think we revealed this earlier when Zimbardo maneuvered Tharsos out of the Belt (in Chapter 1, I think) but we weren't very clear about it then.*

Yes, it was revealed then, but the Starmen didn't know it. They still think they're in the Asteroid Belt!

> *\* I also noticed right off the bat the "Marshal and Victoria North" bit. That's a reference to Marshal South, isn't it?*

Yes. His daughter's name is Victoria. His wife is Tanya, but that's so obvious I didn't want to use it. It'll be an "in" joke.

> *I would recommend giving an estimate of the size of the alien ships: there's nothing given as to how big or small they are, and that might be helpful.*

Good idea. I'll do it.

Since I sent it off to you I've added a couple of lines, but nothing of substance. One line has Joe saying that the ships are designed for flight in an atmosphere (since they have wings) as well as airless space.

> *The description of the atmosphere plant getting fried (with the bit about terraformation added in) was also good: what a terrific description! It was powerful and effective: what a great way to end the chapter!*

Thanks. I liked that part too. I wasn't sure how that description would turn out, but I like how it developed. We've been hinting for several chapters--almost the whole book so far--what Z's nefarious plan is. The moment when it is revealed had to be spectacular!

On to 13.

*David*

*DATE: MON, 25 SEP 2000 21:18:48 -0700*

Dear Jon and Mike,

I was preparing notes for writing chapter 13, and noticed, Jon, that in your suggestion that I add the size of the alien spacecraft to chapter 12, that the Starmen and miners are preparing for a journey of several weeks. I was preparing for a journey of ten days or so at most. Is that okay? I'm trying to keep close tabs on the timing of the various events so that it all makes sense, the way we put it together in AOM with two parallel timelines. Also, 2/3 the size of a 747 is REALLY big for only 14 people. I'm thinking maybe half that size or a little bigger. Or maybe I should ask my father, the airplane designer, how big is right. What do you think?

Also, I've been doing research on the Yucatan asteroid impact so that our facts are plausible. I already sent you both the URL for a good web site on that. Now apparently that asteroid slammed into Earth at terrific velocity at an angle of about 20-30 degrees, and was six miles in diameter. I've also researched the Permian extinction, in which about 90% of all life on Earth disappeared--245 million years ago or so. That happened geologically quickly, but not instantaneously. That means it was probably not caused by an asteroid. However, there is evidence of an asteroid impact site in Australia at about that time which indicates that an asteroid about 3 miles in diameter struck the Earth.

Some implications for us. How much damage will an asteroid 100 yards in diameter do--i.e. those we have Z using to rain on Mars? Are they too big for the job? Obviously the size of the asteroid isn't important--what IS important is the job they are intended to do: to wipe out atmosphere stations without causing mass extinctions or even wiping out the nearby settlements. So we change the size of the asteroid to anything we want, just so that job gets done. At the end of chapter 12 I described the situation on Mars of how the atmosphere stations are situated in relation to the nearby settlements.

Also, I'm assuming a few things: that the asteroids are moving in their orbit in the same direction as Mars moves in its orbit; that Z is not totally reversing the course of an asteroid, since that would take much more energy than merely nudging it out of orbit--that is, he is not turning it around so that it hits Mars head on, but nudging it out of its orbit so that it hits Mars, as it were, from behind. I'm also assuming that he is not able to speed an asteroid up so that it hits Mars at a velocity of several miles per second. In short, the asteroid impacts that Z is engineering are NOT ecological disasters. He's got chunks of iron that enter the thin atmosphere, get heated up and a little melted away doing so, and then hit Mars with a good impact but not way up in the "miles per second" measure. The question, then, is: how big should they be to achieve the aim of our story? I've just assumed 100 yards in diameter but haven't really figured it out.

Similarly, even if the big asteroid hits Earth, it is coming from behind and not moving in the "miles per second" category. It is still a big enough problem, at 45 miles, to risk major extinctions, maybe of all life, but it is not the same degree of threat as the Yucatan debacle--even if that one were only 6 miles in diameter--just because of the different velocities. Does this make sense? I want these issues to be part of the discussion at SE when Z's threat is announced, and they should be plausible.

*David*

*DATE: TUESDAY, SEPTEMBER 26, 2000 9:29 PM*

Dear Jon and David,

About the spacecraft size,.....2/3 of a 747 is indeed big for 14 people...but for how long....the longer the trip, the more cramped it may seem. If such a ship were built today, at least 60% of that volume would be taken up by engine, fuel tanks, fuel cells,

life support, recycling systems and electronics. I suppose in the future these systems would take up significantly less volume.

About the Victoria name.....May I suggest "Averette".....a rare but great Southern ladies' name.

About the rotational direction of asteroids.....it would be extremely rare to find one that orbits opposite from the rest of the solar system. I am not saying it is impossible...but I have yet to hear of one.....statistically they must exist,....but the larger the asteroid, the less likely.

I am OK with the Earth destroyer being 30 to 40 miles in diameter....the Mars atmosphere generating plants could be taken out individually with 5 (?) separate impacts of MUCH smaller asteroids.

*Mike*

*DATE: WED, 27 SEP 2000 19:09:36 -0700*

By the way, Jon mentioned he liked the forest green spaceships on the pirates' asteroid. I didn't mention that I picked forest green alien spaceships deliberately--for the Martians, reminiscent of their lush forests while they were away in space. I see them as nature-loving people (remember the Chamber!) who also loved space but missed their beautiful home planet while they were away.

*David*

*DATE: THURSDAY, SEPTEMBER 28, 2000 7:47 AM*

I really like the idea of the Martians having green spaceships to remind them of their lush forests back home.....throughout the history of Sci-fi, Martians have been often associated with that color....but never for that reason....it is a great idea! I love it.

*Mike*

DATE: THU, 28 SEP 2000 14:53:52 -0700

Here is my father's answer to the size of the alien spacecraft. I asked him for dimensions for a craft with a crew of 20.

- > *Well, by today's standards an airplane that would carry 20 persons in the*
- > *Earth's atmosphere would be quite small, about the size of a DC-3 that is*
- > *about 1/10 that of a 747. The airplane would have enough fuel to fly about*
- > *1000 miles. The only thing that would make it larger would be the increased*
- > *space for fuel if you wanted to increase the range.*
- >
- > *The type of fuel used today in transport aircraft quality is a high grade*
- > *gasoline which would be pretty archaic by 22nd century standards. In the*
- > *AOM book the fuel is anti-matter, [note: I corrected him on this] so depending*
- > *on the vintage of the spacecraft, I would expect > the fuel to be much more*
- > *space efficient, especially if the craft is designed to fly in*
- > *airless space as well as atmosphere. The only time fuel would be required*
- > *is in atmosphere, because*
- > *once the aircraft gets up to speed it will coast to its destination, then*
- > *require fuel for deceleration to land.*
- >
- > *The Nautilus nuclear submarine, which was the first U.S. nuclear powered*
- > *sub, operated for 10 years on only 12 pounds of uranium which required*
- > *trivial volume. The nuclear "engine" was what required space but was no*
- > *larger than the several diesel engines used in earlier subs.*
- >
- > *Since the craft you are defining is designed to fly in atmosphere as well as*
- > *to transverse space, it would be a design far in advance of today's*
- > *standards. so I think would be much more volume efficient, requiring no more*
- > *space than would be required for today's standards in an aircraft that would*
- > *carry 20 people.*
- >
- > *Also, if your spacecraft have been discovered by the Starmen and used to*
- > *escape, the fuel would have to be already in the aircraft and ready for*
- > *immediate use. This probably means some type of solid fuel.*
- >
- > *To make a long story short, I would think an airplane with the fuselage*
- > *designed to carry 20 persons would be about the size of a DC-3 which carried*
- > *21 passengers and crew of two, but the wing would be about half as much area*

> as that of a DC-3. And for your aircraft, I would think that the propulsion  
 > system would be very volume efficient, requiring  
 > much less volume than today's standards.  
 >  
 > If this is not good enough, I can ping on Curt Wiler, one of my Escapader  
 > friends and co-workers at Rockwell. He was director of the Aerospace plane  
 > studies that were done under contract for NASA. The Aerospace plane was  
 > designed to lift off like an airplane and fly right into orbit, then land  
 > like an airplane. It was not designed for interplanetary flight, but would  
 > approach what you are talking about. It would be quite large because of the  
 > fuel required by today's advanced technology. It is designed to fly about 20  
 > years into the future, not a century or more from now. The key to your  
 > question is the propulsion system. If you used anti-matter, which I know  
 > nothing about, or used nuclear energy, the engine and fuel requirements would  
 > be quite small by today's standards.  
 >  
 > I play golf with Wally Thomson who is a nuclear physicist, taught it in  
 > college before being hired by Rockwell, then designed nuclear power plants for  
 > outer space. I asked him about anti-matter and he said he didn't know much  
 > about it, but that it was very powerful. Can't talk to him for about a month  
 > because he's on a 30-day cruise right now.

I asked him for a little more detail, but I think we're zeroing in a plausible size.

*David*

DATE: THU, 28 SEP 2000 16:31:56 -0700

Dear Jon and Mike,

If you like this answer, let's go with it.

> [me:] What are the dimensions of a DC-3? How long and what wingspan for  
 > the craft we're writing about?  
 >  
 > [my father:] The DC-3 wingspan is 85 feet and length is 62 feet. When I  
 > said the DC-3 is

- > about 1/10 of the 747 I was thinking mainly of weight. The DC-3 grossed
- > at 21,000 pounds as compared to around 650,000 or more for the 747.
- >
- > Your space ship would have to be about the same length because of the
- > space required to seat 20 people, but there would be
- > enough room in that length
- > also for galley, washing, sleeping and storage also because the DC-3 had
- > space for that also except for the recreation. It had a restroom, galley,
- > storage for baggage and sleeping would be in the seats.
- >
- > I would think that there would be space for recreation also since I visualize
- > it being just large enough for one person and a few spring loaded or air
- > cylinder devices. For the time period you are talking about the internal
- > space would have to be very efficiently utilized.
- >
- > The configuration would be similar to the space shuttle which has a highly
- >
- > swept delta wing design. You could think of a slightly more streamlined
- > Shuttle configuration, about 62 feet long and a wingspan of about 45 feet.
- > The wing would be much thicker than that of a DC-3.
- >
- > There would be more usable space than in the DC-3 because the tail end of
- >
- > the fuselage would not be tapered. It would be larger, about the same cross
- > section of the fuselage to house the propulsion system. The wing would
- > have about the same or more internal volume than the
- > DC-3 because it would be much thicker.
- >
- > The structure would have to be much stronger, thicker and heavier to
- > withstand the reentry heat generated by atmospheres.
- >
- > I'm assuming there would be a very volume efficient propulsion system. I
- > don't know much about the propulsion system for your time period.
- >
- > Hope this helps.

*David*

DATE: THU, 28 SEP 2000 20:12:44 -0700

Dear Jon,

Here, at last, is the escape plan put into action. It's not flawless so I welcome your suggestions. Also attached is the TRA timeline to date.

I noticed one thing we hadn't taken account of before. The atmosphere in the asteroid. Wouldn't it be the same as on Mars? Wouldn't the humans get headaches? Wouldn't they figure out that it's Martian air? And isn't it funny that they never see the three-moon logo anywhere in the asteroid, but would see it on the NPACs in AOM? Are these things worth doing something about? Your thoughts?

I moved the inspection of the factory by Zimbardo to the beginning of Chapter 3, Montezuma's Castle. It now takes place just before the scene in which the Starmen land on Ceres.

And here is the altered text which adds the enriched descriptions of the spacecraft.

*David*

DATE: FRI, 29 SEP 2000 08:12:46 -0700

Dear Jon and Mike,

> *Just read Chapter 13. It looks great!*

Glad you like it.

> *One thing that bothered me, though, was that*

> *Joe stayed on board the ship when the oxygen tank blew up.*

I'll rethink that. I just didn't want to take a chance that the explosion could take place while the ship was on radar. It was supposed to look like an old wreck, so the pirates couldn't be allowed to see the explosion happen--it had to be close to the surface, out of



radar range. I'm assuming that the oxygen tank was so small that the threat to Joe and the ship was minimal. Maybe that should be made specific.

- > *One thing I have noticed about this book is the gravity situation: we have*
- > *been assuming Earth-type gravity.*

Oh, right. A little rewriting will fix that.

- > *About the message Zimbardo sends to Mars: ... Also, there is a plot point*
- > *to consider: how did SE know what region of space to search to find Tharsos?*
- > *...So, here is my idea: say that Zimbardo uses computers to hack into the*
- > *Martian communication system,*

Great thinking!

And your suggestions on the atmosphere of the asteroid and the three-moon logo are excellent! Solves the problems as far as I can see.

- > *We should print this [the timeline] and have it*
- > *bound in with our author's copies of the books:*
- > *it's a great reference.*

Another good idea. Along with the Christian references (fewer this time, but slightly more obvious) and other things. I'm maintaining the detailed glossary too.

*David*

*DATE: FRI, 29 SEP 2000 17:14:00 -0700*

Dear Jon and Mike,

- > *Joe stayed on board the ship when the oxygen tank blew up.*

I'll probably just leave it as is since making changes would unnecessarily complicate the plot. Readers will assume, I hope, that the Starmen knew what they were doing.

- > *We might want to think about going back and rewriting various scenes to*

> *include low gravity.*

Okay, I went back and did that. I didn't reduce the men to weighing 10 pounds, but I said "in the low gravity, such and such was possible"

> *About the message Zimbardo sends to Mars: you know, if I  
> were Zimbardo I wouldn't just send the message to officials: I would  
> broadcast it to the entire planet.*

How's this rewrite: ...

Forty-two hours later, Marshal and Averette North...

The rest of your comments--leaving traces of the hacking, etc. which helps with location, are brilliant. We ARE a great team!

*David*

*DATE: TUE, 03 OCT 2000 01:46:53 -0700*

Dear Mike and Jon,

When I write, usually the story just unfolds in front of me and occasionally new ideas seem to emerge almost on their own. Or the next step in the details just seems to flow naturally from the previous one. That's what's happened in the first portion here of chapter 14. It injects a new element into the plot that we hadn't anticipated. I wanted to run it by you two to see if it makes sense. If you like it, it could make a contribution to the story. I can see a number of pirates abandoning the asteroid in an "every man for himself" moment once Earth locates the asteroid. Then Z would head out to the tenth planet in one ship with only a few diehard loyalists like Lather and Crass, vowing (at the end of TRA) to contact the Superiors and get his revenge--he just about completely loses it. Let me know what you think. It picks up directly from the end of chapter 13, where Z announces to the startled pirates that he is aiming the asteroid at the Earth and then presses "Enter."

*David*

DATE: THU, 05 OCT 2000 21:56:02 -0700

Dear Jon and Mike,

The readers (listeners, really) have now heard the entire text up to the point where the actual text ends. They have a couple of comments.

One: when Mark radios SE once the pirates' asteroid takes off, aren't they taking a chance that they can be overheard? We assume that Mark has been able to figure out the alien communication system, but it would be a real stretch to say that they can encrypt a message and put it on a tight beam.

Two: will spacecraft, alien and Earth-originated, be able to locate other ships in the vicinity? If so, how big a vicinity? A ship could locate another ship by radar if it were close, but couldn't find one 8 light years away. Where does their ability to locate another ship end? The question comes up in this way. When they are in the alien ship heading for the unmanned SE base, can they look for another SE ship on their own or do they have to ask SE if there are any ships close by?

Other than that, they REALLY like the story! We also made a few minor changes as we went through.

*David*

DATE: FRI, 06 OCT 2000 08:14:16 -0700

Dear Jon,

>>One: when Mark radios SE once the pirates' asteroid takes off, aren't  
>>they taking a chance that they can be overheard?

>

> Well, sure, I suppose that there is -some- chance of that, if there are  
> any pirates out there listening. But suppose they were overheard -- so  
> what?...we might want to add a little passage in the chapter that goes

- > *something like "But Zip, won't radioing tip off the pirates? We can't put*
- > *this message on a tight beam, you know." "Well, probably not -- but if it*
- > *does, so what?" etc.*
- > *To the Starmen, it's probably worth the risk: they're running very low*
- > *on supplies...*

Sounds good. Your other comments are fine too. I'll make a couple a small changes.

- > *April had a comment about Chapter 14. In that chapter, at one*
- > *point someone said "They must have either forgotten about us or ignored us."*
- > *April didn't understand that: didn't Z. still think they were on board the*
- > *asteroid? They never paid any attention to that derelict, and she thought*
- > *that remark didn't make any sense...*

She's right! I'll fix it.

*David*

*DATE: MON, 09 OCT 2000 11:58:01 -0700*

Dear Jon and Mike,

GREAT plot idea, Jon! That's why you write the plots!! Fantastic!<sup>69</sup>

Anything from Paul Greene yet on writing the introduction? We're probably only about a month away from getting a package off to the printer and we'll need his contribution.

*David*

---

<sup>69</sup> A reference to the plot for *Operation Luna*, which was going to be the fifth Starman book. Originally *The Lost Race of Mars* was the sixth Starman book (check the title listings in *Assault on Mars*!), and when we realized this we decided to swap the places of the two books and make *The Lost Race of Mars* Starman number five. (We *really* were looking forward to writing that book!) *Operation Luna* might have been the sixth Starman book, but then I got the idea for *Doomsday Horizon* and with that book the entire series shifted focus. A plot for *Operation Luna* does exist, but I doubt we'll end up writing that book. It's a pity: we had a good story planned! It was going to be the first book to open with a scene involving Thomas Starlight.

*DATE: THU, 12 OCT 2000 23:15:11 -0700*

Dear Jon and Mike,

I forgot to mention when I sent you chapter 15 that a new idea came to me as the words were appearing as a typed--the idea that the President wonders what Zimbardo's REAL motive is in threatening Earth. We've always assumed that he wants control. But it seemed to me, once I got to that point, that it was an unrealistic goal. Troy Putnam could want it, maybe, because was a megalomaniac--i.e. mentally unbalanced and unable to think clearly. Zimbardo, however, is under the control of the Xenobots. I'm guessing that the real purpose behind Zimbardo's threat against Earth is that the Xenobots want the access codes and other computer secrets that will render Earth's defenses and entire communications systems powerless. That is, subterfuge and sabotage. Z is probably ignorant of this--the X's have promised him power and he expects them to provide it once Earth agrees to his demands. He really think he can be dictator, but only because the X's will back him up. But when he gets the access codes, the X's will drop him as being of no more use. When he runs to them in JTP, therefore, he goes hoping for help, but instead arrives as a useless and embarrassing failure who is bringing their enemies (i.e. the Starmen) directly to them.

Along that line, I have already made notes for Z's last scene in TRA. I will use words like "demoniacal fury" and "like a man possessed." These terms will have double meanings. And the captain of the getaway ship will be the man I introduced earlier in the story: Gebbeth. Gebbeth, in case I didn't mention it before, means a "demon-possessed person."

What do you think?

*David*

*DATE: FRI, 13 OCT 2000 20:24:42 EDT*

Dear Jon and David,

I am all for Jon's suggestions and I really like the double meaning David chose for the end of the chapter/Gebbeth. I noticed that if we had some negative entity with

the initial Y, then we could have all the bad guy stuff linked together in a little play on the alphabet (X,Y,Z).

Mike

DATE: THU, 19 OCT 2000 19:03:49 -0700

> *\* The West Virginia passage is a very nice touch! I really like it: it's  
> beautiful. It's a great way to start the chapter! I think it adds character,  
> besides being a lovely passage. I'll have to write into the files that David  
> was born in West Virginia... or had we already decided that? I really don't  
> remember.*

No, that was new idea. I'd been wondering for several days how to begin the chapter since so much takes place in it, and suddenly it hit me that this might be a good way. I wanted to contrast the beauty of farmland in WV to the devastation. It sort of wrote itself once I sat down. Adds a distinctly human, emotional touch to David, too.

> *\*Is there really a Clark's Bridge crossing in WV?*

No, but there is one in Georgia. I was visited today, just as I was writing that part, by a mother and daughter in my parish who are moving this Saturday to GA to Clark's Bridge Crossing. The girl is a 12-year-old Russian orphan, adopted last December. A wonderful child. They were describing their new home, and I thought, "I'll immortalize their visit." I told them about the Starman series, gave them the web site URL, and while they were watching wrote Clark's Bridge Crossing into the scene. If you get an order from Judy Holcombe, that's the mother. The girl is Tasha. I kept the village in WV, however, obviously to honor you and your family.

> *\* One little thing I noticed: that two-hour drive from WV to Washington DC  
> was quite a feat! David must have lived at the extreme edge of WV and gone  
> quite fast. WV isn't that close to Washington DC... Might want to change  
> this to 'two-hour flight' -- in a Cessna or smaller personal aircraft  
> that's just about right.*

How long a drive is right? I picture them in a jeep. Four hours, six hours? Or should they go in a personal aircraft? I'm not particular, just so the facts are right.

> *\* Another little thing I noticed was that the fields had tall grasses waving  
> after harvest time. All the farmers I see around here cut their fields at  
> harvest time, and then after harvest they have a field of stubble with no  
> grass in it at all. Also, after harvest time it sure doesn't rain: it gets  
> quite cold here and snows. You might want to change this to 'before harvest  
> time' -- before harvest the fields are truly ripe and filled with grasses,  
> and it does rain then...*

Okay, I'll make the change. I was thinking of the fields of California. But now that I think of it, I think we don't even get grass until early spring.

> *\* I'll have to look up my Latin and find out what confidence means! That  
> part was neat.*

Con="with," fide="faith". Confidence="with faith"

> *\* Concerning a spy in Robert Nolan's network -- I think that's great, but  
> you might think about changing that phrase to "a spy planted in Robert  
> Nolan's network", just to make the meaning absolutely clear.*

Okay. Good point.

*David*

*DATE: SATURDAY, OCTOBER 21, 2000 9:46 PM*

Dear Jon and Mike,

The reading group went exceptionally well today. The four of them love the way the story is going, and definitely did NOT like being left hanging for two weeks at the end of chapter 16, with Z sending his fleet out after the freighters! We will have our final gathering on November 4. By that time for sure the book will be finished.

Had an idea. We merely said that a "planted spy" sent the information to Z about the freighters. How about if we introduce Dr. Beowulf Denn at this point? Let him start as a trusted advisor to Robert Nolan before going over to SE maybe sometime in the course

of JTP. Perhaps his departure can begin to drive a wedge between Nolan and Richard S. I can add a paragraph or two in "A Dark Spirit" in which he sends the message to Z. If we leave it merely as a planted spy, then this person is still unidentified and loose at the end of TRA--unless we somewhere have him identified and rounded up. Which also works, but I think doesn't have quite the smash.

What do you think?

*David*

*DATE: SUNDAY, OCTOBER 22, 2000 6:38 PM*

Dear Jon and Mike,

Good, we're agreed then on Dr. Denn's being the planted spy. We've learned that our plots and personalities develop a lot of detail as the books are written, so how about if I introduce him at this point but say as little as possible about him--just enough to get the story told. That'll leave us a lot of options--not box us in too much for future development. I'll draft that section and email it to you both for approval.

My son has agreed to have the artwork done in 2 weeks, so we're on track for that. He's got everything he needs. Any ideas on a scene for the frontispiece? I'm thinking that the great power plant might be good, using the photos Jon sent for inspiration.

Jon, could you send me the email address for Tom N-something? He's the amateur astronomer in Cottonwood Arizona who offered to help us out. I'd like to ask him to supply a photo he's personally taken for our use as the endpapers. Sound okay? <sup>70</sup>

And the Dan guy who outbid me on the Dig Allen books is a chemical engineer. He's also asked if he can help. I thought I'd ask him about what methane rain in Titan might be like. <sup>71</sup>

*David*

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<sup>70</sup> Tom's photograph was used as the endpapers for the second, third, and fourth Starman books.

<sup>71</sup> This was Dan Henton. David met him by email when they were both bidding on the sixth Dig Allen book on ebay. David contacted Dan before the auction was over and Dan kindly withdrew to allow David to purchase the book for a boy who was a member of the Starman reading group. Dan later became a Starman fan. The boy was Benjamin Bennett, mentioned later in this document.



*DATE: MONDAY, OCTOBER 23, 2000 5:24 PM*

- > Second, the passage is great but I noticed it could easily be*
- > interpreted several ways:*

I wrote it that way on purpose, just to have the slightest shadow of doubt. We are seeing Denn's actions, but not yet his mind or motivations. The reader will STRONGLY SUSPECT that here is the spy, but there is just a tiny doubt that will be answered in future books: Yes, he is the spy. But if you want it made specific up front, that's okay with me too.

*David*

*DATE: UNKNOWN*

- > >Are we looking for a name for the spaceship? ...how about the*
- > >STARVENTURE? Or the TEMPEST?*
- >*
- > I think we are definately open to suggestions! Mike, you are terrific*
- > with names (I think most of the titles were your idea): can you think of a*
- > name that has to do with darkness?*

How about TARTARUS? That is the ancient mythological name for Hell. Or do we want to reserve that for a bad guy ship? I was thinking that Z's escape ship from the asteroid in TRA would be IRON MAIDEN. But TARTARUS might be better for that. What do you think? Other ship names I've thought of and have backlogged are LUX MUNDI (Light of the World--a Christian symbol--for Richard Starlight's personal ship) and IGNIS (Fire). If you like TARTARUS for Z's escape ship, for the ship that carries the Starmen, et al, to Nyx, how about LUX DEI (Light of God)?

*David*

*DATE: MONDAY, OCTOBER 23, 2000 10:14 PM*

Dear Jon and Mike,

First an inspiration on the Jesus Montoya figure. I wasn't real happy with the name, since I didn't really know what Montoya meant. So I asked a Latino man I know (a priest and a member of our karate program) for a good name. He said that Montoya is a name like "Smith" but in Spanish has no real meaning. He worked on it for several days and suggests Jesus Madera. Madera means "wood." He also suggested Jesus Cruz (meaning "cross") but preferred Madera as having a good sound in English and being more subtle. I think we're working on depth and subtlety in our series, so I suggest that we go with Jesus Madera for our Jesus figure. Okay? Unless you really want to hit our readers with an obvious name like Jesus Cruz.

*David*

*DATE: MONDAY, OCTOBER 23, 2000 11:21 PM*

Dear Mike and Jon,

With what Mike has suggested, I can see two kinds of small spacecraft used by SE, Space Command, etc. The scarab craft could be cruisers, exploratory vehicles, etc. And the firewasps could be small fighters. Great terms, Mike!!

*David*

*DATE: TUESDAY, OCTOBER 24, 2000 4:45 AM*

Dear Mike and Jon,

Two questions of a technical nature:

How far does the Moon orbit above the Earth? I kind of remember that it is about 183,000 miles, so I placed the orbit of NME at 160,000. But I want the journey from the

Moon the NME by small craft to be about 26 minutes, for the plot's sake. So the REAL question is, how far should NME orbit above the Earth?

What is a logical mass for the pirates' asteroid? In the story I just whipped out a number in the billions of tons, but that's just a number out of the air. What is a plausible mass for a hollow iron asteroid about 45 miles by 25 miles?

And a third question just for Jon: did you mail the two dust jackets already? Leslie is eager for her book.

Thanks!

*David*

*DATE: TUESDAY, OCTOBER 24, 2000 7:52 AM*

Dear Jon and Mike,

It suddenly occurred to me that we don't have to choose between Jesus Madera and Jesus Cruz. Latinos formally use hyphenated names--the surnames of both mother and father. Wilfredo, formally, is Wilfredo Benitez-Rivera. His wife is Candida Feliu-Gonzalez. So how about if our ioneer is Jesus Madera-Cruz, i.e. Jesus Wood-Cross? Still subtle but it's got everything in there.

*David*

*DATE: TUESDAY, OCTOBER 24, 2000 9:08 AM*

Dear Jon and David,

The average distance of the moon from the Earth is 240,000 miles (actually 230K and some change).

Geosynchronous orbit for an Earth satellite is about 22,000 miles out.

Any space station above about 500 or so miles will need little or no "reboost". (Need for reboost is why we lost Skylab!)

A good spot for something like the NME complex MIGHT be one of the EARTHS" Lagrange points (distance of 240K miles) 60 degrees ahead of or 60 degrees behind the moon. AND there is no reason a large complex could not be in a permanent transfer orbit, sweeping by the Earth AND the moon.

I will try to get a good mass for a hollow iron asteroid, later today.

*Mike*

*DATE: TUESDAY, OCTOBER 24, 2000 6:31 PM*

Dear Jon and Mike,

> >About David's preference to use the word FIREWASP to describe a  
> >spacecraft or spacecraft type....I agree wholeheartedly!  
>  
> So do I! It sounds like a terrific classification scheme. Great  
> thinking, David!

You'll have noticed, no doubt, that these little ships made their appearance already in TRA. I have described them as two-man operations: one to pilot and one to act as gunner. If you want something different, let me know.

NOTE OF EXPLANATION: As I write the stories, there are lots of ideas and details that just come up or seem to be a logical implication of the story line once the details of previous chapters have emerged. Often these things will vary from the summary Jon has written. By no means am I just taking it upon myself to change things unilaterally. Everything is offered for comment and improvement to you two.

Example: we have generally thought that Mark would be the one to "save the day" in getting the asteroid out of a collision course. We've also said that Jesus Madera-Cruz (as he now is) will be present. It has also emerged in the writing that the evil guys are breaking up, and Gene is falling away from Z. These three points developed separately in time. But now that they are all coming together in chapter 19, it seems logical that the final scenario be something like this: Jesus leads the exploration of the asteroid before Mark arrives, then partners up with Mark in fixing the situation. When the power is re-

stored, the only person who can PILOT the asteroid is GENE! How about if Jesus brings Gene to the beginnings of repentance and urges him to pilot the asteroid in an orbit around the sun, thus saving Earth? Gene does so. He is still a prisoner, etc., but a change of heart, brought about by a "near-death" experience and an encounter with Jesus, becomes a real part of the story. Your thoughts?

- > *here's an idea for you -- what if the AM nanobot colony*
- > *on Triton was the only active colony in the solar system? Perhaps they kept*
- > *data links going between Triton and their other bases... they were the ones*
- > *who maintained various bases and kept an eye peeled for the Xenos. When*
- > *something needed attention, they could send an android to take care of it*
- > *-- or they could "just add water" and come back to life. This could be,*
- > *perhaps, a secret base of AMs: their headquarters and only living city*
- > *during the long dry empty years.*
- > *What do you think?*

Yeah! Now we're moving in the right direction. This is going to be an amazing plot.

- > *The AMs ... seem to be a combination of the best in a number of different*
- > *cultures/races. They'll be fascinating! It will be fun to watch and see how they*
- > *grow and develop.*

Amen!

- > *If I were you I'd put the base in lunar*
- > *orbit -- that is, have it orbit the moon and not Earth.*

Sounds brilliant. I'll do it unless Mike has a better idea. Makes more sense, too. NME would want to be close to the manufacturing and energy sources of the Moon.

- > *A good spot for something like the NME complex MIGHT be one of the*
- > *EARTHS" Lagrange points ( distance of 240K miles) 60 degrees ahead of or*
- > *60 degrees behind the moon.*

Ah, but it needs to be fairly close to the moon. I like Jon's idea of having NME orbit the moon. Will that work, Mike? Is that okay with you?

- > *What is a plausible mass for a hollow iron asteroid about 45 miles by 25*
- > *miles?...roughly 20,625 trillion tons if I did my math right....One other*

> *minor point: currently, the gravity constant ...By the 22nd century they*  
> *might know it to 7 or 8 places, but definately not 11, and certainly not 17.*

> *I will try to get a good mass for a hollow iron asteroid, later today.*

Great. We can confirm Jon's rough figures. This is the kind of work that will make the Starman series so plausible, a series of top quality.

> *I sent it [dust jackets] out priority mail last week. You should get it*  
> *very shortly!*

Hmmm. Nothing yet, as of Tuesday. I have received all of Benjamin's Dig Allen books, however.

By the way, obviously in the last two chapters I'm honoring our reading group. We have Commander Benjamin Bennett (he'll love that!) and Captain Mary Mark-Leslie. Is the latter name too contrived? It is the first names of the three adults. I could make it Maria Marks-Owens or something. Let me know what you two think.

> *\* I think that the speed of Tharsos (quoted around 50,000 mph) is much too*  
> *slow. ... it will need to travel an average of 258,333 -- roughly*  
> *260,000 mph!*

Okay, will do. But is that plausible with the speed of an asteroid in the Belt, or is this speed mostly the result of Martian thrusters? And keep in mind that when Z soups it up, it'll be going even faster!

> *\* Second, the speed of the probes was quoted at half the speed of light --*  
> *... a tenth that speed, or a hundredth, would still be able to do the job easily.*

Okay, I'll make it a tenth the speed.

> *\* I found this exchange interesting:*  
>  
> *"Computer," he said in a dull voice. "How long until the net disappears?"*  
> *"One hour, fourteen minutes, twelve seconds," came the mellow voice.*  
>  
> *EMP, I think, travels at the speed of light*

Wow! I didn't realize that. I'll reduce the time it takes to destroy the net to about 8 minutes--does that work?

...

Okay, I think we're caught up now! Looking forward to the responses from both of you to a few queries in this message. I'm glad that the only suggestions Jon had to the two chapters were scientific figures. I think the story is flowing powerfully, and the culmination will be smashing (no pun intended). Interesting, isn't it, that the Starmen have really done VERY LITTLE of note in this book! Even their part in turning the asteroid aside is minimal.

*David*

*DATE: TUESDAY, OCTOBER 24, 2000 10:14 PM*

Dear Jon and David,

Am EMP would indeed travel at the speed of light.....they are both electromagnetic radiation. (Not particulate radiation such as alpha particles, or cosmic rays) I have struggled to think of an exception here and I just can't.

To my understanding, an EMP is just a humongous but short-lived radio broadcast. If I am wrong, I would like to know!

*Mike*

*DATE: WEDNESDAY, OCTOBER 25, 2000 8:57 PM*

> >Interesting, isn't it, that the Starmen have really done VERY  
> >LITTLE of note in this book! Even their part in turning the  
> >asteroid aside is minimal.

>

> I know! They're almost incidental to the story. In fact all they really  
> did was cause trouble: if they had just stayed home in bed GSG wouldn't have

> *been captured and the asteroid would have been stopped just as well. As it*  
> *was they got themselves and GSG captured and had to make this long harrowing*  
> *escape... It's awful to think about. I'll have to think about this; it seems*  
> *strange..*

Well, this is certainly unusual in series book history!--unless you count the books where there is just bad writing, as in *Footprints Under the Window*. I think what happened in TRA is that the Starmen are learning from their experiences. They've been given access to the interior of the asteroid; Mark has some printed info on the power plant and is learning from it; they've learned that there are at least two aliens in residence; they have one of the alien spacecraft; they've made contact with Montezuma Vly who will welcome them back to his Castle; and they've benefited from contact with GSG. This is a book in which the Starmen have things happen to them. Complicated as the plot is, it is essentially just a side adventure on their way home from Mars to be honored for their heroism there. And above all they've bonded as a team and learned about each other.

*David*

*DATE: WEDNESDAY, OCTOBER 25, 2000 11:36 PM*

> *Last night in bed I was daydreaming about the last chapter, and thought*  
> *of Joe's reaction when he realized he'd completely missed all the action. I*  
> *think my thoughts went something like this:...*

I think it's a great passage! I'll definitely put it in! Just the closure we need. I thought I'd have the Starmen and maybe their families finish up the book visiting Zip's aunt and uncle on the farm. Sound okay? Did you notice that I named them Francis and Clare? Are you aware that these are the two famous saints of Assisi, who initiated the great renewal in the early 13th century?

*David*



*DATE: THURSDAY, OCTOBER 26, 2000 8:34 AM*

Dear Jon and David,

1) I like David's suggested ending for the story, lets go with it.

2) Yes, I am in agreement with you guys about sending some money to help Fred out.

3) About iron in the Asteroid belt.....I am almost certain that there are huge chunks of pure Iron/Nickel out there.....Some of the house sized meteors that strike the Earth are pure Iron. Belt material is really of three types, Stony, Iron and Stony/iron mix.

4) While on the subject of Asteroids...I just found this out.....Regular, in the belt type asteroids are given feminine names, all those that have irregular or unusual orbits are given masculine names.

5) I see no problem with using wooden shingles in the 22nd century Earth.....back in the 60s, I do remember thinking it odd that Dig Allen and the guys were hauling cargo around space in wooden crates! However, I have come to respect wood for its strength to weight ratio.....to this day modern airliners use balsa wood for cabin pillars etc, In the 60s Balsa wood was considered the ideal material to use for one of the giant tank shells on the Saturn V.....until they realized the amount needed would be larger than the annual production of balsa wood.....the first spacecraft to crash land on the moon was the Ranger.....made of Balsa wood.

I truly believe that wood will always be with mankind and we will always need a carpenter!

*Mike*

*DATE: THURSDAY, OCTOBER 26, 2000 8:31 PM*

The last few chapters are really becoming intensely frightening, very spooky. Mary, one of the adult visitors, was visiting today as I was writing the first part 19, and she actually shivered! The falling apart of Gene, Zimbardo, the independent smugglers, etc. is becoming quite demonic.

I'm noticing that many things seem to "choose themselves." For example, when I came up with the Gene character several weeks ago, he just appeared and the name was there in seconds. Only later did I realize that his full name "Eugene" means "good beginning." We get the Biblical book Genesis from that same Latin word. And in chapter 19 (you'll be getting it in a couple of hours) he runs from the darkness of the corridor to his

room to get a flashlight--that is, he is running from Zimbardo and darkness to the light. But he doesn't turn it on until later. The whole last part of the book is becoming extremely exciting, but also a deep parable of the spiritual life on the theme of conversion--from darkness to light.

By the way, I've charted the pirates' names in TRA, so we know who's who:

Zimbardo in charge

five lieutenants:

Gebbeth

Crass

Lather (assisted by Blake and Spelford)

Bolcher

Slant

Support personnel are Gene the master control center guy, and Stubb who oversees the manufacturing.

The independent smugglers are Lorry, Kimball, and Jenner.

The five who accompany Zimbardo to Nyx are Gebbeth and Slant with three not-before-named characters: Stagnum, Withers, and Poppy. The last three names are suggestive of stagnant, withering, and opium/drug stupor.

Their ship, Tartarus, is an old word for Hell. Am I getting too symbolic here?

Back to chapter 19!

*David*

*DATE: THURSDAY, OCTOBER 26, 2000 10:19 PM*

Dear Jon,

Well, I thought I could get by with just one more chapter after this, but I'm going to need two. So this is a new chapter, called Change of Guard. The last two chapters will

still be Desperation and The One That Got Away, but now they will be numbered 20 and 21.

*David*

*DATE: THURSDAY, OCTOBER 26, 2000 11:43 PM*

Dear Jon and Mike,

I had deliberately left Gene as the only person without a last name. Other characters had either both names or first name only. I didn't know why, but it felt right. Then when Gene was introducing himself to Mary Mark-Leslie in chapter 19, I realized then that he had to have a last name, but none came to me at the time, when I sent you the chapter. Only when he meets the "good guys" does his full name have to come out.

What it had to be came to me later. As a sign of his coming conversion how about Gene Newman?

*David*

*DATE: SATURDAY, OCTOBER 28, 2000 1:21 AM*

How far above the Moon should the NME space station orbit? I picked 1,000 miles first, but that seems too low.

*David*

*DATE: SATURDAY, OCTOBER 28, 2000 10:07 AM*

Dear Jon and David,

About lunar orbits.....you can just about choose whatever altitude you want....from 10 miles high to about 50,000 miles. Having no atmosphere allows for

such a low orbit....you could theoretically go lower in some areas, but there are mountains that apparently poke up to 6 miles above lunar "sea level"....a real risk for the Apollo missions (there was a contingency for the Command Module to sweep down to rescue a "partially orbited" Lunar Module. Various Lunar mountains would have made this a VERY risky maneuver indeed!) Another concern for low Lunar orbits were these buried mass concentrations called "mascons"....they were giant objects under the lunar surface that had a much higher density than the general crust, causing the orbiting spacecraft to dip down whenever they passed over. These objects were a serious concern to the Apollo engineers, and never fully explained. They were probably huge chunks of iron....my opinion is that they are the result of ancient iron asteroid impacts...or even part of the accretion that built the moon. Interestingly, recent reports have inferred a similar type thing under the Yucatan impact site here on Earth.

In short, if you place the NME station in a low Lunar orbit, you will have to have a "mascon" orbital management system. I guess about 300 miles would be safe distance. You don't want it too high, as you will then run into "the neutral zone", where Earth's gravity will try to steal the station. And remember, if you want you can have a combination orbit, where it transfers back and forth between the two bodies.

Very interesting report on the low density asteroids...I had not encountered that one, Jon. I do know that there is current thinking that a good number of asteroids are really just rubble piles (or more positively...preworked mineral deposits!!!) However, I am very impressed with such a low density for that Asteroid in particular.....yes, "pocketworlds" do come to mind, but I am also beginning to form a little theory of my own.....It is possible that there is a special space object formation process in which dust and ice particles adhere to each other (in micro-gravity) forming a low density conglomerate...the only problem with this theory is that the result is basically a "comet" type chemistry .....leaving the question "Why ain't the object glowing and streaming off a giant tail?" Perhaps the ice part has volated off, leaving a kind of freeze-dried asteroid.

A couple of years ago, a scientist postulated that the Earth was being hit by thousands of house sized water comets every day.....he had what looked like good photographic evidence. He claimed these things were of very low density (like snowflakes). The theory remains just that.

*Mike*

*DATE: SATURDAY, OCTOBER 28, 2000 1:05 PM*

Dear Mike and Jon,

Thanks for both your input on the matter, and thanks, Jon, for all the really fascinating information on the moon, asteroids, etc. It's wonderful how accurate our scientific stuff is! I'll make the orbit of NME about 500 miles, then, okay?

*David*

*DATE: SATURDAY, OCTOBER 28, 2000 1:10 PM*

Dear Jon and Mike,

Just confirming something. Jon estimated that the mass of Tharsos would be on the order of 20 quadrillion tons.<sup>72</sup> That still seems high to me for a hollow iron asteroid. Right now, the passage reads,

In eight seconds the mellow voice of the computer spoke. "Object is a natural body of approximately 20,625 trillion tons, currently traveling at a rate of approximately 260,000 miles per hour..."

Now the computer would probably not know that the asteroid is hollow, but still, the figure seems high. How about rechecking this figure? What would be the mass of an iron asteroid 45 x 25 miles?

*David*

*DATE: SATURDAY, OCTOBER 28, 2000 11:10 PM*

Dear Jon and David,

Density of Iron is 480 lbs per cubic foot. A cube of Iron 25 miles by 25 miles by 25 miles contains  $2.3 \times 10$  to the 15th power cubic feet.

$$25 \times 5280 = 132,000$$

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<sup>72</sup> David's original figure was a few billion tons. I thought that was far too small for an object 45 miles wide, so we started doing calculations to figure out what the mass would actually be. I never thought writing series books would require a knowledge of mathematics!

$$132,000 \times 132,000 \times 132,000 = 2.3 \times 10 \text{ to the } 15\text{th}.$$

So,  $(2.3 \times 10 \text{ to the } 15\text{th}) \times 480 = 1.1 \times 10 \text{ to the } 18\text{th lbs}$

Covert to tons by dividing by 2000 =  $5.52 \times 10 \text{ to the } 14\text{th Tons}$ . (solid iron cube, 25 miles x 25 miles x 25 miles)

Logically, if you double the length of this cube , but maintain the same mass, you will have in effect the mass of a 50% hollowed out iron asteroid 25 x 25 x 50...close enough to original of 25 x 25 x 45 miles. If you want greater or lesser "hollowing out", you can change the number ( $5.52 \times 10 \text{ to the } 14 \text{ Tons}$ .) accordingly.

55,200,000,000,000,000 Tons

Actually, I doubt such a large hunk of pure iron is realistic, for formation reasons. Any hunk THAT big would likely have attracted a lot of other stuff, also the size is getting into the "hard not to have been discovered "category.

If you want mass for a combination Iron and Stone asteroid, divide by 2.5 and that should do it.

*Mike*

*DATE: SUNDAY, OCTOBER 29, 2000 5:59 PM*

Dear Mike and Jon,

> 55,200,000,000,000,000 Tons

>

> If you want mass for a combination Iron and Stone asteroid, divide by

> 2.5 and that should do it.

That would be about 22 quadrillion, which is pretty close to what Jon's first estimate was. Wow. Okay, let's go with that original figure!

*David*

*DATE: TUESDAY, OCTOBER 31, 2000 1:02 AM*

Dear Jon and Mike,

- > I got Chapter 20 and read it, and really enjoyed it: it's terrific! I was*
- > impressed at the minute attention to detail: you covered points I had*
- > completely forgotten about. The conversation concerning burning out the*
- > asteroid's power supply was great: it really made a lot of sense.*

This is the kind of detail that just comes whenever we get down to looking at the story line closely.

- > First, the passage remarked that the elevators were unusable because Zip had*
- > fried the power to them (which makes sense) and they had to spend 11 hours*
- > fixing them. However, wasn't the entire asteroid powerless? Even if he*
- > hadn't fried the panels they still couldn't run the elevators: there was*
- > simply no power to run them.*

Oh, right. Well, I can say that the portable power packs got the elevators operating but the doors couldn't open until the control panels were fixed. How's that?

- > It should be easy for SE to find this airlock and*
- > enter that way: they could get a vague idea from the Starman what part of*
- > the asteroid they escaped from,...It would save them time, for*
- > one thing, and give them a big open area (the hangar bay doors) in which to*
- > bring equipment.*

Hmmm, also right. But as I think of it, I kind of don't like the picture of hundreds of men, even the good guys, in the hangar with the alien craft. I have the image that contact with the aliens should still be pretty restrictive. Only one Starman has seen the aliens and only when they were unaware of it. Their self-revelation seems to be extremely limited in scope. I think of them as appearing (kind of like the Risen Jesus) only to "chosen witnesses" this early in Earth-Mars relations. Just a feeling I have. And having the good guys come through the Starmen's exit would mean rewriting a large section of the chapter. I could say that they tried to find it but the radar failed to locate the door and they didn't spend time or personnel on the search because time was so limited. What do you think?

- > *When we originally planned TRA we didn't have any*
- > *scenes like this in mind, but I really like them: they added quite a bit to*
- > *the book -- mystery, plausibility, etc.*

It was another scene that just came to me. I'd puzzled out how to write this chapter for a few days and couldn't get a grip on it. As I mentioned, I started it once but didn't get very far. Then came the image of a Martian walking on a catwalk past a hydroponic orchard under a starry sky and I got inspired. Then I pictured the aliens as being also affected by the burnout and having to reroute their own energy supply. The capsules, of course, are the hibernating population. And the idea of an orchard growing as if in rice paddies struck me too. I can picture a few people sculling along in small boats and harvesting the fruit that the Starmen have come to love so much. The sky suggests the same technology as Zimbardo's Chamber, so that is mirrored in the beginning and end of the book--again, without giving anything away. And I like the contrast between the breathtakingly-beautiful sky and the ironwork of the power plant.

It'll be very satisfying to finish the book and see what the reaction on Saturday is when the readers hear it come to an end at last.

*David*

*DATE: FRIDAY, NOVEMBER 03, 2000 2:58 PM*

Dear Jon and Mike,

- > *how many pages long is TRA (including*
- > *frontispiece, table of contents, Paul Greene's introduction, etc.)?*

Right now there are 230 pages in the entire production. From Paul's Introduction to THE END there are about 57,700 words. That makes it about 17% longer than AOM. With revisions these figures will change but probably not too much.<sup>73</sup>

- > *Just read over Chapter 21. It looks great! It was a lot of fun to*

---

<sup>73</sup> Because this book was so much longer than *Assault On Mars*, we reduced the font size from 11 to 10.5. It saved us several pages of length and therefore some production money. This was the first book we actually had to pay for to get professionally printed.



> *read, and capped off the book well.*

Excellent.

> *TRA is a great story; I really enjoyed it. I think our readers will  
> love it too! AOM was good, but I think that TRA is better -- we're  
> definitely getting better as we go along!*

Interesting isn't it that in TRA there is no major role for the Starmen and no real fantastic climax--even the regaining of power on the asteroid was not too much of a challenge. Yet it is a good story. I wonder if our readers who peruse with a critical eye will note a need for more tension and a more powerful climax. Or maybe I've just been too close to it for too long to notice that it DOES have these things. The few people I've shared it with here (the four readers and the Averys) have loved it.

> *I think the Martians will be mysterious throughout the series:*

That's good. The most intriguing things in life are those that remain a mystery. In my sermon last Sunday, I revealed the real words to "Louie, Louie." No doubt you, Mike, will know this song, but you may not, Jon. It came out in 1964 with lyrics so incomprehensible that people just KNEW it was filthy. There is even evidence that the FBI investigated it for over a year (but that sounds like an urban legend to me). Over 35 years it has become a cult classic song and was even featured in a television commercial this year on the strength of having incomprehensible lyrics. In the course of the sermon I said that revealing the words might destroy a mystery and be a disappointment to some people. The words are very innocent and tell a basic love story. Enchanting to know but the mystery is revealed. The sermon, by the way, was on the text of the blind, lame, deaf, and dumb being healed when they REALLY hear the Word and are saved by their faith--that often people prefer NOT to be healed so that they can remain weak and wallow in bad things (like the suspicion about Louie Louie). Anyway, all by way of saying that the Martians should always have some mysterious side to themselves.

> *the end of the series is a good many years down the road; anything could  
> happen between now and then. It's something we could keep in mind!*

Right. The Lord is leading us and we'll know when we get there. It amazes me to look back and see the imagery in TRA that I had no idea was creeping in--the scene in the Chamber introduces a sunset--the going away of light when Zimbardo emerges as a power. Yet the scene in the Martian hideaway with the hydroponic orchard is a dawn--

when Zimbardo is on the way out. So that the story is really bridged between sunset and sunrise--a night of terror. And when Gene flees from Z down the darkened corridor he heads for his room where there is a light he has always had but has not yet turned on. These are all wonderful symbols, and I didn't put them in there consciously. But they certainly continue the theme we put into the series from the beginning: John 1:5. "The light shines in the darkness and the darkness has not mastered it."

I suspect that somewhere in the series Richard's father's original surname may turn out to be significant. I picked the letter R for it (in the silver service scene) right out of the air without knowing why. Just like Gene's name. It's amazing.<sup>74</sup>

I look forward to seeing Jon's rendering of the scarabs, blimps, Xenobot fighters, etc. Bryce is a terrific program!<sup>75</sup>

I'll try to attach those files again now Jon.

Best to both of you!

*David*

*DATE: SATURDAY, NOVEMBER 04, 2000 7:09 PM*

Dear Jon and Mike,

Well, only one person came to the reading group today but she provided a lot of good comments. A few suggestions for improvement, also, but basically a great story and no major flaws whatever.

---

<sup>74</sup> This line may be the biggest understatement in our entire correspondence. Those who have read *The Lost Race of Mars* know what this unexpected appearance of the letter R eventually led to.

<sup>75</sup> I use a program called Bryce 3D to build 3d models, which I then render and turn into images. The program has been very useful: I used it to draw the illustration of the Ahmanyen logo in *Assault on Mars*, I used it to mock up the cover of *The Runaway Asteroid* so David's son could paint the cover, and I used it to build the image that the cover for *Descent Into Europa* is based on. I've also modeled various Starman ships in 3d just for fun. – I've build a pretty good 3d model of a Xenobot fighter.

Now that you both have had time to think about it, what do you think about the name Mary Mark-Leslie. Does it sound too contrived? It could be Marks-Owens just as easily.

*David*

*DATE: SATURDAY, NOVEMBER 04, 2000 7:17 PM*

Dear Mike and Jon,

- > About Tharsos continuing to accelerate after a powerdown.....It*
- > might continue to accelerate toward the sun due to gravitational*
- > attraction(if the deceleration vector was in the right direction..IOW, if*
- > THARSOS was close to stopped in its orbit by the drive. I am glad you guys*
- > caught this one, and I think the best solution is just if David wrote one in.*

I imagine that the asteroid is heading toward the sun as it heads toward earth. I'll work some numbers in and you guys can check them when you get your copy of the stage two draft.

A couple of other comments from Leslie today as we read the last chapters: As SE looks through the computers on the asteroid, wouldn't there be a record that the spy is Beowulf Denn? [We need to make clear that only Z knew who it was and left no traceable records]

Did Denn tell Z about the presence of the aliens? [Real question here is How privy is Denn to what is going on? Who knows about the aliens? The President? I have a feeling that this information will be kept rather secret. Denn might come to know but not in time to tell Z before Z took off.]

Your thoughts?

*David*

*DATE: SUN, 5 NOV 2000 20:49:15 EST*

David, about the name Mary Mark-Leslie, it is a bit contrived sounding....a very nice idea...but it just doesn't work as currently constructed. Have you considered Mary Leslie-Marks or Mary Leslie Marks? I really do think it is great way to include them...it just needs a little reworking somehow.

*Mike*

*DATE: MONDAY, NOVEMBER 13, 2000 10:33 AM*

A question. Fairly early in the story Zimbardo mentions "The Superiors" to his five lieutenants. They don't ask what he means and we never explain it. Are we (and our readers) simply to assume that these five know what he's talking about? Z is only then assembling his new leadership team, so hasn't had time to tell them about the Xenobots--even if he wanted to do so. And we've never explained, even to ourselves, how the Xenobots contact their human minions. Maybe we ought to drop this reference. There is another mention of the Superiors at the very end, but that is only where Z is ruminating on his own, so it works. What do you think?

*David*

*DATE: MON, 13 NOV 2000 13:22:06 -0800*

- > *"The Superiors"...*
- >
- > *You've got a good point there. Just drop the*
- > *reference, then: as the story turned out the reference*
- > *is out of place -- just put it at the end.*

That works. I just remove the sentence the first time the reference comes up and the conversation flows very easily without it.

*David*

DATE: THURSDAY, NOVEMBER 16, 2000 9:44 PM

- > *I read over the manuscript. I had*
- > *a number of comments, but unfortunately I left them at*
- > *home. In general I liked the manuscript and liked the*
- > *changes: there were a number of inconsistencies I saw*
- > *but they weren't anything major.*

All your comments in the various emails, Jon, sound right on! I'll look forward to receiving your notes and incorporating the changes. This is what editors do and if we can do that internally, we're that much farther ahead. You can catch at one reading what I can't see in writing over a three month period. Do you have any comments yet, Mike? You probably will receive the MS right about now.

- > *I do think, though, that the ending is a little*
- > *anticlimactic: we could have done more to make it a*
- > *little harder and more exciting.*

You know, I had that feeling, too! And your suggestions are terrific. It felt that the ending was a little bit too soft after all the tension buildup.

*David*

DATE: SATURDAY, NOVEMBER 18, 2000 8:33 PM

Dear Jon and Mike,

- > *I mailed out the manuscript of Starman #2 today to you, David. I*
- > *sent it priority mail, so you should get it soon.*

I'll probably be able to make the changes on Friday or Saturday next week, after Thanksgiving. Then we're off to Sheridan, probably by the end of November.

Start with both accounts. I'll let you know when I've got Earthlink down. Then I'll phase Pacbell out.

- > *You know, that was a big problem when I was reading the latter*

> *half of the book: the story was so riveting that I lost track of the grammar*  
> *and got sucked into the story. That is why I had to go over the last part of*  
> *the book a couple extra times to catch everything: the story was just so*  
> *compelling...*

Blast! The curse of being the writer is that I can never have that experience. But then I get the summaries! And I get to read it aloud to others and get their reaction.

Blessings!

*David*

*DATE: FRI, 17 NOV 2000 09:16:49 -0800*

> *I was reading over the TRA manuscript this morning*  
> *and spotted a glaring error. When the pirate ships are*  
> *attacked by the Firewasps, it states that the*  
> *firewasps fried the pirate ship's power supplies --*  
> *making them have no power at all. Yet a few paragraphs*  
> *later it states that they were still sheathed and thus*  
> *invisible. Since they lost power, wouldn't their*  
> *sheathing systems go dead, making them visible to*  
> *radar?*

Hmmm, right. Easy to fix though. When I wrote "power supplies," what I had in mind was the propulsion system. Yet I went on to say that the air recycler was out too, so I was not consistent. Guess we should just eliminate the statement that they are still sheathed--makes more sense.

*David*

*DATE: WEDNESDAY, NOVEMBER 22, 2000 7:59 PM*

> *I got some more comments today on TRA. Basically the comments were good:*

> *they liked the book and thought it was better than #1. There were a few points, though:*

Good observations. We can still incorporate many of them into the draft. Reworking it will take a little more time, though, but it'll be worth it. A couple of personal responses.

> *\* The Davy Crockett words at the ending: that was great -- very helpful -- but it might be more helpful to put it up front, in an introduction or something. Spent the whole book wondering what on earth those words meant. [Doesn't matter to me either way.]*

I WANTED people to wonder throughout the whole book what they meant--thought it added character to GSG. Explaining first takes away the spice, in my opinion. People need to be engaged with the story, rather than passively told everything. Just my idea.

> *\* 'The Day the Earth Stood Still' -- there's a famous movie by that name. Might want to reconsider changing it to something else.*

I'm aware of the movie--actually saw it when it came out. Baby boomers will probably think of it right off when they read the phrase. Might we worth rethinking it, but not a problem if we leave it as it is. And there is no copyright problem.

> *What really, really surprised me: this reader said his favorite character in the book, and his favorite part of the book, was Zimbardo!*

I hope "favorite" means "most interesting" or something!

> *we've made Zimbardo the strongest, most realistic, most powerful, most interesting person in the whole book. I think someone once said that in writing, it's easy to make evil look cool and interesting and to make good look kind of bland -- even though in real life it's the exact opposite.*

Hmmm. Good point. I just made that very point in writing a review of the first Harry Potter book (which will be posted on Galloping Ghost in a few days), but didn't apply it to TRA until I got your message. I think we need to keep Z as exciting as he is. I spent a lot of time putting him together for that purpose. We DO need to upgrade the excitement of the good guys. I think Tolkien did it best in Lord of the Rings. Evil is very evil there, but the elves, etc., are powerfully good, too. So it's a good criticism of TRA.

What we can do about it at this point, I don't know. GSG's goodness is rather passive--he is "untouchable" rather than "aggressively good." Maybe a response is that our good guys--the Starmen--have to DEVELOP their goodness, and it will come out over time. I suggest that we address this excellent point in JTP. JTP will be a dark book in which real evil is finally encountered--there the powerful goodness and light imagery of the Starmen will have to "shine." We kind of laid the stage for that in the meeting with the Starmen and Richard in the last chapter of TRA. How does that sound?

*David*

*DATE: FRIDAY, NOVEMBER 24, 2000 4:21 PM*

I will have Sunday afternoon and all day Monday to put TRA into final shape. How are you doing with the text, Mike? Any critical additions or changes? Once I receive the AOM from Jon and the frontispiece from my son, I can get the package off to Sheridan if we're all happy.

Question: how about putting a little teaser at the end of TRA, with a brief portion of JTP? I could easily write a few paragraphs of actual text of the third book.

*David*

*DATE: FRIDAY, NOVEMBER 24, 2000 8:54 PM*

*> Are we still thinking of rewriting the ending of Chapter 20?*

Definitely. In fact, I have thought of a way to increase the tension even more and leave the issue unresolved longer. I'll draft it and get it off to you. I'll try to do that before doing the rest of the book, i.e. Sunday afternoon, so you can see it early.

*> [re: teaser of JTP] I think that would be great, provided that we have room:  
> what with the revisions, we might run out of space (i.e. no extra pages). If  
> it works out, though, that might be cool!*



I'll keep an eye on the pagination. We have a few pages to work with, but some of the revisions will lengthen the book a little bit.

- > *I'm thinking of something along the lines of the*
- > *Rick Brant ad that's at the end of some of the Hardy Boy books -- a cool,*
- > *riveting scene that grabs people's attention.*

Man, you spoiled my surprise! I have already written the blurb, which is a parody of the Rick Brant ad, right down to the little shadowed rectangle set at an angle. All I need is the JTP sample text, which needn't be long. I'll take your suggestion of a scene for the reason you mention--don't want to have a text out there that will be significantly altered in the writing.

*David*

*DATE: MONDAY, NOVEMBER 27, 2000 12:05 AM*

- > *Just read the revised ending [of TRA], and I really like it! David, you did an*
- > *excellent job: the new ending fits perfectly and keeps suspense high until*
- > *the very end. No one will feel cheated or let down with this ending! It's*
- > *terrific. I think people will like this story!*

Great. It adds several pages, so we're over 240 at this point and there is still a lot of revision to go, but that's okay.

*David*

*DATE: MONDAY, NOVEMBER 27, 2000 8:55 PM*

Dear Mike and Jon,

I will finish the final draft tonight as planned, but it has taken a lot more out of me than I thought. Wow! I have gone through your entire notations, Jon, and made many changes per your suggestions. All improvements! Thanks!

There are still a few substantive changes that need to be made to harmonize different parts of the story, such as the apparent ease with which the Starmen get in to see Vly-- that can be fixed by having Ortiz ease up on telling them how hard it is to get in the first place.

And here are two insertions that I think will be very helpful.

More later!

*David*

*DATE: MONDAY, NOVEMBER 27, 2000 11:34 PM*

Dear Jon and Mike,

It's done. Doubtless there are a number of things we could do to improve it, and there are probably many glitches that people will find, but I think that will always be the case. TRA is at the point now where we're ready to turn it over--unless Mike has some points I haven't heard yet. If so, I'll need them in the next couple of days. Thursday afternoon will be the next time I'll have to work on the project, and that will be dedicated to preparing the package for Sheridan. Barring anything unforeseen, the package will be in the mail Thursday afternoon.

I put Steve Cliff in the awards ceremonies at the end (why not, after all?) and mentioned that Jack and Jill had been invited but chose to remain on the Moon. So that should tie up a couple of loose ends.

It is 58,757 words long, which makes it 23% longer than AOM's 47,771 words.

I also rewrote the last conversation in Richard Starlight's office. Since Mark's heroic role in the turning of the asteroid had come to the fore, Joe's comments about the Starmen's not "doing anything" in the Zimbardo crisis no longer made sense. So it reads like this now. Let me know what you think.

*David*

*DATE: TUESDAY, NOVEMBER 28, 2000 8:50 AM*

Dear Jon and David,

I have been looking over the draft of TRA and I have found some technical errors that ought to be easily fixed. Here are a couple of them:

1) The Pirate Asteroid is described as having gravity caused by its rotation, perhaps I need the reread it again, but it is not clear which way the gravity goes....if all the gravity felt by the characters falling from the center outward, then spinning (rotation) could indeed do that, however if the gravity is felt falling toward the center, then rotation could not do that...as a matter of a fact it would cancel or supercede any natural gravity that the Asteroid would have. Also, if we are indeed describing centrifugal gravity, then the Asteroid will have to be a solid piece of iron and all the action must tackle place "internally" with the characters pressed against the "upside down" floors.

2) On page 43, Zip is described as filling spacesuit tanks with Nitrogen, Oxygen and Hydrogen (similar to that of air on Earth)....unfortunately (or fortunately) the Earth's atmosphere contains no significant amount of Hydrogen.....This can be fixed by simply leaving the Hydrogen part out. The mix is like this: 78% Nitrogen, 20% Oxygen, 1.5 %Argon, 0.5% Carbon Dioxide. For the longest time the US space program used only Oxygen at about 25% normal pressure...it worked fine. For our story purposes, just Nitrogen and Oxygen will be OK (there are some reasons to still occasionally use only Oxygen...but I can get into those ideas another time.

If at all possible, give me a bit more time...I have scribbled other ideas for changes on papers that I left at work, I can get those to you tonight!

*Mike*

*DATE: TUESDAY, NOVEMBER 28, 2000 10:15 AM*

Dear Mike and Jon,

Thanks for the good word, Mike. Good to hear from you.

- > *I have been looking over the draft of TRA and I have found some technical*
- > *errors that ought to be easily fixed. Here are a couple of them:*
- >     *1) The Pirate Asteroid is described as having gravity caused by its*

- > *rotation, perhaps I need the reread it again, but it is not clear which way*
- > *the gravity goes....if all the gravity felt by the characters falling from*
- > *the center outward, then spinning (rotation) could indeed do that,...*

I'm imagining that the gravity is caused by rotation, so that "down" is "outward." Though I didn't describe it in detail, all action in the asteroid takes place relatively away from the axis of the asteroid. The Martians, used to lower gravity than Earth, are closer to the center but still far from the axis. There may be a scene somewhere in a later book where someone opens a hatch and exposes the immense space in the middle of the asteroid. Or perhaps it is still solid iron through the axis. But anyway, I'm picturing rotational gravity.

- > *Zip is described as filling spacesuit tanks with*
- > *Nitrogen, Oxygen and Hydrogen (similar to that of air on*
- > *Earth)....unfortunately (or fortunately) the Earth's atmosphere contains no*
- > *significant amount of Hydrogen.....This can be fixed by simply leaving the*
- > *Hydrogen part out.*

Great. Will do.

- > *If at all possible, give me a bit more time...I have scribbled other ideas for*
- > *changes on papers that I left at work, I can get those to you tonight!*

I'll look forward to it.

*David*

*DATE: TUESDAY, NOVEMBER 28, 2000 10:22 AM*

Dear Mike and Jon,

Jon's message just came in after I sent my previous response.

- > *As for the gravity, what if we just took out the 'spinning' bit and*
- > *had the only gravity be natural gravity provided by the asteroid?*

As I indicated a moment ago, although I didn't spell it out in the book, in my mind I pictured rotational gravity and wrote the scenes that way. Therefore all action inside the asteroid takes place with that scenario. The pirates' complex is not far from the surface. The power plant has a smooth iron floor and one of the Starmen points out that it must be near the surface. At another point, someone says that "half a mile" of iron is between the floor and the surface. And the hangar is not far from the surface. The elevators take people who knows where, but in my mind I picture all inhabitable areas as near the inner surface. Only the Martians are closer to the axis, but still far away from it. See the description in chapter 20 (I think that's the place) in which the hydroponic orchard is described. That begins by saying that the power plant is the "lowest" part of the inhabitable section--lowest here means "farthest from the axis."

So are we okay here?

*David*

*DATE: WEDNESDAY, NOVEMBER 29, 2000 1:58 AM*

Dear Mike and Jon,

- > *The second sentence says "...and slammed with tremendous force into the earth a*
- > *half mile from the..." Might want to change the word EARTH into*
- > *GROUND or MARS or something.*

Okay!

- > *This one I do think is worth changing. In Chapter 15, in Dr. Hoshino's*
- > *speech,...*

Okay again!

- > *My only question is, that rock is going to have to be*
- > *spinning awfully fast to generate that much gravity. What would be a good*
- > *level of gravitation, Mike?*

Mike answered it already, as you'll see below. I'll fix it.

- > *A nice way to introduce the orientation might be to have the*
- > *ship land at one of the poles and then have the guys enter the Asteroid*
- > *"catacombs" there.*

Beautiful!

- > *.....if they tried to land anywhere else, the spin would*
- > *tend to throw them off the Asteroid! Any buildings on the surface would have*
- > *their floors pointing outward away from the Asteroid. Any walk on the surface*
- > *would be really just a case of dangling upside down from a rock. The more I*
- > *think about it, the more I like it.*

Have either of you read Edgar Rice Burrough's Pellucidar novels? There are six of them, about a primitive, cave-man world inside the Earth. Same scenario.<sup>76</sup>

- > *I would suggest one sixth gravity (like lunar), maybe as low as 1/10th.*
- > *I find these to be practical values for artificial gravity, low enough to be*
- > *great fun and high enough that you do have decent contact with the ground*
- > *floor.*

Got it. Will do.

- > *2) Ch3 (pg11) mentions a "big population center like Ganymede"....this*
- > *is fine as long as we are prepared to explain that the population center has*
- > *a VERY effective shielding system as Ganymede is right in Jupiter's*
- > *dangerously strong radiation belts.*

Actually, this is supposed to be Montezuma Vly's sarcastic remark--kind of like saying "a big population center like Skunk Hollow, Arkansas." Does it need to be explained more? Is the humor too subtle? Probably, since no one knows about Ganymede! Maybe I should have Kathryn Mullany mention that she has been at Ganymede and can't wait to get back into civilization--that'll do it!

- > *we might want to explain how the Asteroid shoes "grip"*
- > *the surface.....could be magnetic or could have automatic claw type grip....a*
- > *"smart grip" that knows when you are trying to take a next step.*

---

<sup>76</sup> David had just reread these books after making contact for the first time by email with Steve Servello, who encouraged him to do so.

Good idea.

- > *"they slumped down in the rest area" perhaps should be*
- > *rewritten to more accurately reflect the low gravity of the setting.*
- > *Suggestion: "they allowed their tired bodies to slowly sink into the rest*
- > *sofas, the one-tenth G nestling them gently into the concave surfaces.*
- > *5) I cant find it, but somewhere in the story there is mention of the*
- > *guys sitting down on acceleration CHAIRS...this might better be described as*
- > *acceleration "couches".*

Cool. Will do.

- > *Maybe I missed the discussion, but shouldn't Starlight Enterprise be*
- > *the plural, Enterprises? This would be more in keeping with corporate names*
- > *and avoid the similarity to the "Starship Enterprise."*

I could go either way, except that everything we've written so far, included the published AOM, used Enterprise.

*David*

*DATE: WEDNESDAY, NOVEMBER 29, 2000 2:16 AM*

Dear Mike and Jon,

The microwave oven deal. We have described the probes as being "tiny" (I also considered that they were only nanometers in size). I was thinking of the technology that says it can write information the size of an atom's diameter. If we have the probes the size of microwave ovens, that's pretty big. And we need to have millions not only made but transported in about a week.

Will this paragraph work?

"We must manufacture millions of tiny probes and release these into space in a systematic fashion over many millions of cubic miles. Their design is quite simple. The laboratories and manufacturing centers of organizations like Starlight Enterprise, Nolan Mining Enterprise, and other companies can create these probes in vast quantities very

quickly, using robotic techniques. Each probe will have gravity instrumentation. Using the microwaves naturally occurring in space, they will be connected by a vast neural network and thus act as a single instrument, with all data being fed back to various information centers.

This avoids any description of size or even manufacture, and still makes the chapter title The Microwave Net suitable.

Other suggestions?

*David*

*DATE: WEDNESDAY, NOVEMBER 29, 2000 8:45 AM*

Dear Jon and David,

Last night I dotted when I should have dashed and got Jon's e-mail address wrong. David, although you have since referenced any pertinent sections of my e-mail from last night, could you forward it to him?

A couple more ideas come to mind: The "seekers" are a really neat and chilling encounter, but the name is very reminiscent of the "hunter-seekers" from Frank Herbert's DUNE book. Actually George Lucas was also going to have a little floating killer ball in STAR WARS, programmed to assassinate persons condemned to death by the Empire. (The prop eventually was featured as the training ball that Luke first uses his Light Sabre against.) Lucas also used the name "seekers" at the storyboard level. I have no real problem with us continuing the "tradition," but we might want to discuss further or modify the name.

*Mike*

*DATE: WEDNESDAY, NOVEMBER 29, 2000 8:49 AM*

Dear Jon and David,



Actually, I am in favor of describing the probes as very small...nanotechnology for sure.....as small as a microwave?, perhaps not, ...but certainly a few hundred atoms in size would be plausible.

*Mike*

*DATE: WEDNESDAY, NOVEMBER 29, 2000 10:25 AM*

Dear Mike and Jon,

Nanotechnology--several hundred atoms--great. Suppose I just have Hoshino use those very terms?

- > A couple more ideas come to mind: The "seekers" are*
- > a really neat and chilling encounter, but the name is very reminiscent of the*
- > "hunter-seekers" from Frank Herbert's DUNE book. ...Lucas also used the name*
- > "seekers" at the story board level. I have*
- > no real problem with us continuing the "tradition", but we might want to*
- > discuss further or modify the name.*

It's been a long time since I read DUNE so I don't remember, but they are popular books; and if people are aware of Lucas' storyboard terminology, then the term "seeker" is already out there. I incline toward choosing another term. We chose "sheathing" over "cloaking" for that reason, even if we are describing the same phenomenon. Our seekers are almost the same thing as the reconobot in AOM; how about calling them "aerial reconobots"--airbot for short?

- > IF we choose to use the scarabs as the Ancient Martian*
- > spacecraft type, then we may want to establish a name and description at this*
- > point. ("Hey, they look like swept wing scarabs!") How do you guys feel about*
- > this? We can always use the design elsewhere in the series.*

Okay with me. You're right--we don't want to have way too many designs out there. A lot is okay (check your highways today), but we don't want a different design with every ship we introduce.

So let me know about having Hoshino talk about nanotechnology and about the term aerial reconobot/airbot--or any other suggestion you may have. Then I can put the final touches on to the MS.

*David*

*DATE: WEDNESDAY, NOVEMBER 29, 2000 9:55 PM*

Dear Jon and David,

Some more thoughts.....after reading Jon's response,<sup>77</sup> I am OK with Microwave-oven sized probes.

The name "seeker" is OK....and we can introduce the Scarabs later.

*Mike*

*DATE: MONDAY, FEBRUARY 05, 2001 9:03 PM*

Dear Jon and Mike,

No need to respond to this email, in the interest of conserving our time, etc. I did a little research on that huge crater in the southern hemisphere of Mars, struck by a 100-mile wide asteroid. Remember in the current National Geographic article it is called the Hellas Basin; yet in TRA I referred to the site as the Mare Hadriacum, basing the name on an old map NG had put out.

Well, they are the same place. However, the Hellas Basin is the name for the entire depression; Mare Hadriacum appears to refer to the northeast portion of the depression, which is where Marshal and Averette North live. So (1) there is no confusion of terms and TRA is accurate; and (2) we did providentially pick the site of this massive asteroid impact as the site of the first Zimbardian asteroid impact.

*David*

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<sup>77</sup> I was a little troubled at the thought of nanobots-sized probes. If the gravity probes were that small, you would hardly have needed an enormous fleet of large freighters to carry them! A suitcase would have worked just as easily. If we were going to have that cargo freighter scene the probes needed to be much larger.

# Writer's Notes

## REFERENCES

- Description of Z25 taken from description of Eros in flyby of August 6, 2000
- Description of asteroid damage taken from *National Geographic*, September 2000, article on Permian extinction

## EXPLANATION OF NAMES

Pirates' Names: Crass, Lather, Bolcher, Stubb, Lorry, Gebbeth, Slant, Stagnum, Poppy, Withers named, in the style of Charles Dickens, to be symbolic of their nature: Crass, for a pirate oriented to this world Lather, for a pirate who stirs things up

Bolcher, as evocative of "belcher"

Stubb, indicating a truncated personality and diminished moral sense

Lorry, English slang word for big truck

Gebbeth, an old name for a demon-possessed person

Slant, someone who is "not straight"

Stagnum, as evocative of stagnant

Poppy, reminiscent of a dream world

Withers, evocative of something that is shriveling up

Gene Newman                      Only given first name until he introduces himself to SE forces; Gene is short for Eugene, or "good beginning"; Newman is for becoming a "new man" in Christ

## REAL PEOPLE AND PLACES

Sim Sala Bim                      a retired, professional stage magician who lived near me in the 1960's

George St. George                a partial takeoff and rough description of Dick Kern

Marshal North                    a takeoff on Marshal South

Stephen Hoshino                  named for Stephen Hawking and Tomihiro Hoshino

Clark's Bridge Crossing a town in Georgia to which Judy and Tasha Holcombe moved 10/21/00

Benjamin Bennett                name of young reader

Mary Mark-Leslie                first names of adult readers

## CHRISTIAN SYMBOLS

1. George St. George is called Sabbath George as a sign of his beliefs, and is the first overt believer in the Starman series.
2. When the Starmen first meet George St. George, he is reading *Commentary on the Letter to the Romans*.
3. Attitude of George St. George on being taken captive is based on Philippians 4:11-12.
4. George St. George's meeting with his men at the end of Chapter 5 is suggestive of prayer.
5. The President mentions David and Goliath.

6. City on Mars is called New Emmaus.
7. George St. George comforts Zip with words reminiscent of St. Paul: “each has a gift”
8. Stephen Hoshino named for Stephen Hawking and Tomihiro Hoshino—the latter being a Christian evangelist in Japan
9. David Foster’s aunt and uncle are named Clare and Francis, after the Saints of Assisi
10. George St. George urges David to examine the Latin behind “confidence,” so that he will learn that its real meaning is “with trust (or faith)”
11. Gene searches for his (flash) light in the darkness when fleeing from Zimbardo
12. Zimbardo leaves the asteroid with crew of five; six men reminiscent of 666
13. Jesus Madera-Cruz is a deliberate Christ figure; an ioneer in the 22<sup>nd</sup> century being a parallel to a carpenter in the first century; Madera is “wood” and also connotes “strength”; Cruz is “cross”

# **Book Three:**

## **Journey to the Tenth Planet**

*The Lord unveils the depths of darkness,  
And brings shadow dark as death to the light.  
Job 12:22*

## Introduction

By the time the third Starman book came out we were beginning to get the hang of things. We knew how to turn a small plot blurb into a summary. We knew how to take the summary and turn it into a book. We knew how to edit the book, print it, and sell it. We had two books under our belt and were becoming comfortable with the process of writing Starman books.

That's not to say that it was necessarily easy. The original plot blurb for the third Starman book was this:

Starlight Enterprise made an astonishing discovery: Pluto is *not* the most distant planet in the Solar System. Long hidden because of its bizarre orbit but discovered by records found on the ancient asteroid base, SE decided to send an expedition to explore it.

Because of the immense distance between the new planet and Earth (close to ten billion miles), SE places the Trio and a crew in a new experimental spaceship powered by a new kind of fission-fusion breeder reactor.

The goal of the expedition is to establish a base there to explore what is thought to be one of an ancient race's jumping-off points to other Solar Systems. The three Starmen are on board as part of the crew. Trouble hits the ship almost as soon as it leaves orbit, and continues to plague it all the way there. When the ship lands and the base is founded, a dangerous mutiny sweeps the crew. Who is trying to stop the expedition, and why? Is there any truth in the rumor that the Tenth Planet holds the secret to interstellar travel? The Trio race against time to find out -- before it's too late!

When we were plotting the series this plot made sense, but when we actually came to this book we realized that the series had started moving in a different direction and the plot would need to be overhauled a little bit. This is one of the first hints we received that the series was starting to take on a life of its own: the way we originally planned for the series to go was not necessarily the way it was going. We were being taken in a new direction – and looking back, I think that was a very good thing.

## Plot Summary

This is the original plot summary for the third Starman book. As you can see, for some strange reason I added the word “Nemesis” to each chapter title in the book. Fortunately, when David Baumann began writing the books he came up with his own chapter titles that were much more creative. I’ve always had a weakness for chapter titles: I have the most trouble thinking them up. That’s why I leave it to David – he’s very good at it. (Mike Dodd, by the way, gets kudos for thinking up most of the book titles in the series: he’s really good at that.)

Incidentally, that’s also how we ended up having all the chapter titles in the fourth Starman book be titles of books written by Hal Goodwin. I just could not think up good chapter titles, so I used a few titles of Rick Brant books. To my surprise the rest of the team liked it, and before I knew it *Descent Into Europa* had turned into a tribute to Hal Goodwin – all because I have no talent for inventing good chapter titles.

### CHAPTER 1: Discovering the Nemesis

The scene: a scientist is on a research laboratory on the Moon examining data gathered from a space telescope in deep space. He has been studying, trying to find an explanation for some odd changes – something has been pulling at the orbit of Pluto ever-so-slightly; some massive object must be out there. The phenomena has been going on over the past few years. At first it was just a curiosity, but after the TRA thing people became concerned about large, unidentified objects in space.

The scientist finally hits the jackpot: his latest reading came up with proof of the Nemesis, and he got a good picture of the planet. His theory was confirmed: it was caused by another planet! The scientist decides to study it a bit more to confirm the sighting -- but a few days later his data is stolen. He can't figure out what happened; he's glad he kept a copy, but he can't figure out why anyone took the data.

[Here's what happened. When the pirates left Tharsos, they left for the 10th planet because Z. found data regarding a Martian base on the 10th planet, and thought it might have the resources he needs to rebuild. However, he left behind an organized spy network, and gave them orders to watch out and discourage any attempts at finding him. His spies have a lot of faith in him -- or maybe they're looking out for themselves -- but they follow his orders. When they catch wind of someone looking for another planet, they plant a spy who steals the data. Later, when the expedition is planned, they plant someone in the crew and try to smash the expedition before it can start, and then later, when it's on its way, and then later when it enters the orbit.

The person who does this must be very powerful -- a dark, shadowy figure with lots of influence, whose identity the Starmen will later discover -- perhaps in #7. In #7 (the one where they build their starship) the sabotage attempts come from the same person -- a trusted person high inside the SE organization. It is crushing when the Starmen discover who he is – they can't

believe that he would do such a thing. This person appears in this book for the first time; he helped pick the crew and seemed a very upright and moral person. 'Wolf in sheep's clothing'... perhaps his name is Dr. Ryan Fox or something. This person could be the one who plays on NME's pain and turns Robert Nolan against SE.]

## CHAPTER 2: Probing the Nemesis

Next scene takes place a few months later. The Starmen are out in deep space, taking readings of the Nemesis star. [They are, of course, in their Star Ranger. They had returned to Earth and were treated royally; they were given a break, and then assigned to take readings of the Nemesis to see if it really existed]. They confirm its existence and the odd planet that orbits both the star and the sun. Right now the planet is swinging around our sun; it'll be around it for 500 years before it swings back around the other star.

There is excitement. SE commissions a ship to be built using the new hybrid fusion/fission drive. [See the scientific reference to understand what this drive is and how it works.] Antimatter isn't quite ready yet or they would use it -- they haven't figured out why the Spud Peeler's drive didn't disengage, plus there are problems like getting a large enough supply of antimatter (they need to build and place in orbit more satellites). SE doesn't have anything available as fast as NME's new fusion/fission drive: antimatter is faster, but as said it's not quite ready. NME built the drive because they want to get into heavy equipment and compete with SE. The drive is certainly fast: they can get to the planet some 10 billion miles out in around 30 days.

The ship is built in a partnership with NME (Nolan Mining Enterprises) -- SE supplied the ship and electronics (it was a pre-built ship; a large cargo liner built for exploring the outer planets) and NME built the drive.

The whole process doesn't take very long: SE already had the ship built, they just had to convert it -- and NME had the drive ready to go and was already making plans with SE to put it into use. All they have to do is install the drive and outfit the ship, plus pick the crew (which the evil Dr. Fox [or Beowulf Denn as I guess his name is now!] plays a role in). Given SE's vast and efficient network, the teamwork with NME, and the fact that the design work was already done and the ship only needed overhauling, it shouldn't take more than a few weeks to get it all ready to go.

Once the ship is built, the Starmen get their mission to go to the planet and explore it. The mission is more of an honor, really: a reward for a job well done in #1 and #2. Plus, the Starmen have shown they have what it takes -- they are qualified to handle this mission. (The mission is to simply explore the planet -- map it, take samples and readings, set up a few robotic monitoring stations, etc. No base is to be built: that will come after SE has an idea of what the planet is like.)

The crew is of about 15 or 20 on the ship. At the precise time they leave NME's base in the Asteroid Belt with great fanfare and head into deep space.

[Perhaps this chapter should be broken into two chapters, or poss. three. While the Starmen are waiting for the ship to be completed, they could be visiting their homes, relaxing with their families, etc. -- it's a good time to introduce the families of the Starmen.



Also: SE was concerned about the terrific coldness of Nyx, so they introduced a special field/coating for the ships that were designed to act as a barrier to all bands of radiation: radiation couldn't get in or get out. This also acts as a great defense against the energy weapons of the Xenos -- they're the only thing that keeps them from getting fried.]

### CHAPTER 3: Legends of the Nemesis

[On the way out they have some ship trouble; not critical but it is annoying and forces a delay. The Starmen suspect that it's sabotage, but no one can prove it. It doesn't really matter what the exact trouble is: maybe a fire in the cargo hold, maybe part of the engine is damaged and it has to be shut down for repairs, forcing a delay.]

On the way to the planet they stopped at Saturn's moon Titan for refueling, refreshments, etc. It is the most distant inhabited place in the solar system -- after Titan there are no more settlements.

While on Titan the Starmen pick up legends of the Nemesis: that its planet was colonized by the 'Lost Race' (no clue as to what race), that they mined some substance. Hints that the Lost Race had contact with Titan and built their huge heated caverns and energy source. Also hints that the Lost Race was involved in a huge project on the planet. [This is where we insert the 'legend of the Titanians', and have the Explorers view the huge heated caverns under the surface. They find the logo again -- the same one that was on the NPACs. They find this curious. We can also sow seeds of misinformation: lead the Starmen to think that the 'Lost Race' was extrasolar and came here from some other star system.]

So armed with these legends and refreshments they head back into space.

### CHAPTER 4: The Nemesis Strikes

While on the way there their ship has engine trouble. The trouble is in the drive itself; something is wrong with it. Some suspect that NME is trying to sabotage the mission but the Starmen don't think so. They manage to get it fixed -- but some of the crew is concerned that the old legends of the Nemesis are true: that the star is evil and they will all die if they continue on. They travel on but there is nervousness.

[It really is simply drive trouble. NME's design for the drive was perfect, but they had some settings wrong. To achieve the right nuclear reactions takes very specific settings, and NME messed up on the settings: the drive produced a reaction slightly differently from what they had expected. This caused a heat buildup in the fission part of the drive, causing the reaction to become more and more violent and threatening a chain reaction that would have blown the ship into atoms.

The Starmen caught the problem in time and shut the drive down, then carefully cooled it off. Once the problem was averted (and there were some tense moments while they were trying to cool it down) the Starmen figured out what happened, and reset the drive for the new reaction settings -- and it worked just fine!

When the problem was fixed, the Starmen and crew were praised – and NME's name became mud. It wasn't really fair to NME (the problem wasn't hard to fix, and the drive did work just fine after that), and SE defended them, but the damage was done.]

## CHAPTER 5: Approaching the Nemesis

Shortly thereafter they pass the orbit of Pluto and become the people to travel the most distance from Earth [or so they think – Zimbardo has beaten them to the punch]. Still they travel on into the deep darkness of space.

Something is eating the crew; they are nervous and irritable. Then there is sabotage: real sabotage. Something bad happened to the ship that almost aborted the mission. Through the heroic acts of the Starmen they manage to fix the problem -- but then the crew mutinies. [As to what this problem is, I really don't have any bright ideas at this point. Could be hull failure, loss of climate controls, radiation leak -- just whatever fits the scene the best!]

At this point the NME Captain, who had been under suspicion the whole time, rallies to their aid and puts the mutiny down. The ship goes on, plowing ahead into the darkness of space.

[Zimbardo's agents, strategically placed by Dr. Beowulf Denn, are among the crew spreading fear and rumors. Fear is an important theme in this book; see notes at the end.]

## CHAPTER 6: Arrival at the Nemesis

The ship at last arrives at the planet and enters orbit. The planet is foreboding: it is dark, very cold, and has no atmosphere (what atmosphere it has is frozen on the surface of the planet). It is a planet of eternal night; of eternal twilight, of dark valleys and dark mountains, of deep caves and deep blackness. It takes the spirit out of a man just to look at it. Who would ever want to come here? The Starmen themselves are depressed at the sight.

The ship orbits it, scans it and makes maps. Some probes are released and robotic surveys are done. All the while the crew is murmuring; they don't like it out here.

The probes bring back word of a ruined alien city. The Starmen are excited and go off to explore it in a small shuttlecraft. [Reason: they have the training, and also they're the only ones not afraid to actually go out and explore Nyx. The crew, meanwhile, starts scanning and mapping the planet, maybe releasing a few robotic probes as well.]

## CHAPTER 7: Exploring the Nemesis

The Starmen arrive at the ruined city and explore it. The city looks like it has been abandoned for ages -- but it was a mining city. They find the Martian logo/symbol on it: the Lost Race! The Titanian legends had some truth to it. But what were they mining? [Turns out to be helium-3]

The crew decides to go inside and investigate. But the place has a very dark, ugly air. The rusted machinery, the darkness, the deep night...

Above them, there is another mutiny. This time the mutineers win. The person responsible was the Starman's friend: a man they thought they could trust [a man who was hand-picked by Beowulf Denn]. The Captain and the loyal crew are furious but they can't do anything.

The 'friend' radios down on the planet, giving wide berth to the city (which they think is dangerous and maybe even haunted). They find the pirates Zimbardo and his pals on a secret base they set up. [This is the time the reader figures it out: the pirates had accomplices back at Earth; they were trying to stop the mission. Now that they're here they are going to join with the pirates. At this point though they don't know that Z.'s contact and key man on Earth was Dr. Denn -- they discover this in the prelude to book #4, and the Starmen discover it in book #7.]

The ship goes to the pirate base and lands; the captain and loyal crew are taken into custody.

## CHAPTER 8: Stranded on the Nemesis

The Starmen explore the city and eventually figure out that they were mining Helium-3. They became excited; the planet had huge deposits of it -- clearly more than the solar system could use in millennia. [H3, remember, is what Earth/Mars/Moon uses to produce electrical power: it's clean, there's no radiation given off from the reaction, it's powerful, and there's no danger of a meltdown. It powers the power plants.] They also find signs that the Lost Race had some other project going on besides just mining but they can't figure out what it is. [The project was simply an interstellar stopover point -- Nyx was one of their gateways to the stars.]

They go back outside, climb into their ship -- and find that their mothership is gone. It disappeared... The Starmen fear a mutiny. They are in a bad position: they have very few supplies and are stranded 10 billion miles away from home.

But they are prepared. They thought something like this might happen; not a mutiny, but with a ship so far from home anything could happen, so they thought it wise to take some extra precautions. The Starmen had planned ahead and secreted along in the ship some extra food, oxygen, and other survival supplies on board their little ship. If necessary, they wait for a rescue mission.

The Starmen, then, are concerned but not overly so. They decide to search the planet awhile to find some trace of the ship.

## CHAPTER 9: Searching the Nemesis

Back at the pirate base, things are humming. The pirates don't like the deep darkness, but there is Helium-3 here in abundance. They are mining it in huge quantities, and hope to bring it to Earth to sell through various fences. With this mineral from this planet they hope to gain funds; if not to rebuild their base then to live comfortably on Earth or in the Belt. [Z., of course, still has dreams of power. He's become somewhat unbalanced. He hasn't met with his superiors yet; he's had trouble contacting them.]

But what they don't realize is that the planet is also a Xenobot base. The Xenos are here. They aren't happy with Zimbardo [who failed in his mission to take over Earth -- the Xenos were backing him up to a limited extent; they were his 'superiors' mentioned in TRA], and they

are even less happy that they have stumbled upon their energy depot. The Xenos only got here a few months before the pirates, and now they want the pirates gone.

Far away, the Starmen are scanning the planet with the equipment on board their shuttlecraft. They analyzed the data, and at last found what could be evidence of activity. They head to it. When they arrive, they find ships -- but they are Xeno ships! And they are very angry Xeno ships...

Ships come out in hordes, attacking the Starmen's shuttlecraft. [Perhaps Mark, with a startled exclamation, recognizes the design of some of the ships: they match the diagram he saw on Tharsos!]

## CHAPTER 10: Fighting over the Nemesis

The Starmen realize they have made a mistake and make a desperate rush to leave. The pirates, in the distance, see an intense battle with weapons flaring. They begin to get scared; they are supposed to be the only people on this planet.

The Starmen, by accident, fly towards the pirate base. The pirates panic and get in their ships to attack. They are quickly overwhelmed by the Xenos in a fierce air battle. The Earth ships scatter all over the sky, desperately seeking a place to hide.

The only bright point in the conflict is that the Earth ships [but obviously not the pirate ships, so the pirate ships are getting blown out of the sky] were outfitted with a special kind of shield to help protect against the fierce cold, as mentioned in Chapter 2. It managed to block and ward off a lot of the blasts by the energy weapons of the Xenos; without it they would have been all blown out of the sky in minutes. But the shields took a lot of beating and they couldn't hold up forever.

[Think of this coating on SE ships as something similar to a laser shield, but it works for a broader spectrum of radiation. The energy beams do some damage, but it mostly just splashes and is reflected.]

## CHAPTER 11: Lost on the Nemesis

The Starmen see that the fight is desperate and they're not sure what to do. They at last come up with a plan. Joe rigged up a way to control the ship via remote control; Mark rigs it up so that the reactor starts to overheat and will detonate within 15 minutes. They then lure the Xenos near the alien city, where they bail out of the ship.

Joe then remotely flies the ship into the heart of the Xeno squad and detonates it. The ship causes a lot of damage and disperses the alien fleet temporarily, giving the Earth ships a chance to run and hide. By the time the Xenos regroup they can find no one.

But now the Starmen are truly stranded. They have no supplies, for all that was blown up with the ship, along with the equipment to administer it -- but even if they did have it, it's clear they can't stay on this planet long with the Xenos here. They would find them, and quickly. The Starmen make it inside the base, but their air supply is depleting rapidly. What are they to do? Life is growing desperate.

## CHAPTER 12: Repairing the Nemesis

The Starmen decide that the first order of business is to get a good air supply. They worked their way back to the atmosphere department and went to work: they and the Titanians managed to get it working again. They spent hours, but in the end they resealed a large portion of the base and got the old machines to produce a breathable atmosphere. To do this they had to reseat the air locks, revitalize the computers, restart the power plant, etc. [Here the Starmen's experience with that Martian ship in TRA comes in handy. They already know quite a bit about working with Martian computers, etc. and so aren't completely lost.]

They couldn't have done it all in their allotted time (i.e. before their air ran out) if it wasn't for the crew. In the general mess of things the loyal faction of the crew managed to escape. They made it to the base in not the mothership but another ship and, by cannibalizing parts of the ship they brought with them they managed to get life support working again.

Outside, things are going very badly for the pirates. A Xeno ship was prowling the area and captured a pirate ship, and Lurton Zimbardo was aboard. Lurton gets a first horrific glimpse of these alien beings: his beloved 'superiors' who he has fallen out of favor with...

## CHAPTER 13: Manhunt on the Nemesis

Back at base, the other pirates start showing up and want in. They are sullen, repentant and scared. They are fiercely angry at the Xenos and want to help defeat them (they don't say why at this point, but the reason is that they are angry at their 'superiors' for attacking them). The Starmen aren't willing to leave them outside to be captured or suffocate, so they let them in under guard. The Starmen are scared, though: the pirates obviously recognize them as the reason for their downfall, and they are worried that they want revenge.

The pirates show a willingness to work, but Zip doesn't know what to do with them. Can they be trusted? The pirate sub-commander under Zimbardo [perhaps Lather?] says that he has no choice. The pirates, if they wished, could easily capture Zip if they wanted to; they outnumber him and have more weapons. But now is not the time for internal fighting; the pirates are mad at the Xenos and want to work with Zip (who they recognize for his knowledge) to defeat them. They actually kind of admire Zip for what all he was able to do, and now that they are in desperate danger they're counting on him.

Zip, realizing that he has little choice, decides to accept their help. He organizes them and sends them out in scouting parties. He wants them to look for something -- anything that might help them find the key they need to defeat the invading Xenobot army.

[Or should we have the pirates so badly scared that they just cave in? I guess we could play this a number of ways.]

The Xenobots lock up Lurton Zimbardo (intending to deal with him and his colleagues later) and they go back to base. At base they release all of their ships and drones and cover the planet, scouring it with equipment. They want to find all of the humans and eliminate them. As the crew at the abandoned base see all the probes on the radarscope, they realize that it's only a matter of time before they're found out.

## CHAPTER 14: Desperation on the Nemesis

The pirates found some old equipment on the base that they thought might be useful. Zip went to investigate and comes up with a plan. It might work; it's their only hope to drive them off. They'll have to work fast, though -- and they will have to find a way to adapt the machinery to work with some of their own equipment.

Some crewmen come with bad news: the reactor is starting to give out. It will hold up for a couple more hours but it is gradually becoming unstable. It is old; it needs to be replaced and there aren't any parts for billions of miles. Yet another concern... once the reactor goes their base and air supply will go as well.

The Xenobots have scoured the planet. They are certain that all of the humans are hiding out in the old Lost Race city. They bring all of their forces around it and prepare to invade. They fire their lasers upon the city; a field generated by the Starmen holds up for a while and keeps them off but soon it collapses. The door is fried; Xenos come rushing in.

## CHAPTER 15: The Haunted Nemesis

When the Xenos rush into the base they find it dark and deserted. Deep shadows loom everywhere; the base has an uneasy and eerie air. Cautiously the Xenos start to prowl inside, looking for evidence for the humans.

Their uneasiness grows even more when strange things start to happen. Doors close and open on their own; things move around without anything to move them. They will see a person standing in the room -- and then he will turn around, see them, and vanish. They see some ghostly figures, taunting them...

The Xenobots begin to get uneasy. Their uneasiness grows when a report from outside hysterically screams that huge monsters are attacking them.

Amid this general demoralization the Xenos start to get attacked: and with some measures of success. The Xenos are frightened; they begin to evacuate amid general concern. They can't find any humans and they don't like the planet... and the eerie noises and wails bother them.

Inside, the Starmen watch the Xenos leave with glee. They used holograms for their special effects -- intending to scare them off. With their force shield [that's probably too far-fetched: perhaps Martian equipment? Perhaps an adaptation of the anti-radiation SE experimental equipment? Not sure here, but the idea is to get the Xenos to leave by scaring them: they are chased away and defeated by phantoms: by their own fears. 'The fool flees when no one pursues, but the righteous are as bold as a lion.' etc.] that gave solidarity to their objects, making them seem more real (that way when the Xenobots fire their lasers at them the lasers splash]. Their only concern is that the reactor is becoming more and more unstable; they need a source of power to generate the holograms. They hope it will hold up for long enough...

## CHAPTER 16: Last Stand on the Nemesis

With a combination of some of the pirate's ships [the ones that still work, with their real weaponry] and their imaginary monsters (as well as some huge holographic battle ships for ef-

fect) [and perhaps also some weapons that came with the ancient Martian base] the Starmen launch an attack on the Xenos directed to drive them off.

While the attack is going on another group of men made a rush to rescue Zimbardo from enemy clutches at their base. It wasn't an easy task at all but they managed to make it. [As to how they do it, etc., I'm not really sure. I'm assuming they just launch a raid in the confusion, knock out Z's guards, grab Z, and head for home. Would that work?]

Toward the end of the battle, when victory is in their grasp and the Xenobots are beginning to scatter and leave, the reactor finally loses it and the power shuts off in the base. All of the holograms vanish at once.

## CHAPTER 17: Farewell to the Nemesis

Zip's heart dies within him, but he decides to try one last thing. He calls up the Xenos [who, he discovered from the pirates, can speak English fluently and know the frequency to use; also, Zip calls them from one of the ships, which still have power] and tells them that they made a valiant effort to defend themselves, but that their efforts are useless. He's called off his forces for a moment to give them time to retreat; they can either retreat now or be destroyed. It's bluff, 100% pure bluff -- but it works: the Xenos don't reply but they all streak off into the sky and vanish in brilliant bursts of color (i.e. they went into hyperspace to fly home).

The Earth forces then regroup. The pirate base is destroyed, and the Lost City base is no longer inhabitable, so they can't stay on the planet. Zip loads everyone into ships; they won't all fit in the mothership so they are loaded onto several vehicles (i.e. the pirate ships). Zimbardo is taken into custody.

Some of the pirates showed repentance and were valiant in the battle and the effort to hold off the Xenos; since Zip doesn't have enough men to guard everyone he uses these to help keep the nastier pirates in custody. All of the pirates will be tried back on Earth; some, though, will probably be treated much harsher than others (i.e. the unrepentant, vicious Zimbardo).

So, fully loaded, Zip and the fleet heads home, with hopes to return someday to this desolate planet.

[Note: perhaps Zip brings with him lots of valuable data concerning the planet: maps, info the pirates gathered, stuff he managed to get from the Martian computers, etc. Maybe have him stay a while after the fight and accomplish the mission he was sent to Nyx to do?]

[Another note: the mothership obviously goes much faster than the pirate ships. The Starmen loaded onto the faster mothership, so they'd get home quicker. They also put the most dangerous pirates on the ship with them.]

**NOTE:** Through this book there is a theme of fear. I didn't really put it there; I just wrote the book and it appeared by itself. I think that the book makes some good points on the topic, though. It's amazing.

In the beginning, Zimbardo's agents use fear – pure baseless fear – to try to get the crew of the ship to mutiny. The legends and blackness they spread are so powerful that they even affect the Starmen and warp their view of the planet into a very dark, foreboding, eerie place, filled with grotesque architecture, deep shadows and strange noises. The planet is actually a

beautiful, otherwordly place but they can't see it because fear blinds them (they realize this by the end of the book -- around Chapter 12 or 13.)

Fear also blinds the pirates. It was fear that drew them into battle with the Xenobots -- when they saw them chasing the Starmen they got afraid and sent up ships to investigate; otherwise the Xenos might have left them alone.

In the end, fear conquers the Xenobots: they were chased away by empty shadows, by clouds without water. They could have won and wiped out the Starmen easily but they allowed their fears to rule them -- and through their fears they were wiped out. The Starmen simply acted on fears already there; the Xenobots were afraid of the planet to begin with. They never saw it as a place of awesome beauty, as the Starmen eventually did: instead they feared and hated it as a grave of their ancient enemy.

On the other side, the reason the Starmen won out is because they refused to succumb to their fears. Several times fear could have paralyzed them, such as when the reactor died out and their holograms vanished. Instead they were strong and courageous, even against overwhelming odds: and their courage caused them to trump their enemies, simply because their enemies had fear. Weaponry alone could not win the battle.



## The Letters

DATE: TUESDAY, APRIL 25, 2000 10:50 PM

Dear Jon and David,

Sorry about my keyboard failure last evening. I will try to convey some story ideas that keep coming to me, for your generous consideration.

For JTP:<sup>78</sup> What if we have the discovery or suspicion of a 10th Planet, but with a twist! Astronomers have long suspected that our sun may have a dark companion star (most stars in the universe ARE binaries)....this companion star would be closer than Alpha Centauri (4.5 LY) and would be small and of the neutron...or brown dwarf variety. Actually the name NEMESIS has been bantered about for it, chiefly because it is suspected of having come close to our sun and "drew out" the mass of the sun that later cooled to form the solar system...or something like that! Well anyway, SOMETHING really is suspected out there because of certain perturbations in the orbit of Neptune that are not explained by Pluto.

My idea is to have this 10th planet orbit BOTH suns...in some sort of elliptical, or figure eight orbit...I believe this type of orbit to be within the laws of physics. Yes , it would be a LONG orbital period but could be stable and long lasting. Now the interesting thing here to me is that a journey to the 10th planet is also a first journey to a planet orbiting another star....Interstellar flight way before we thought possible!! The first Man to walk on the 10th planet is the first Man to walk on a planet that "belongs" to another Star. I doubt this plot twist has ever been used in sci-fi before.

I have thought long and hard on just what will make this 10th planet interesting.....and I keep coming back to the same conclusion...it is jam-packed with solid Helium3.....much much easier to mine than on the moon....and an unlimited supply for all mankind....very few discoveries in history will have the impact of this. Starlight Enterprises knows this and sends the Starmen out on a fast anti-matter ship. BUT.....Someone is trying to sabotage the trip...someone is dead set against it (in reality a cabal of some misdirected neo-luddites!) However, SE is erroneously convinced it is their arch-rival company NME (Nuclear Mining Enterprises\*) Great acronym, huh? In our most of our stories the arch-rival company could indeed play the bad guy, but in this story in particular we could get "sophisticated" and have NME actually help the Starmen somehow....kind of a "good faith" effort.

And the scene on the 10th planet would be emotionally devastating....."magnificent desolation"...a dark and frozen world lit by little more than star-

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<sup>78</sup> Our abbreviation for *Journey to the Tenth Planet*.

light.....so incredibly far from the sun and only half-sibling to Earth...more a member of an alien stars' family, but so promising to the future of mankind!

Now, if we go with this idea, we can intertwine it with the other themes...what if we find out about the 10th planet from the Xenobots, or the Ancient Martians, or the Titanians (now there is an idea...what if the little Titanians built a whole "warm" underground world on Cold Titan based on a just one nice sized chunk of He3 from this 10th planet source....perhaps a gift from the incoming Xenobots a long time ago...in exchange for a little info on the Martians or a little technical help)

I have a few more ideas, but I will respectfully allow you to digest this much before adding more!

Navigator, set the coordinates!

*Mike*

\* NME acronym alternatives....

Noland Mining and Engineering  
National Mining Enterprises  
Nebula Machine and Engineering  
New Martian Enterprises

*DATE: FRIDAY, APRIL 28, 2000 4:59 PM*

I like the story line for JTP. Of course--I think the story lines for all the books are excellent!

...

> *Through this book there is a theme of fear. I didn't really put it there;*  
> *I just wrote the book and it appeared by itself. I think that the book makes some*  
> *good points on the topic, though. It's amazing.*

Terrific. Good conclusion, too, that weaponry alone can't win the battle. Nice introduction to the Xenobots, too. Lots of potential here for great descriptions, good teaching

(on fear, courage, etc.), and recognizing beauty in stark desolation. I can't wait to get writing on these books!

*David*

*DATE: SUNDAY, MAY 14, 2000 6:03 PM*

Dear Jon and Mike,

Jim O. said he sent you the Sea Bright signup list and marketing materials yesterday, May 13, Jon.

Our original name for the tenth planet was Vesta, but we since learned that there is already an asteroid with that name. We never thought further. Yesterday I ran across this entry in an old encyclopedia:

In Greek mythology, Erebus was one of the sons of Chaos. He ruled the mysterious kingdom of darkness beneath the earth. His sister Nyx represented the dark and somber goddess of Night.

I believe that Erebus is already in use--isn't it the name of a mountain on one of the major moons of Jupiter or something? So, for the name of the tenth planet, how about Nyx? "Dark and somber" certainly describes the tenth planet in Jon's summary, which is very much a planet of the Night, also, as it orbits around two suns. The name also has ominous connotations. The name hasn't already been chosen anywhere else, has it?--no obscure moon of Neptune or something?

What do you both think?

*David*

*DATE: SUNDAY, MAY 14, 2000 11:30 PM*

Dear Mike and Jon,

Mount Erebus in Antarctica--of course! I KNEW I had heard the name before! Anyway, I was right--it is taken. Glad you both like Nyx (which I would pronounce "nicks"). Let's go for it then, and hold onto Nemesis as the name for the brown dwarf. Both completely rich with many layers of possibilities!

*David*

*DATE: SUNDAY, MAY 14, 2000 10:38 PM*

Dear Jon and David,

I like the name "Nyx"....Erebus is also suitable...too bad it is taken (wherever that is!). I am not sure how to pronounce it....(Nicks or Nikes [but then this just gets worse, does it not!!! :o]))

If we go with convention and "name" the Sun's companion star "Nemesis" then we could have a nice alliteration....Nyx and Nemesis. (Especially if we go with the shared orbit idea)

All this could really work out nicely, if at least one of our "visitor" groups (ie Xenobots, Titanians, Ancient Martians, or Cereians\*) came from this Other solar system when Nemesis supernovaed or dwindled out a long time ago.

*Mike*

*DATE: TUESDAY, SEPTEMBER 26, 2000 1:31 PM*

> *I talked with my grandparents (they're currently down at our home visiting us) and they liked the book. They especially liked the Titanians; they thought they were really neat... so here we have yet more feedback: the Titanians seem to have gone over \*really\* well.*

Although they're not ever center stage in TRA, in that book the Titanians go back to the Moon. How about if the Starmen take them from the Moon back to Titan on their way to the tenth planet? Conversations with them on the journey can lay the scene for the encounter in DIE.

*David*

*DATE: SATURDAY, OCTOBER 07, 2000 12:17 AM*

Dear Jon and David,

So we need a drive that can overheat and threaten the principles?

How about a Fission or fusion powered ion engine? (This would involve the reactor producing electricity, which is then used to make and propel the ions.) the reactor could runaway or the ion producer could "stick".

Perhaps an early experimental "vacuum energy" powered engine. Or a intra-solar system Bussard Ram-jet that burns out the feed control...causing it to suck in too many hydrogen particles. Or such a ship happened to stray into an uncharted zone of high hydrogen particle concentration.

We could even use a one-of-a-kind engine powered by the only mini-black hole yet found in the solar system!

I heard on radio today that at least a dozen new planets have been discovered out in deep space...NOT associated with any star.....a very interesting scenario and in-step with some of our plot projections. Also heard confirmation yesterday that we might truly share cometary type bodies with other star...kind of like a shared planet as per our plots.

*Mike*

*DATE: SUN, 08 OCT 2000 17:24:31 -0700*

Dear Jon and Mike,

I really like all the exchanges on potential problems in the JTP drive, astellar superplanets, etc. The science is somewhat beyond me, but I can write the scenes! Sounds terrific!

I'd really like to see some reference to an astellar superplanet in JTP--make us look REALLY state of the art, besides being a terrific part of the plot.

*David*

*DATE: MONDAY, OCTOBER 16, 2000 8:02 AM*

Dear Jon and David,

Jon's near sun "slingshot" boost is an excellent way to justify the external coating of the superreflective stuff.....I believe it will work for the story, my only hesitation is that that the coating may cause story complications in the future (ie do we REALLY want the threat of laser fire to be totally eliminated, won't there be stories where we need that threat to our principles or other innocents?....perhaps we can mend the situation by having the superreflective material be rare, used only on certain craft and "ablative" or non-permanent....the trip near the sun burns it off or scorches it. On the other hand it could be a very reasonable way to "explain" why some of our spacecraft are so beautifully shiny.)

Are we looking for a name for the spaceship? ...how about the STARVENTURE? Or the TEMPEST?

*Mike*

*DATE: FRIDAY, OCTOBER 27, 2000 12:42 AM*

Dear Jon and David,

Anyway, I am very happy that Jon forwarded the story about the new planetoid.....I had not heard the report yet and it is VERY significant. 400 miles diameter is not "just another asteroid".....there are four asteroids that deserve a special status, Ceres, Vesta, Pallas, and Juno because of their exceptionally large diameters. Any object of this size discovered anywhere in the Solar system is a great big deal. Add one more member to the true planetoid category.

Yes, we should include a probe to this body in our story...the fact that it is reddish is very intriguing.

*Mike*

*DATE: SATURDAY, NOVEMBER 25, 2000 9:45 PM*

Dear Jon and Mike,

I just read the new summary of JTP, Jon, and it is very fine! Should be a great story! Writing parts of it will be a challenge, but should be possible!

Some comments:

Having the discovery of the tenth planet occur at the same time as Z and his cronies get there is a bit too coincidental. How about if a "counterspy" network hears rumors of a base beyond Pluto, which then leads to the search for and discovery of the tenth planet? At the end of TRA, we already have people at NME, SE, and Space Command searching through their personnel, etc., for signs of the leak. They won't find Denn in JTP, but they could find others. And we still have the pirates who are prisoners on Mars. It would be natural to question them further once Zimbardo disappears. Suppose their rumors lead to the search for Nyx?

The large ship comes near destruction on its way to Titan. Wouldn't the bad guys aboard be killed also by the radiation sabotage? Would it be better if they fix it so that they are not near the radiation leak so that only the good guys are threatened by the leak, or something like that?

The passage in which they drift for 5 days without food or water is pretty similar to the scene in TRA. It may be better to think of something else. They could just radio and be rescued without too much delay. Their radiation sickness would be exciting enough.

Idea for the sample text at the end of TRA: the first view of Nyx. That would really set the scene, but wouldn't involve any action that might change in our later revisions. And it relates to the title of the book. A lot could be implied in a short passage. What do you think about that? Also it would be easy to write.

Wouldn't the Xenos recognize holograms? Or are these holograms so advanced that they are not recognizable as such? Would they show up on radar? Could they be used as reflectors if the men in the city shoot lasers at the holograms, which then reflect the lasers toward the Xenos, looking as if they come from the holographic ships? The light of the lasers is invisible, after all. How real are the holograms, so that even the Xenos are fooled by them?

I am not clear on what "the Nemesis" actually is. Is it the tenth planet, or something else?<sup>79</sup>

I agree that Zimbardo ought not to repent. If we are moving in the direction that he is demon-possessed, what often happens in such cases (according to expert exorcists) is that the individual disappears, leaving just a gibbering, slathering shell of humanity, diagnosed as "mentally ill" and institutionalized. Remember Weston in *Perelandra*--who became what C. S. Lewis described as "remains." There is no chance that such a person returns to humanity to become a danger later. Z just disappears as a character, going into utter spiritual darkness. A parallel to what Nyx is. I'd rather show this as the fruits of extreme evil--the eventual complete loss of his humanity. We could describe Z in fearful terms at the end of JTP, and having to be confined on the return voyage. He is completely broken by his encounter with the Xenos, and eventually goes beyond even Gebbeth's attachment to him. Just as he became so evil in TRA that all left him except his five companions, now he degenerates so far that his humanity is so overcome that no one could or would follow him. He is lost. And the five companions return for trial, deeply shaken men.

One chapter heading somewhere in there should be The Planet of Fear. I like the theme of fear very much. And the dragonfly is a brilliant touch. It can be a small symbol of the Incarnation--entering into darkness in order to redeem. We can do a LOT with this book! It will end with the supreme darkness of Z and the blazing light of the Starmen. It really culminates the story of the pirates. DIE<sup>80</sup> enters a new stage in the Starmen's story.

Your thoughts on my thoughts?

*David*

*DATE: MONDAY, NOVEMBER 27, 2000 12:05 AM*

Dear Jon and Mike,

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<sup>79</sup> The Nemesis is the name of the star that is supposed to orbit the Sun – in this case, the other star that the Tenth Planet is orbiting.

<sup>80</sup> Our abbreviation for *Descent Into Europa*.



> > *How about if a "counterspy" network hears rumors of a base...*  
>  
> *That sounds great! It makes more sense. The coincidence is kind of an*  
> *accident. Do you remember, David, that you were the one who originally*  
> *plotted JTP? ... When we came to write TRA and had Zimbardo*  
> *escape, we naturally had him flee to the tenth planet. So the coincidence*  
> *'wrote itself'. Your suggestion for removing it is fine: it's a lot cooler*  
> *than what we originally planned. Imagine discovering a planet via a*  
> *counterspy network!*

Good. It works out. Yes, I remember that the germ of the JTP idea was mine--in August 1998, if I remember correctly. But what I think is REALLY cool is that the three of us usually don't remember who came up with what. That's the best sign that the project is a real team effort.<sup>81</sup>

> *Actually, what I had in mind was not sabotage at all: the new-fangled*  
> *active shielding just failed.*

Oh, right. Better. If it's that way in the summary, I missed it.

> *I've thought a good bit about that since I received your e-mail early*  
> *this morning, and I've come up with a few ideas...*

Better. I think this is one of those things that will develop as the book grows. We don't want the holograms to be too much of "magic" answer, yet the Starmen do need some kind of help. And connecting the technology with the alien spacecraft of TRA will be a good move.

> *I liked the idea of having the Xenobots being defeated by*  
> *shadows: it was so poetic. They tried to use fear to overcome the Starmen,*  
> *but in the end it was fear that defeated them: the Starmen's courage led to*  
> *their victory. So what to do?*

Right!

> *Can we rethink his fate?*

---

<sup>81</sup> This has turned out to be a most welcome and unexpected boon and characteristic to the work of the Starman Team.

>

> *Sure, no problem; that's fine with me. I wasn't at all sure what should  
> happen to him: it didn't seem very clear to me, and I was eager to see what  
> you two thought. I knew we had to deal with him somehow but I didn't know  
> how. Your suggestion sounds terrific!*

Good--the natural consequence of real fear--that is, the choice for evil--is utter dehumanization. It could be a powerful scene. Remember Charles Williams' Descent Into Hell? This could be similar.

> *we could really have the  
> Starmen shine: all throughout the book they're on top because they are the  
> only ones who never give into their fears.*

Exactly. Your full comments here are excellent. Keep them on file for when we need them!

*David*

*DATE: MONDAY, NOVEMBER 27, 2000 12:05 AM*

As an idea for the dedication of JTP, how about if each of us picks someone, so that there are three dedications. I've already picked someone, but it's a personal dedication. I think that Joseph Greene and Fred Woodworth are naturals for the entire team, but from here on I can't think of anyone that we three would all want to honor. So how about if we have a dedication for each of us?

*David*

*DATE: THURSDAY, DECEMBER 07, 2000 11:56 PM*

> *[MIKE] I REALLY like the teaser for JTP!! It makes me  
> impatient and want to read the final product!!*

Glad you like it, Mike. The idea of having the name of planet kept as a secret until they get there just hit me as I was writing. Of course, it won't be a secret to the reader. It'll be another item like Beowulf Denn--the reader knows something that the Starmen don't.

*David*

*DATE: MONDAY, DECEMBER 11, 2000 7:34 PM*

- > JTP might be the perfect place to explain the difference*
- > between the Starmen and everyone else. I see three groups of people in the*
- > Starventure on the way to Nyx: there are the corrupted crewmembers, the good*
- > crewmembers, and the Starmen. We could contrast the Starmen's reactions,*
- > devotion, etc. to that of the corrupted crewmembers -- and show how the*
- > Starmen have an extra edge of character that even the good crewmembers just*
- > didn't have. Nyx is a very cold, desolate place, and the Starmen were in*
- > very desperate straits there. What better place to develop what it means to*
- > be a Starman?*

There you go! It'll make the book about character formation, etc. in the face of fear.

*David*

*DATE: MONDAY, JANUARY 01, 2001 1:26 PM*

- > ...Once they reach the door, they discover that the forest is simply some sort*
- > of advanced holography created by alien machines. Later, the Starmen get the*
- > idea to dismantle the machines and use them to "attack" the Xenobots...This*
- > scene would be important: it's where the Starmen "discover" the*
- > holographic/imaging equipment they later use against the Xenos.*

Now that could work! It would make a GREAT scene for a strong internal illustration, too! Imagine a dense woods at minus 342 degrees.

*David*

*DATE: THURSDAY, JANUARY 04, 2001 8:43 PM*

How about if we open JTP on January 1, 2152. Zip is at home with his family sharing the holiday, and the World Calendar is introduced in that chapter. Then the news comes from SE that counter-spies on Mars have learned from the pirates incarcerated there about the tenth planet...

*David*

*DATE: MONDAY, JANUARY 08, 2001 8:49 PM*

*> I was reading the news this morning and saw this:*

*>*

*> "Scientists at Ben-Gurion University of the Negev have shown that an unusual*

*> nuclear fuel could speed space vehicles from Earth to Mars in as little as*

*> two weeks. Standard chemical propulsion used in existing spacecraft*

*> currently takes from between eight to ten months to make the same trip."*

*>*

*> Two weeks! In AOM, remember, the regular nuclear-fueled spacecraft took*

*> two weeks to cross the void. This is now a possibility!... In the article, the*

*> researchers demonstrate that the fairly rare nuclear material americium-242m*

*> (Am-242m) can maintain sustained nuclear fission as an extremely thin metallic*

*> film, less than a thousandth of a millimeter thick.*

This is fantastic!! How about if the Starventure is powered by Am-242m in JTP?

*David*

*DATE: FRIDAY, JANUARY 19, 2001 1:13 AM*

Dear Jon and Mike,

Wow! Another fantastic "coincidence" or something. No doubt you noticed that the new character in the JTP sample was Dr. O. I wanted to come up with a character whose

name was spelled with one letter. I pondered a long time between O and U, and finally picked O. He's the guy who finally zeroed in on Nyx. Now, could he be the Q-like character? I envision him as a scientist with a powerful mix of personality. Brilliant mind but phobia about space travel would work it fine. I don't know how I see his physical appearance yet. Ideas?

I got the idea for a one-letter name from a former United Nations Secretary whose name was U Thant. I forgot what part of the world he was from, but I think it was the South Pacific. I want to research that a bit and then come up with a proper first name for Dr. O. Or maybe O can be his first name...

*David*

*DATE: FRIDAY, JANUARY 19, 2001 1:22 AM*

Found a web site with 525,000 Burmese names.

For our character, how about Tchin O? (I didn't read all 525,000 names--just picked this one out of the first few listed.)

*David*

*DATE: FRIDAY, JANUARY 19, 2001 2:53 PM*

Dear Jon and Mike,

I've given some more thought to Dr. O. How about if he has no other name--just O. He can be described somewhere as Burmese, and I don't know if the Burmese have both a first and last name, etc. A lot of the Burmese names I looked at on the web site were single word or hyphenated words; however, I suspect that these were first names only, just as expecting parents might look through a book of "baby names" and only see first names--they already know what the last name will be.

Still, just plain O is the point. So as not to conflict with the Asimov character, rather than have him manifest a phobia for traveling, how about having him be completely dis-

interested in it? That is, he is absolutely brilliant with theory but has no interest in fact. Thus, his name becomes a symbol: something round and suggestive of wholeness, yet empty in the middle. Having one name, like the pirates who are referred to only by one name, is a sign of his incompleteness.

Conversations aboard the Starventure could flesh out his character a little bit more as the Starmen reflect on the nature of Dr. O, who brilliantly located the 10th planet and named it, but had no interest whatever in seeing it.

As far as appearance, he could be middle-aged, somewhat flabby from not being interested in exercise or any physical thing, and unkempt. That is, he is just not too concerned with real life.

What do you think?

*David*

*DATE: FRIDAY, JANUARY 19, 2001 7:19 PM*

About "O"...I like the name and the character....just plain O. Perhaps all aspects of his identity are unknown....rumors could abound about his true age...is he really an extremely old man who is using anti-aging formula...or a very young genius who hides behind an old image because he knows he will get little credibility as a youth. Perhaps we could out "Howard Huges" Howard Hughes here!

*Mike*

*DATE: SUNDAY, JANUARY 28, 2001 3:15 PM*

Dear Jon and David,

About the Pluto situation.....we could go in several different ways here.....Perhaps Pluto will indeed have its status changed to that of TNO.....at least until the mid 22nd century when a rocky or iron core is discovered! Then it could be redefined as a planet once again!

We could have a new 9th planet found way out beyond the Kuiper belt, but way closer than the "10th" planet.

Did you read the part that suggested that Pluto and the other objects were in a "blended" orbit around Neptune AND the sun? That gives a shade more plausibility to our 'invented' 10th planet that orbits both Nemesis and the Sun.

In reality, I suspect that the astronomers that are holding out on the redefinition of Pluto, are doing so out of deliberate or unconscious respect for the very old but still alive Clyde Tombaugh.

*Mike*

*DATE: TUESDAY, FEBRUARY 27, 2001 10:11 AM*

Dear Mike and Jon,

What is the value of absolute zero? Fred noted that surface temperature on Nyx is -342, and said that absolute zero is -273.something C. Well, I knew that, but was using Fahrenheit. I want to make sure that I haven't gone too far. I want the surface cold, close to absolute zero, but not erroneously surpassing it. What is absolute zero Fahrenheit? Thanks!

*David*

*DATE: SATURDAY, MARCH 03, 2001 11:39 PM*

On to JTP next. I'm already into chapter one. It is tentatively called "January 1, 2152." The second chapter is called "O."

*David*

*DATE: FRIDAY, MARCH 09, 2001 10:03 AM*

Dear Jon and Mike,

- > *Wow! It's a beautiful chapter: it was well worth waiting for. I really*
- > *loved the images and the Armstrong Forest: what an idea!*

Well, the idea was really Mike's! This is how I chose to bring in the image of the deep forest Mike suggested a while back. I thought you'd like it--I've had the idea for many weeks, and kept it to myself as a surprise for you two.

- > *The chapter does a good job of identifying what's going on: it*
- > *looks like a person can start with JTP and not wonder who this Zimbardo*
- > *person is.*

I'll add a bit more descriptions, especially of the Foster parents, but if you both like the idea and the flow, then we are indeed launched!

Chapter 2 will have David hastening to get Kathy back home. They will discuss who O is, and that will give us a chance to introduce that character before he actually appears. Then the Starmen will reunite with Richard, who will give a brief recounting of the process of hearing about the tenth planet. Then they will meet with O, who will give them the facts about the tenth planet. Then the preparations for the journey will be hatched.

In Chapter 3, they launch--taking Jack and Jill with them--and the adventure begins! I'm on fire now for the story.

The local reading group of four will meet in 2 or 3 weeks. May the sales of both our books bring in the solars so we can print JTP in 4 months!

*David*

*DATE: FRIDAY, MARCH 09, 2001 10:20 PM*

You know who George MacDonald was, don't you? I have a wonderful quotation from him in chapter two of JTP--the first subtle Christian reference in the story!



More later!

*David*

*DATE: MONDAY, MARCH 12, 2001 5:07 PM*

The imagery in JTP is flowing wonderfully! I've altered the Armstrong Forest to be a "Garden of Eden" symbol. It is intended to contrast sharply with Nyx in its cold and darkness and fear-haunted landscape.

*David*

*DATE: MONDAY, MARCH 12, 2001 11:58 PM*

I just sent you chapter 2 of JTP. It will need some scientific scrutiny--Dr. O's description of the tenth planet, especially, but also Richard's explanation of the Starventure's drive and the parameters of the journey.

Also, in case you didn't catch it, the name of the first child born in the 22nd century, mentioned in chapter one of JTP, is Sherry Barneveld. That's a tribute to Mark McSherry, one of our top fans, who lives in a town called Barneveld. He'll catch the reference at once, I'm sure!<sup>82</sup>

*David*

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<sup>82</sup> This tribute was not announced. Mark read it for the first time when he got his copy of *Journey to the Tenth Planet*. Two more tributes to our readers have been placed in *Doomsday Horizon*, and others are planned for future books.

*DATE: TUESDAY, MARCH 13, 2001 9:00 AM*

Dear Jon and David,

Jon's accuracy check on CH<sub>2</sub> is right on target. The Momentum thing is very true.....it makes little engineering sense to bleed off all that hard earned speed in order to refuel at Titan. I have two suggestions for this point.....As a spacecraft coasts away from the sun (after a period of acceleration thrust) it will slow down trading off the speed for distance from the sun....at some point its speed will diminish to nothing.....perhaps This is why they stop for refueling in that vicinity. (The problem here is that our speeds are so high that I suspect that we wouldn't be "running out" until way out of the solar system...besides we are using almost constant thrust with the Americium engines.) It is possible that a special Americium refuel package could be launched as the craft nears Saturn...it could be so trimmed down in mass (just a "bullet fuel reload"...that it can quickly accelerate to the speed of the ship ..allowing for an easy docking of the two)

Another possibility is that the ship might be using a large boost from some high power lasers located at Titan (I guess the idea here is that the ship has a laser target-pod at the stern....this thing blasts out huge thrust when the laser heats it.....kind of a turbo-charger for space)....Anyway, I like Jon's explanation of the slingshot bypass of Saturn...this is most probably what spacecraft will use in the future. (A note here is that we might have another good reason to streamline ships.....the closer to the planet we can do the slingshot, the more speed gained.....and since these ships are already traveling so fast, at some point we will need to worry about the very thin fringes of atmosphere these gas giants might have at these "slingshot" distances.

About the Armstrong Forest... (a beautiful description, David!).....I am concerned about the lighting for the forest.....We are at the Lunar South Pole here, right.....In this area crater rims and surface rises can easily keep the sun out (that is why there is still water ice there...in the parts that are shielded from all sun rays.)

I think the engineering solution is to have large mirrors mounted high enough to peep over any obstructions to sunlight. These could be mounted right on top of the dome...or on nearby formations ....they are automatically angled to keep the light streaming in. If they are high enough...they can avoid the two weeks of night every month that almost all of the moon experiences.

*Mike*

*DATE: TUESDAY, MARCH 13, 2001 10:54 AM*

Dear Jon and Mike,

Thanks for your comments on JTP to date. Everything makes sense and makes it really clear why we need each other to produce these stories. I'll make the changes within the next few days and then move on to chapter 3. If all goes well, 3 should be sent to you Thursday evening.

Only discrepancy in your comments. Jon suggests that there would not need to be a stopover on Titan for any reason; Mike says that some sort of stop might be anticipated, although he does say that the "slow-down" from the slingshot effect wouldn't cause significant slowing until way past Pluto. Sounds as if the stop at Titan will only be because of the shield failure, and the jettisoning of the Titanians would be the original plan. I'd forgotten about the Americium fuel.

Another question: if Nyx is whipping into our System at such an enormous speed, what will this do for the Starventure's approach speed? Would it be better to have its orbit be longer than 500 years--50,000 sounds too long? But remember that there are some indications today that there may be a tenth planet--variations in the Outer Planets' orbits, etc.--so Nyx can't be so far out of our System that these variations can't occur.

*David*

*DATE: TUESDAY, MARCH 13, 2001 8:23 PM*

Dear Jon and David,

Actually, I am of the opinion that the stop at Titan is difficult to justify and would normally be avoided by a flight plan if at all possible.

About the Starventure's speed out to Nyx and Nyx's speed toward the Sun.....My vision here was to have the Starventure speed straight out, then reverse direction and speed back toward the sun.....matching Nyx's velocity at some point...then going into an orbit or landing on Nyx.....this is really the only way to achieve this sort of thing. Nyx's orbit is very similar to a comet like Halley's...only even more elongated. These kinds of orbits are not circular...they are almost linear. Jon was

very much correct when he pointed out that 500 years is way too short for the Nyx orbit.....50K or 500K is more like it.

*Mike*

*DATE: WEDNESDAY, MARCH 14, 2001 10:14 AM*

Dear Jon and Mike,

> >*I think the engineering solution is to have large mirrors mounted high  
> enough to peep over any obstructions to sunlight.*

Okay, but remember that at the south pole the sun basically never sets--it just rolls around the horizon. There will need to be settings on the mirror that will take what the sun provides and alter it so that Armstrong Forest gets the equivalent of seasons. Right? Also, did you notice that although it is January 1 (i.e. winter) that the garden is in bloom? Any problem with that?

> >*Only discrepancy in your comments. Jon suggests that there would not need  
> to be  
> a stopover on Titan for any reason;*

Actually the whole Titan thing was a mistake on my part. I had forgotten that the stopover on Titan was due to an EMERGENCY. The original plan, then, will be to go straight to Nyx, approach according to Mike's plan, and jettison the Titanians. Then the shield failure will necessitate the stopover on Titan. Right?

> >*I'd forgotten about the Americium fuel.*  
>  
> *I saved the research paper on it, David, so if you need it let me know  
> and I'll send it to you.*

That would help a lot! Thanks.

Regarding the speed of Nyx--sounds good. It's coming in at about 500,000 mph with a period of 5000 years, and Nemesis is two light years away. Something that odd would

not likely be a natural phenomenon (although who knows??), so the idea of a Martian planetary drive is great! It should be the short story in I\*S 3, after JTP comes out.

...

Most of the change in JTP have to be made in the last section, where Richard and Robert are explaining the plan. Shouldn't be too hard to do once I get the facts straight. Then I'll send you a revised portion of that chapter.

*David*

*DATE: THURSDAY, MARCH 15, 2001 8:15 PM*

Dear Jon and Mike,

I've done some math and if I'm right, we have a problem. If Nyx is traveling at 500,000 mph and is 5.5 billion miles away from the sun, it'll arrive in about 458 days--less than a year and a half. That's WAY too soon, don't you think? The story says it won't arrive until 2221--about 70 years after the story. At the rate we've got now, the Earthmen could just wait six months and greet the planet when it gets to the Outer Planets or something.

How fast would a planet have to move in its orbit to travel 5.5 billion years in 70 years? I think it comes out to about 9,000 miles per hour. How fast does the Earth travel? What's reasonable?

Also, if Nemesis is 2 light years away from the sun, is it reasonable to say that it rotates around the sun in a period of several thousand years? How long is a light year? If Nyx travels an average of 9000 mph in an orbit that describes roughly 4 light years round trip, how long does it take to complete one orbit? I guess we can wiggle these figures to suit us by bringing Nemesis closer, etc., until we get a reasonable situation. Can you help me out here?

*David*

*DATE: THURSDAY, MARCH 15, 2001 8:29 PM*

Dear Mike and Jon,

I did some more math. Light travels 6 trillion miles in a year, so Nemesis is 12 trillion miles away. If Nyx travels at 9,000 mph, then it will take about 304,000 years to make one orbit. If we speed Nyx up to, say, 90,000 mph and have Nemesis only one light year away, then we reduce the time of orbit to about 15,000 years. If we make Nemesis half a light year away, and speed Nyx up to 100,000 mph, then we're talking about a full Nyctian orbit of about 6,000 years. Are we getting close to what we want?

How about if Nemesis is half a light year away (3 trillion miles) and Nyx travels at about 100,000 mph. That also means that it will arrive in the Inner Planetary system in a little more than six years from the time JTP opens. Long enough so that the Earthmen won't want to delay the journey to the tenth planet. It will also be in the Solar System (from entering Pluto's orbit to passing it on the way out) for just about 4 years exactly, and it will not approach the orbit of Pluto until early March 2154. This is assuming, for the sake of estimation, that its speed is constant.

Do these figures work?

*David*

*DATE: THURSDAY, MARCH 15, 2001 10:25 PM*

Dear Jon and David,

Nemesis goes undiscovered because it is dark.....a star no longer luminous. (A very likely case) Even our own sun provides insufficient illumination to reflect off Nemesis. In reality, the scientists that theorize that the Sun has a companion do indeed invoke this fact.

Nemesis may be a neutron star.....even more completely eliminating any chance of reflecting light (no light can escape a neutron star...just as it can't a black hole).

Nemesis may be in an eccentric orbital arrangement with our Sun.....

The Earth is moving about the Sun at about 6,000 mph , I think....let me check.....

1 AU (Earth-Sun distance) = 93,000,000 miles=radius  
circumference of circle =  $2 \pi \times r = 6.28 \times 93,000,000$   
= 584,040,000 = distance Earth travels in a year,  
divided by 365 = 1,600,100 miles in a day  
divided by 24 = 66,671 mph.....(=18.5 mps)

So I was wrong by more than a factor of 10!

A satellite in close orbit about the Earth travels at about 16,000 mph.

The trick to giving a speed to Nyx is to assign a distance to Nemesis that will yield an acceptable period. I am all for a very long orbital period. I guess that if Nyx is a natural object (or behaving as one) then its average speed would quite low. [one of the counterintuitive qualities here is that the farther out an object is from the primary (the Sun in this case), the lower the orbital speed even though it had to be accelerated to get there!] Earth orbits at 18.5 miles per second, Jupiter at 8.1 mps and Pluto at 2.9 mps. So I would figure that for most of the orbit Nyx would have to be a cosmic slow poke....slower than Pluto. It is only when the objects starts nearing our Solar system or Nemesis that it would pick up speed. On the way out of the Solar system it would really be hauling, but this would consistently bleed off with distance.

I guess a practical distance for Nemesis would be 1/2 lightyear. So we can "crunch" these numbers and find an orbital speed and period for Nyx. Assign a speed of 1 mps and it would take 186,000 years for the round trip (at least, depending on the orbit) Assign a speed of 2 mps and you get 93,000 years. Please understand that these numbers are approximate, doing these calculations has reminded me of just how much I DONT know about orbital mechanics!

Looking for a book,

*Mike*

*DATE: THURSDAY, MARCH 15, 2001 11:18 PM*

Dear Jon and David,

The only reason I mentioned the laser boost was that we were searching for reasons to stop off or fly by Titan. If we just drop Jack and Jill off, then that is reason enough....no need for lasers and the baggage they involve.

Actually, explaining the technology of the drop-off might be involved enough as it is....that is if some future reader asks about the deceleration needed to pull it off, but we probably can do that easily.

About analyzing a frozen atmosphere 6 billion miles away.....it should not be too hard if there is sunlight shining off it and if 22nd century science has good enough "light gathering" power on their\* telescopes or equivalent. Once you get a strong enough light signal, then you run it through a spectrum analyzer and it is straightforward from there.

\* We might have the capability right now!

Mike

DATE: TUESDAY, MARCH 20, 2001 10:47 AM

Dear Jon and Mike,

> *I've just read over the first half of Chapter 3, and it looks good!*

Thanks. Glad you both like it. As usual, I'll go back and flesh out the people a little more--some descriptions of the Seaton and Taylor parents, etc. First draft takes care of the action, second adds the tidbits.

> *I really enjoyed the level of detail the chapter had: all that  
> information concerning the Deep Space Expedition, Allen Foster, and the  
> Titanians was great: it exactly matched our backhistory and (I think)  
> enhanced the storyline. I really enjoyed it!*

This is one of the many examples in which our "homework" really pays off. When it comes to a scene like this, I just open up our Introduction or related documents and lift whatever is there. This is also where I got the line about the Titanians' skin. We've developed the story far beyond that now, so I will make the change you suggest, Jon. That's a good point!

> *And in case it somehow impacts the story....I wanted to clarify something  
> about the orbital speed of Nyx.....if we assume an AVERAGE speed of 1  
> mps....then we have to recognize that the inbound (ie SUNBOUND) "quarter" of  
> the trip would be one of very long and gradual speed increase.....when it  
> comes near the Solar system , it will be going its fastest....somewhat faster  
> than the nominal 1 mps we chose. ( I guess about 2 or 3 mps...depending on  
> exactly how far out the ship is able to intercept it)*



Right. When I did the math before, I realized I was just coming up with the "average" orbital speed and that it would change as Nyx approached the sun, but left it at the average rate. When we get to figuring its actual speed at the time of our boys' descent, we'll need to be more accurate than an "average" speed.

I did notice as I was preparing the astrotour that the rings of Saturn move at about 500,000 mph! For most of that material I used my oft-consulted National Geographic map of Mars and the book my wife gave me for my birthday last year, the National Geographic's book OTHER WORLDS--which is like an atlas. To describe the Horsehead Nebula, for example, I just looked at the photo in the book and used some of the same words that appeared in the sidebar.

Jon, I didn't put in the episode you put into the summary, about when Robert Nolan takes the Starmen to the hangar and they are attacked. Instead I went with Mike's suggestion that "astrogazing" might be a pastime in the 22nd century. It seems superfluous to me now and doesn't connect with the rest of the story. Is that okay? The latter part of chapter 3 will have the final preparation of the Starventure, the farewells with the families, and lift-off.

If all goes well, I can finish the chapter and get far along chapter 4 on Thursday.

*David*

*DATE: WEDNESDAY, MARCH 21, 2001 1:24 AM*

Dear Jon and Mike,

Right, Jon, and the way our stories seem to unfold. What I'm trying to do in JTP is present a feeling of fear that is a growing undercurrent to an idyllic situation. Armstrong Forest has, I hope, clear overtones of the Garden of Eden; it is called a "pristine paradise" in one place. One phrase ("still waters") is a deliberate pointer to Psalm 23. Zip's obvious deep, demonstrative love for Kathy and the "normal" family scenes set the stage. Gradually things go awry. I remember that this book is supposed to be about fear--or better, "perfect love casts out fear." At the end, fear overwhelms even the Xenobots, and Zimbardo himself goes so deeply into fear that his possession takes him over completely and he becomes a gibbering remnant of a human being. It'll be a chilling scene.

The book, then, will have pristine beauty gradually overcome by fear; fear will be mingled in conflict with love (darkness with light), then at the resolution, each goes powerfully one way or the other. The Starmen into light, love, and truth; and the bad guys into complete darkness.

Should be cool.

*David*

*DATE: FRIDAY, MARCH 23, 2001 9:11 PM*

Jon observed that the Asteroid fog idea would not work well on Titan...he is very correct on this. Let's use it on an asteroid.....it would be such a strange story feature, but one that is somewhat "defendable". Jupiter's moon IO for sure has gaseous and particulate eruptions from its volcanoes...I bet something like the Asteroid fog can happen there. Titan's atmosphere is even denser than our own...and probably only has the gravity of the Moon. Interestingly, a survival suit for Titan would have to solve only the Temp problem and the Oxygen problem.....pressure is NOT a problem. Humans there would need a "Titansuit". If it is convenient to the story for us to just use regular spacesuits, but not pressurized, we can do that.

*Mike*

*DATE: SUNDAY, MARCH 25, 2001 12:58 AM*

> > *Humans there would need a "Titansuit". If it is convenient to the story for*  
> > *us to just use regular spacesuits, but not pressurized, we can do that.*  
>  
> *That's a very good point! We'll have to watch out for that when we write*  
> *that portion of the story.*

Very good point. This is the kind of stuff that gets the Starman books a lot of respect from the scientific community's readers and makes people (like Dan Henton) want to help out. This is really good! I had envisioned the spacesuits that the Starman wore as

being adjustable to pressure, temperature, etc. I never described it that way in AOM, but it's what I had in mind. If you both like the idea, we can make it specific when they get to Titan. E.g. "Our suits will serve in all environments in the Solar System, but here on Titan we don't have to use the pressure adjustments, etc. etc." What do you think?

*David*

*DATE: FRIDAY, MARCH 30, 2001 10:37 AM*

Dear Mike and Jon,

I'm glad you like the chapter, Jon. It was hard to get started--these days I'm doing a lot of other writing and by the time I get to JTP, it is late in the day and I'm kind of written out. Maybe that's where the writer's block came from on Monday. I had to jump start this chapter yesterday, but it seemed to flow pretty well once I got into it. Chapter 5 will bring them to Titan.

About the temperature of the corona and surface. It does seem quite low to me, but my source is the National Geographic book. I just looked it up and see that I made a mistake, however. The 3500C figure (6300 F) is the temperature of sunspots, not the surface. The temperature of the surface is the 5500C figure (almost 10,000 F). The corona must be higher than that, and the core is millions of degrees.

The book doesn't give a temperature for the corona. If you can get that for me, Mike, I'll put that figure in.

Also Mike, does the distance of passing the sun, 1,900,000 miles, seem okay?

*David*

*DATE: FRIDAY, MARCH 30, 2001 11:11 AM*

Dear Mike and Jon,

I found the figures. The photosphere (surface) temperature is 5500 C (about 10,000 F) but the corona is more than a million degrees C, or about 2 million F. I rewrote the text to show this. Glad you two caught it!

*David*

*DATE: FRIDAY, MARCH 30, 2001 8:54 PM*

Dear Jon and Mike,

*> Will be the chapter with Kristina, or will she be in the next one?*

I'll have to refresh myself by reading the summary, but right now I'm figuring on having chapter 5 be a time of drifting, talking, etc. and ending with landing on Titan. During the drifting period, Jack and Jill can tell the Starmen about Titan and some of their legends. Then we won't have to rehash that when they get to Titan. I figure when they get there, they'll be busy getting ready to continue the journey--the time for talking is when they're waiting for rescue. If that's the case, then Kristina will appear in chapter 6.

Probably this is already in the summary, but I'm not clear how they rescue and clean the Starventure, slow it down, and reboard to continue the journey. The ship is moving awfully fast at this point, and will become an uninhabited derelict for a while. How about if Captain Bors sets it on automatic pilot before everyone jumps ship, the rescue people board it and clean it up, then the 19 people get onto it again to continue to journey. It will involve some slowing of the ship, but I don't see any other way to handle it--unless the answer is already written in the summary.

*David*

*DATE: FRIDAY, MARCH 30, 2001 9:06 PM*

Dear Mike and Jon,

I just checked the summary and I see that the scenario I laid out a few minutes ago will work, but there is one unresolved issue, I think. The summary calls for repair of the Starventure on Titan. Won't it be moving far too fast for that? Wouldn't it be better if it is repaired in transit so as to minimize slowing? Suppose we have the ship slingshot around Saturn during the repairs? That way we can maintain at least some of the speed while giving the repair crew and the Starmen and other Starventure crew members time to recuperate from radiation sickness. If that works, how long will they need? Two or three days? A week? How long can we keep the Starventure in orbit around Saturn?

*David*

*DATE: SATURDAY, MARCH 31, 2001 10:03 AM*

Dear Jon and David,

The flight details of this outward journey are indeed cumbersome! I have been going over and over it in my mind. At first, the stop off at Titan seemed a great waste of energy/momentum/speed....like stopping a bullet train just to pick up a newspaper. But I think I might have missed the point. "Gravity assist" from the sun is a short term boost.....it would impart great speed to the ship, but great speed inside the Solar System still has to fight the gravity of the Sun....so the great speed would be quickly bled off in exchange for distance from the sun. So if the DIRECTION of this great slingshot effect is well targeted, then just getting to the same orbital coordinates as Saturn might be a credible use of THAT momentum. Yes, the ship is also using the constant acceleration of the Americium Drive. But the real "feat" here is not just getting to Saturn, but getting there FAST. IOW, I guess there is no real inconsistency in the story, as long as we have the ship's velocity in the correct direction for a "Saturn intercept" trajectory. (I like that term...by the way,....and this trajectory would not be directly away from the Sun, but actually an ever enlargening orbit about the Sun) We would get there very quickly. And any nominal deceleration needed could be handled by the Americium drive.

Jon's comments here once again prove that HE is a quite capable ASTRO-NAVIGATOR!

About the close approach to the Sun, David had suggested about 1 million miles. That is roughly 1/100 of the Earth's distance from the sun or 10,000 times more intensity

of solar radiation. I will have to check on current satellite technology, just to get an idea of what is currently possible and then super-extrapolate from there.

Jon points out that the ship will be using the Americium engine and will therefore have to be designed about that type engine. I did not get a chance to see the imagined engine type, but I hope that it will not preclude the sleek design that I had scanned and sent to you guys, the one that is supposed to be in the cover painting.

I have read the chapters again and I really like the story so far!

*Mike*

*DATE: SATURDAY, MARCH 31, 2001 10:04 AM*

Dear Jon and Mike,

I see what you mean, Jon--the Starventure will have to be completely redesigned. I like having the Titanians do the work. So the scenario is this, right? Earthmen from a base on Saturn or somewhere (base on Titan? why not?) capture the ship and move it into Saturn orbit to slow it down, then take it to Titan. Meanwhile the crew members are taken to Titan for recovery. Ship is rebuilt on Titan by Titanians for lead shielding. Crew continues to Nyx with americium drive and lead shielding.

If this is the sequence of events, what time frame are we talking about? How long will it take to repair the ship (i.e. how long are the crew members on Titan)? and how long will it take them to get to Nyx from Titan? Do they still need to slingshot around the sun on their return trip?

*David*

*DATE: SATURDAY, MARCH 31, 2001 9:55 PM*

Dear Jon and Mike,

I read through your emails rather quickly and it looks as if we have everything we need there. Just one question, which Jon noted in passing: if Earth's scientists can now treat

radiation sickness, what is it that keeps Allen Foster confined to the Earth-Moon-Mars system? Has the treatment progressed between 2130 and 2152? What exactly happened to Allen? Why can he travel to Mars but not to Jupiter, etc.?

Everything else looks good!

I had an inspiration in the middle of binding the AOMs, and quickly jumped up, left Leslie to work for a few moments on her own, and wrote a paragraph for the end of JTP, when the Starventure is returning to Earth with its captives--a chilling scene about the end of Lurton Zimbardo. The other pirates are in normal custody, but Zimbardo, horribly insane, is kept in solitary confinement. Mark, the sensitive Starman, is peeking at him through a window in the door. What do you think of this?

Lurton Zimbardo's eyes roved with unrelenting motion to every part of the cell, taking everything in but registering no intelligence. Then for just a moment, a split second, it seemed to Mark as if Zimbardo's eyes paused their relentless searching and noted his presence. Mark perceived a silent, bottomless cry of anguish and loss that passed as quickly as he discerned it. Then the eyes of the man moved on again aimlessly.

"There was nothing human in those eyes any more—nothing human at all," Mark thought, and tears began to pour from his own eyes. He felt a vehement repugnance, and then a great sadness, an infinite sadness, a sadness that could almost fill the universe.

*David*

*DATE: SUNDAY, APRIL 01, 2001 7:38 PM*

> >Just one question, which Jon noted in passing: if Earth's  
> >scientists can now treat radiation sickness, what is it that  
> >keeps Allen Foster confined to the Earth-Moon-Mars system?  
>  
> I've thought about this, and I have one simple answer: Zip was treated  
> right away, while Allen was not....

Good answer. Thanks for all the info on radiation sickness. It'll make for a great scene. The next few chapters will be excellent.

Another question that hit me yesterday. It is not just the Starventure that will be traveling at 3 million mph when it is abandoned--the lifeboats also will be! How do we get them slowed down enough so the crew can be rescued? I doubt they'd have enough brake power to slow down on their own quickly enough. Do they have to orbit Saturn also? Maybe skillful piloting can cause them to skim the surface of the atmosphere and get a good braking effect. THAT would be a terrific scene to write! Skimming the atmosphere of Saturn with the rings in close proximity! The National Geographic book is remarkably helpful with JTP--I just have to describe what I see in the photos! There's a great shot of Saturn and another of Titan, and I've already used the ones of the Horse-head Nebula and the sun.

I have a lot to do tomorrow, but plan to get chapter 5 done.

*David*

*DATE: SUNDAY, APRIL 01, 2001 8:45 PM*

Dear Jon and David,

There is radiation sickness and then there is radiation exposure. A useful analogy here might be a SUNBURN vs LIFETIME RISK OF SKIN CANCER. Some people at higher risk of skin cancer may never have had a bad case of sunburn (although there is THAT connection too), but may have simply absorbed too much UV. And one bad case of sunburn does not always result in future skin cancer. Yes, radiation sickness is somewhat treatable, but I doubt if it is possible to save a patient's life in a severe case.

The people that go into nuclear reactors to do mopping and cleaning chores are well paid and only allowed to go in once or at most a handful of times, then they are not legally allowed to do such again. They basically absorb a lifetime allotment of rads (as decided by the NRC)...but generally don't get sick in real time. One can get a nasty skin burn from an X-ray source, but may be better off in the long run than a guy who had way too many medical X-rays.

It was my impression that Allen Foster got a big dose of Jupiter's very strong field and was put on an avoidance protocol. (I know that in this future of active shielding this should not be a concern, but lets say the shielding does go on the blink from time to time and that the medical experts are being very strict and conservative with him)



Saturn and Uranus also have fairly strong fields. The Earth has those nasty Van Allen Radiation belts (a little name irony here!) that start at about 450 miles out. One has to enter the atmosphere at either pole to avoid them. Mars and the Moon have none.

Then there is the question of "radiation" itself...the word cover a whole range of stuff....not just the Electromagnetic Spectrum...but also alpha particles and cosmic rays! (actually particles, not rays). We need to be somewhat careful about how we treat this word....not all radiation is treatable, not all levels are harmful (apparently), and some levels will kill no matter what. Also statistics come into play as well....we each get bombarded daily by Cosmic Rays, but the poor guy who gets one certain gene hit at one certain angle is the guy who develops the lethal mutation.

I would say that as the story has progressed so far, we are not in trouble, but I sense that we might need to go back and do a little "fine tuning" about the radiation stuff. I will try to get by a good library tomorrow and read up on the recent info.

More Later,

*Mike*

*DATE: MONDAY, APRIL 02, 2001 11:11 PM*

Dear Jon and David,

When I first read the e-mail this morning, my reaction was "NO WAY! No way are we going to be able to credibly explain an atmospheric braking from 3 million mph!" I was going to suggest that we change this aspect or the need for this aspect...write it out of the story.....it is just going to get us in trouble (with the accuracy buffs). Sure, we had a great speed from the slingshot effect and we had constant acceleration from the Americium engine, but I was looking at all that energy being applied to a quick trip to Saturn, with very little left over...just enough for a nice calm insertion into a Saturn orbit or slow fly-by. But this 3 million mph physics problem has intrigued me. What a LOT energy for a little lifeboat to have to bleed off!! It sounds impossible, but lets look at it.

The Apollo command modules came screaming into the Earth's atmosphere at 25,000 mph. About 10 minutes later they were basically at zero. The aerobraking (and that is EXACTLY what it was...so there is a factual basis for this part of our story) put the astronauts through about 10 minutes of 7 Gs....and about 1,500 miles of atmosphere. They probably could have handled twice this much if necessary (yeah, the heatshield would have failed, but that is another physics problem!) What this Saturn problem pre-

sents is 120 times more energy to bleed off! Wow! Doesn't sound possible. Lets make it possible.

The Apollos were designed to enter the atmosphere in a VERY narrow corridor, and to come plunging in...no skipping out and very little room for corrective maneuvering in that "tunnel"...too much one way and you skip out, never to return...too much the other way and you are burned to a crisp in a manmade meteor. An emergency pod can be designed to "carve" a bit...think lifting body, X-38, Space Shuttle type shapes (even lenticular or saucer shapes make sense...edge on).

OK, with 120 times the momentum to burn off, you want to make this thing last as long as possible...you want to carve through the atmosphere.....keeping the pod at as high an altitude as you can without skipping out entirely and forever. Apollo had 1500 miles to get the job done. With Saturn's larger diameter and with a carving pod I will give us about 50,000 miles to get the job done. That makes "120 times harder" fall to only 4 times as hard (actually 3.6). So the remaining survival problem is how to get the crew to live through 4 times the deceleration forces or 28Gs for about two minutes. In rocket sled tests conducted in the 50s and 60s , Dr Stapp discovered that pilots could handle up to 50 Gs for a brief second (impact type stuff)...but they would not survive constant G forces at that level. But that is with conventional cockpit arrangements. What if the personnel were immersed in a liquid...like water, or better yet ... a chlorofluorocarbon. [immersion into a liquid with a similar density to water, as in the organism itself, greatly increases the G load capabilities, as long as the container is suitably strong (really strong)] CFCs are a really neat family of compounds...you guys are familiar with them, I'm sure. They include refrigerants, aerosols, teflon and that stuff used in the movie "The Abyss". It is a great scene in which a liquid CFC was used as a breathing medium instead of air (this solved certain problems with blood gases and decompression). This CFC liquid was capable of carrying dissolved oxygen to the lungs and therefore into the bloodstream. David might remember a UNION CARBIDE commercial from the 60s in which a scientist drops a mouse into a tank of this stuff and the little fellow went happily along with his business, breathing a LIQUID! THAT was inspiring stuff at the time!

Back to the problem...with a liquid immersion capsule, we could realistically expect an astronaut to handle 50 Gs perhaps more, for an extended period of time. Our problem had us looking for a way to survive 4 times the Apollo load of 7Gs ...and here we have it.

Now, I might have made a big mistake in assumptions here, (like the THERMAL problem) but I think the physics here will hold up.

Details to work out will include:

- 1) How many lifeboats

- 2) Where are they stored on the STARVENTURE
  - 3) Instead of life boats, could the SV itself do the Aerobraking.
  - 4) Can Jack and Jill survive in CFC?
- etc.

Whew!

*Mike*

*DATE: MONDAY, APRIL 02, 2001 11:42 PM*

Dear Jon and David,

Jon, I got the pamphlets and they are great! Thanks and I will put them to good use.

About JTP so far, the part about the last radio message from the first ill-fated deep space mission ("it's so cold out here") was truly chilling. It really got the point across about being out there. A few hours after I read that part, I was watching a documentary on Brian Wilson of the Beach Boys and as part of the program they played some of the song WARM OF THE SUN...("I'll always have the warmth of the sun") It comes across mostly as a lovesong but was actually written as a response to the assassination of JFK (it was written that night...after tears AND prayer). Well, it occurred to me that we might at least want to name a chapter in JTP after that song or perhaps even have the song featured in part somehow in the story. With these people out in the cold supreme loneliness of deep space, it just makes sense that they would have these kinds of thoughts (it AINT just a physics problem anymore!!!!) How do you guys feel about this?

Also, speaking of loneliness.....how about shipside boredom? I would love to see one of the Starmen carry in his PPK (personal preference kit) a small amount of balsa wood, glue, wire, ultra tissue, and rubber strands, so he can build model ornithopters to while away his free time (when he is not studying, of course!) I guess this would be whichever one of them that is the most aerodynamically inclined...the "aeronaut" amongst them. Also, since ornithopters in the 22nd century might still be considered a "fringe" science...we might assign the role to the more romantic of the threesome. Remember that ornithopters and similar aircraft may make future appearances in the series.....(like when the Starmen use a dragonfly-like miniature aircraft to carry their micro-proxibots go into that part of Mars where the Firewasps live, or when they visit the lowgrav pocketworld in which the eccentric old guy flies them around in his ROTOR-

COPTER. We will need one member of the team that understands these oddball flying things.

*Mike*

*DATE: MON, 02 APR 2001 22:54:09 -0700*

Dear Mike and Jon,

Great stuff, Mike!! This looks fantastic! I DO remember that union carbide commercial!

How many lifeboats? Well, there's a crew of 19 plus Jack and Jill. I can see each lifeboat holding four people, so five lifeboats altogether, with the Starmen and the Titanians in one. The Titanians could probably endure the G's because small bodies can do that pretty well, can't they? Drop an ant four feet--the equivalent of 100 stories or so--and it walks away. We've always said the Titanians tough. Anybody else notice the irony of having really small people from a place called Titan?

But where do the lifeboats get a cabinful of the liquid stuff? Titanians could probably survive it for two reasons: they already can exist in vacuum for a brief time and we're writing the story and can say what we want.

SV itself doing aerobraking? That's an idea. Suppose we say that the crew gets into the lifeboats but DO NOT LEAVE THE SV? They go in there because the radiation can't get through the shielding. Derf Bors, who is famous top pilot, etc., can control the SV from inside the lifeboat. The SE crew members spend an hour or so rigging the controls up that way before they enter the lifeboats. Then from a lifeboat Bors guides the SV into the aerobraking situation. When it gets slow enough, the rescuers come aboard with radiation suits on; some take the crew to Titan and others complete the slowdown of the SV and take it to Titan shortly afterwards.

Creating an ornithopter? Another great idea! Let's do it!! It can be one sign that the Starmen are not overcome with fear while the rest of the crew gradually demoralizes on the way from Titan to Nyx. Could be a great scene!! --Bronk is scattering discouragement and the people he's talking to are getting long in the face when Joe's ornithopter speeds by.

It would be Joe, don't you think? Maybe that's what gives Zip the idea to create the dragonfly on Nyx.

This is going to be a fantastic story!

*David*

*DATE: TUESDAY, APRIL 03, 2001 8:33 AM*

Dear Jon and David,

The CFC amount needed is minimal, just enough to fill each Catastrophic deceleration pod. (All superfast ships are required to carry one for each crewman) They are no bigger than a casket. (And I'm sure that there are often "space jargon" references to this fact) Such a pod would work for other gas giants as well. The pods are carried inside the lifeboats , or are simply inside the Spacecraft itself...assuming that the spacecraft is the Aerobraking craft.

In AOM, I had assumed that the *Spud Peeler* had fire its engines to do most of the deceleration. But even if we HAVE assumed a "deceleration drive" (or accellelerationless drive) in AOM, we can still claim that it has limitations and that it actually has to be installed on the ship....which might not have been the case in the STARVENTURE.

*Mike*

*DATE: TUESDAY, APRIL 03, 2001 8:47 AM*

Dear Jon and David,

Jack and Jill could of course just climb into the CFC caskets with one of the Starmen.

If we want to avoid the liquid CFC altogether, the same trick can be pulled off with water.....but this method would require a way of getting carefully pressurized "air" into the lungs of the occupants. (What with all that High 'G' weight of liquid on their chests.....the caskets would have to have "G" sensors that would regulate the "air" pressure...not too much, not too little...and the air would have to have an inert ingredient

added -helium- to prevent O2 problems. This helium would have to be "prescribed in" ..depending on the "G" load at that time!) A smart microprocessor would handle this.

*Mike*

*DATE: TUESDAY, APRIL 10, 2001 11:25 PM*

Dear Jon and David,

The aerobraking StarVenture need only reduce its speed until Saturn orbital velocity is achieved (about 10 miles per second).

*Mike*

*DATE: WED, 11 APR 2001 17:44:02 -0700*

- > I don't remember us talking about this,*
- > but Shackleton Crater was named after the South Polar Explorer.....a very nice*
- > fit to have Amundsen Base located there!!*

So that's where the name comes from! Okay, then, shall we say that Amundsen City is located in Shackleton Crater? We can easily work that into the first chapters of JTP.

*David*

*DATE: THURSDAY, APRIL 12, 2001 7:16 PM*

- > > The aerobraking StarVenture need only reduce its*
- > > speed until Saturn orbital velocity is achieved ( about 10 miles per*
- > second).*
- >*
- > That's a good point! I had forgotten that. That should help some, I'm*

> *sure.*

10 mps is 36,000 mph. That's only slightly more than 1% of the SV's original velocity of 3,000,000 mph, so it still has to drop its velocity by almost 99%. About the equivalent of dropping for 90 mph to 1 mph. Still a hard task.

I need to write this account in the next chapter. How many orbits around Saturn will it take? And how long will it take altogether, if they want to drop to this velocity as fast as possible without doing damage to personnel or ships--especially for the Omega which will be doing the aerobraking in a more radical measure than the unmanned SV?

...

These coming three days are the busiest of the year for me, but with luck I will have some time tomorrow afternoon to get started on the JTP 6. It's already all in my head, so it should write fast. I'm taking Monday off, and hope to get at least one more chapter done then and maybe two.

*David*

*DATE: THURSDAY, APRIL 12, 2001 11:06 PM*

About the deceleration maneuver: When I did that math problem a couple of weeks ago, I used a quarter of an "orbit" for the deceleration...I think it was 50,000 miles. I purposely did not use any more than that because I do not think that it is realistic to expect any object at that speed to hold together through a loop like that. The problem is one of atmospheric "grip". To do a multi-orbit deceleration, one needs to aim for the thinner, vacuous sections of the barely there atmosphere, problem is; that very thin atmosphere is not going to "hold onto" an object moving at 3 million miles per hour. (it will just stay on a straight course and leave the atmosphere). So, I am sure that the one quarter orbit scenario is the most probable. Now this is not to say that once the 3 million has been bled down to 100 thousand you couldn't flare out to a higher altitude and make more of a circuit or two of the atmosphere (If the story needed to go that way)

I suggested in a previous e-mail that we leave a nominal speed of about 10 miles per second (1% of the original) only because I did not want the "lifeboat" (or VentureStar) heading on down into the atmospheric abyss of Saturn! We will need SOME left over speed. If it serves the purpose of the story, then we can have more like 15 or 20

miles per second and then the crew will leave Saturn's orbit, but can be adventurously rescued by other local spacecraft.

Apollo astronauts were able to work the controls during their 7 G re-entries. I bet a well trained Starman could use his "Cerebro-magnetic headset interface" to control just about any thing he needed to (while in his emergency decel capsule\*), including keeping up with the emergency deceleration auto-pilot.

\* EDC....never leave the inner Solar System without it!

*Mike*

*DATE: FRI, 13 APR 2001 21:01:02 -0700*

Dear Jon and Mike,

> > *About the equivalent of dropping for 90 mph to 1 mph. Still a hard*  
> > *task.*  
>  
> <grins> *It all depends! If you have 100,000 miles in which to slow down*  
> *from 90 mph to 1 mph, it becomes a trivial task: even coasting will slow you*  
> *down faster than that.*

Right, but I was also counting on our heroes having to slow down in the shortest time possible so as to get treatment for the radiation victims.

Your figures, Jon, on distance and speed square with my own calculations, which I did before yours came in, so that's a good confirmation.

> *So we'll need to back up a bit. Say the accident happened 11 days out*  
> *from the Sun, when they were only 792 million miles out. The accident was*  
> *discovered 3 hours later, at which time they were 819 million miles out, or*  
> *45 million miles from Saturn. This gives them 5 hours to stop.*

Something like that will work out fine.

> *So: as the story now stands, they are 11 days out, have 5 hours to stop,*  
> *and slow down at around 167 miles per second every second. Let me tell you*  
> *something: as soon as that deceleration hits, the Starmen are going to*



- > *black out and not regain consciousness for a long time. That crate is going*
- > *to have to be computer controlled, because the people on board sure aren't*
- > *going to be in any shape to run it!*

Okay. Should make for a tense scene and a fitting continuation of the emotional previous chapter.

- > *You know, I just realized something. When the reader reads*
- > *Chapter 5 and sees the danger, the reader will then turn the page to Chapter*
- > *6, and see the chapter title: The Yellow Wheelchair. I wouldn't at all be*
- > *surprised if they thought that meant the whole thing failed, and the Starman*
- > *were injured for life. That is a great chapter title for keeping suspense*
- > *high, even though I know we didn't pick it for that reason.*

Actually, I DID pick it for that reason!

...

- > *Apollo astronauts were able to work the controls during their 7 G*
- > *re-entries. I bet a well trained Starman could use his "Cerebro-magnetic*
- > *headset interface" to control just about any thing he needed to(while in his*
- > *emergency decel capsule\*), including keeping up with the emergency*
- > *deceleration auto-pilot.*
- > *\* EDC.....never leave the inner Solar System without it!*

I'm thinking that we'll have Derf Bors and his navigator Aaron Gold in the pilot's compartment, also filled with CFC, so that they can use the instruments. Will that work? The others are in the CFC pods.

*David*

*DATE: TUESDAY, APRIL 17, 2001 10:38 PM*

Dear Jon and David,

Jon's number of nanobots per human body sounds about right....I would like to caution here that we need to be careful about the use of nanobots for medical purposes...there comes the point where nanobots can cure ANYTHING.....which sort of

takes a lot of the suspense out of fiction. (Personally, I think nanobots are way over-sold....sort of like Jetson personal flying cars, vacations on the moon, and videophones in every home by 1980.....most likely we will see micro-machines [1-2 mm size, much bigger than nanobots] that go in and scrape off arteries or kill tumors)

I would also caution against "a pill" for deceleration.....

About the blood leaving the eye during deceleration and leaving the pilot unable to see, even with CFC. The blood leaving the eye has to go somewhere....and if the rest of the body is suspended in a fluid with similar density, contained in a strong container, then the blood will not pool anywhere else. The bones are probably where "liquid suspension decel" problems would first show up.

Popular Science (June) has an excellent article on futuristic space drives.....very informative...I "scanned" it, but will read again soon.....definitely we could use one or more of the ideas in the article.

Did not get to work on painting today (too many problems at work).....

*Mike*

*DATE: MON, 16 APR 2001 20:01:56 -0700*

Dear Jon,

Just had time for one chapter today, but it is over 3000 words long--our longest, I think. Felt a little sick today, so used what I was feeling to describe radiation sickness. Anything for the cause.

Let me know how Kristi comes across, or if I should add or change anything. As I was writing, it came to me that a romantic connection between her and Zip was beginning. What do you think of that?

Next chapter will begin with Kristina's giving the Starmen a tour of parts of Titan and introducing them to the legends of the race that saved them. They will see the three-moon logo and bid farewell to Jack and Jill. The SV will launch. Moon pong will be introduced, as well as the means to keep in physical shape on a long space journey. The morale on the SV will drop dangerously low.

*David*

DATE: MON, 16 APR 2001 17:57:45 -0700

Dear Mike and Jon,

Just a reminder to be thinking about whom you want to dedicate JTP to.

Also, one of our fans expressed the hope that we include an Introduction in every volume, the way we did for TRA. I like the idea. If you agree, do you have any suggestions for someone to write the Intro to JTP? I've been tossing a few names around in my head. Benjamin Bennett, our 11-year-old ultra fan. April Cooper would be marvelous. Dan Henton, our Ph.D. chemical engineer, whose input on Titan rain will be utilized in the book. Mark Johnson, our ultra-customer. Other ideas?

*David*

DATE: WED, 18 APR 2001 04:28:52 -0700

Dear Mike and Jon,

> *Jon's number of nanobots per human body sounds about right.*

Okay--I'll just say, then, that he is being treated with nanobot technology, as if it is understood what that means.

> *...I would like to caution here that we need to be careful  
> about the use of nanobots for medical purposes...there comes the point where  
> nanobots can cure ANYTHING.....which sort of takes a lot of the suspense out  
> of fiction.*

Okay again. I'll add some clarifying comment that they got to the sufferers in time that the nanobots could deal with the tissue damage--lucky they weren't too late, etc.

> *I would also caution against "a pill" for deceleration.....*

In the story, I made it basically a relaxation pill, slowing the metabolism. The idea is that people who are totally relaxed or drunk often survive car accidents much better

than those who are tense. Will that work as I wrote it, or should I just eliminate the whole notion?

*David*

*DATE: WED, 18 APR 2001 21:37:29 -0700*

Dear Jon and Mike,

All the investigation and theorizing about blacking out at high G's, what happens in CFC environment, etc., are probably mostly for our understanding, right? We're not looking to explain all this in the text of the story are we? What I did in the story is just have Zip black out as soon as the Omega hit the atmosphere of Saturn, and he doesn't wake up until he's been on Titan for at least 6 hours. I'm assuming without explaining it that he's so sick that the impact knocks him cold and his body takes over and keeps him unconscious until medical care arrives. The whole episode of aero-braking, the rescue ships, etc., have already been anticipated in the story by the conversation Mark overhears. No need to describe it all over again as it happens, is there?

- > *This may sound crazy, but what if we*
- > *had one of the characters write the introduction?...*
- > *As to who could "write" the introduction -- what*
- > *about, say, an ancient Martian around the year 2300,*
- > *some 50 years or so after all the events took place?*
- > *It wouldn't -say- who wrote it: it would just be*
- > *signed G'lau or something.*
- > *It could read something like this:...*

I like it!! Really different! What do you think, Mike?

- > *I think nanobots are way oversold...*
- >
- > *I think so too: we want to be careful with them. I tend to agree,*
- > *too, that they are oversold: I don't see them as being the magic cure-all*
- > *for whatever ails us.*

Nice analogy, Jon, about the screwdrivers. I low-keyed their presence in the story. Is it okay as it reads now? They're barely mentioned. In fact the whole cure is barely mentioned--the real character is Kristina Fox--we don't even meet any doctors. Does this gloss over "the cure" too much? It seems to me that the real point of this episode is to initiate the downfall of Robert Nolan, introduce Kristina Fox, reveal the three-moon logo on Titan, and lay groundwork for later adventures on Nyx (ornithopter, etc.)--not to explain the details of radiation sickness or explain medical treatment. Are we on track together with this?

*David*

*DATE: THURSDAY, APRIL 19, 2001 7:21 PM*

Dear Jon and David,

More on the decel stuff: instead of using similar density liquid containers to help alleviate High G forces.....we could always have the alternative of a module that has a short "plate to plate" Artificial gravity field in place backward and dialed in to offset the direction of the G-forces. This would of course use a LOT of energy, but its need would be of short duration. Going this route would mean that it is possible to get more than 1 G out of such a field....and I am not sure we want to go that way. This idea may be a lot like what Jon was thinking when he used the term "acelerationless drive" or "acceleration nulling".

I like the idea of Kristi being a sociologist working with the Titanians!

*Mike*

*DATE: THU, 19 APR 2001 17:05:29 -0700*

Dear Mike and Jon,

*> I like the idea of Kristi being a sociologist working with the Titanians!*

Me too! Just came to me as I was writing. Got some more ideas I'll work into chapter 7, so you'll see them soon.

...

> *I had April read Chapter 6 of JTP today. April (along with everyone else) had not read any of JTP up to now, but I thought I'd have April read it to see what she thought of the Kristina character. She liked it, but she did notice something: it's going to be hard for us to have Kristina be David's girlfriend because she is a sociologist on Titan -- her job is with the Titanians. David does not visit Titan very often: maybe twice in the entire series, and that's it. Working meetings between Kristina and David, given Kristina's job, could be difficult....What do you think?*

Actually when I mentioned a romantic connection there, I had envisioned it as a kind of unfulfilled, or at least unfulfillable, relationship because of their jobs. They should have occasional contact, but I think that if we work her too much into the story, we'll run into the "Spindrift four" syndrome in *The Magic Talisman*--that is, even if it works it changes the concept so much that the book no longer fits into the genre. Personally I prefer them to have only occasional contact, and at best a mention of rare visits which take place off-screen. I.e., Zip takes time off after DIE to visit her while the others return to Earth. When LROM begins, he talks briefly about his visit, etc.<sup>83</sup>

How's that?

*David*

*DATE: THU, 19 APR 2001 20:32:42 -0700*

Dear Mike and Jon,

Okay, you've got JTP7 now. The Gorge is an actual place in Switzerland. I have not been there, but have seen a postcard of it. I have photocopied the card and will send you each a copy. Mike, I think it would make a TERRIFIC frontispiece, if you adapt it to the storyline. It won't take much to adapt it, because I have described it exactly as it appears

---

<sup>83</sup> As it worked out, Kristina makes only rare "off-camera" appearances. Her next appearance "in the flesh" doesn't occur until the penultimate chapter of *The Lost Race of Mars*. Even then her stay is brief. She will, however, be a recurring character throughout the series.

in the card! It is rather a famous place, and in the Middle Ages was a site where people "took the cure," being lowered from the top in slings so they could be immersed in the healing waters 400 feet below. Now there is a path that makes access easy. The postcard shows someone being lowered in a sling to a place halfway down. In JTP, this is where Kristina brings the Starmen.

I also sent a portion of JTP7 to Dan Henton so he could check the chemistry involved in the descriptions of Titan's weather.

Chapter 8 is departure from Titan, journey beyond Pluto, and arrival at Nyx. The part which is printed at the back of TRA will appear in this chapter.

*David*

*DATE: FRI, 20 APR 2001 08:01:34 -0700*

- > I take it that we are*
- > cutting out the mutiny that takes place on the way to*
- > Nyx? Also, don't forget that scene where Mark tries to*
- > find Earth and doesn't see it, so he breaks up...*

Oops, forgot that. No, they'll be in there! Thanks for the reminder.

- > I received Chapter 7 in the mail today, and it looks great!...the passage*
- > isn't very*
- > clear about the fact that the Starmen are wearing*
- > space suits when they step outside Titan.*

Good point. I'll fix it. We don't want the cover picture for Lost City of Uranus to be fitting for JTP. Kristina does mention their suits, however, when they are at the edge of the lake, but it's not clear enough.

- > Another little detail you might want to mention is*
- > the fact that the conversation the Starmen and Kristi*
- > hold take place over speakerphones -- that is, the*
- > phones on their helmets.*

Got it.

- > *The chapter title mentions the fact that Titan is*
- > *rather chilly, but the passage doesn't mention it: it*
- > *might be wise to mention somewhere that Titan is*
- > *somewhat cold!*

It's in there--Kristina's first speech before she leaves the dome.

- > *At the end of the chapter, the last paragraph has*
- > *this line: "There, imprinted on the doors was a huge, rich,*
- > *golden symbol..." When I read this, my first thought was, what door*
- > *are they talking about?*

Oops! I lifted that line directly from the passage in TRA where Z goes to the Chamber-- I wanted the description to be exactly the same so discriminating readers would see the connection. I'll take the doors out and put the dais in.

- > *In the chapter, it mentions that the Titanians*
- > *cities are artificially protected, and later on (in a*
- > *really cool scene) Kristi shows the Starmen the*
- > *machines she discovered that are protecting the*
- > *Titanians.*

The scene, by the way, is intended to be reminiscent of the interior of Tharsos.

- > *The question that is not addressed, though,*
- > *is this: what are the Titanians being protected from?*

Hmmmmmm. Good point. We've never really addressed that--what is the Titanians' natural habitat? It can't be too awfully different from Titan otherwise they wouldn't have been moved there. They're small enough that they could have been brought to Mars in the first place and not bothered the Martians if Mars would have served. Yet Mike's observation is a good one, that we probably don't want to get too far off with a different makeup and have creatures that don't breathe oxygen at all. Jon's suggestion about having the machines be heaters is good. What else do we need here? Shall we go ahead and have them breathe nitrogen? Then the machines can provide heat and filter out the methane. Also, what makes Titan unique in our Solar System is its size, coldness, and atmosphere. Suppose the Titanians' home planet was the right size for gravity's sake,



and cold (100 below sounds good), and had a nitrogen-oxygen, half and half atmosphere. Therefore the Martians brought the little folk to Titan because it was easily adaptable to their home environment. The machines warm the cities to a balmy 100 below, filter out the methane, and make oxygen from a huge deposit of water ice. This oxygen is supplemented by hydroponic gardens in the Titanian cities. Also, they were brought to Titan rather than Mars because they were being hidden from the Xenobots and Mars was a likely target in the war. I'm sure this scenario needs some work, but are we getting closer to a fitting plan?

*David*

*DATE: FRIDAY, APRIL 20, 2001 8:23 AM*

Dear Jon and David,

I have not read Ch 7 yet, however I have your e-mails regarding the Titanians. So these little guys don't need to breath Oxygen? This is something we might want to look at very carefully. On one hand it is really exotic to have such capabilities, on the other hand, we might have to explain it at some point. I would feel more comfortable if they were able to go for long periods without Oxygen (I have an idea for explaining this)...but if it has already been irretrievably established that these guys don't need O<sub>2</sub>, then we really are committing ourselves to a new biology. It is very hard to scientifically justify multicellular creatures that don't breath Oxygen.

The new Hemopure blood substitute that is just out on the market (but not yet approved for US) actually carries the oxygen molecule MORE efficiently that real blood. (Apparently the new hemoglobin is extra-cellular...just naked floating around in the Hemopure). This got me to thinking that if the Hemoglobin molecule were polymerized (made into a long chain) then a whole lot of Oxygen could be held in any one volume of "blood". So a creature using this type of Superpolyhemoglobin could "stock up" on O<sub>2</sub> and then go for a long time (but not indefinitely) without a normal atmosphere. A very strong cell wall structure could allow such a creature to survive a vacuum for a while (but not indefinitely).

How do you guys feel about this?

Jon, glad you remembered the Special suits that the Starmen have. Last time I checked, Titan had an atmospheric pressure GREATER than the Earths'. In a solar system where no other moon even has any atmosphere, I think it worth mentioning in the

story that this puny "moon" sized satellite of Saturn has more atmosphere than WE do. This is exoticism that we did not have to invent.

*Mike*

*DATE: SATURDAY, APRIL 21, 2001 10:04 PM*

Dear Jon and David,

If its action/intrigue/adventure they want, then perhaps we could have a "pre-chapter" (a new # 1) that just gushes with it. Perhaps it can deal with a strange (pirate) craft approaching a dimly lit planet.....and kind of set the stage for what the Starmen later find on Nyx. The excitement part can be bolstered by describing the incredible speeds involved and the evil treachery being planned. Something like that.

*Mike*

*DATE: SAT, 21 APR 2001 17:55:05 -0700*

Dear Jon and Mike,

They liked it. A few minor suggestions for word changes but otherwise, no major problems.

One question they had: What happened to Robert Nolan and why didn't the Starmen inquire about him when he sent them no greeting the way everyone else did? Good question. Well, WE know what happened to him but they don't, but it seems logical that the Starmen should say something about him. I'll put it somewhere in there.

Other observations: the adventure/intrigue/excitement hasn't started in this book yet, except for the radiation incident. No villains yet. This is not seen as a defect. The development of the story is getting deeper, with characters becoming complex and attractive. Of course, that will change once they get to Nyx, and we are deliberately planning the story so that the danger and fear, etc., develop slowly. Allen Foster may have some repentance to do, especially if he believes that his outburst on live triplanetary television

blew Nolan over the edge. He apparently hasn't dealt with his own anger and grief; David began to deal with his grief in the Starventure.

They like the romantic involvement between David and Kristina, although the two women objected to the use of the word "girl" to describe Kristina. I indicated that I used the word "woman" when I was describing her relationships with the world, but "girl" when she was connecting with David. The latter, in the context, seemed a bit more intimate or relational to me. They were not convinced, but I only changed "girl" to something else twice. Mark Bennett said, "Don't give in!"

*David*

*DATE: SUN, 22 APR 2001 22:52:14 EDT*

Dear Jon and David,

I think I might have missed an e-mail here. Where did the Titanians originally come from? And yes I agree that it should not be too terribly different from Titan, although we can work with this.

Some comments about recent e-mails: Nitrogen is not inert. Timothy McVeigh proved that when he used a Nitrogen based fertilizer to blow up the Murrow Federal building. Nitrogen at pressure can give divers a drug effect called Nitrogen Narcosis ("Rapture of the deep") And nitrogen can cause "the bends" when it comes out of solution as a diver ascends. Some plants breath Nitrogen out of the air if they live in poor soil. But for most human purposes the Nitrogen in the air is just taking up space...so I know what you meant.

About the Titanians biology....I am afraid that we will have to come up with an Oxygen source for them....at least for their cells. To have them run off Methane won't hack the scientific scrutiny of some readers. These Titanians will need a source of O<sub>2</sub> to be credible. But the O<sub>2</sub> does not have to be in their atmosphere. Lets have them capable of taking water apart into O<sub>2</sub> and H<sub>2</sub>...the O<sub>2</sub> (or O<sub>1</sub>) goes directly to their wonderfully efficient polymerized extracellular hemoglobin type molecule. These Titanians can PACK the oxygen like no other creatures. They are incredibly efficient with the O<sub>2</sub> they do have in their bodies. The H<sub>2</sub> goes directly to carbon compounds. Special bacteria in their systems can do the "electrolysis" of the water , much like our E.Coli break up food substances for us.

Science fiction author Hal Clement once wrote a Book called THE NITROGEN FIX, I think he might have been trying to write about a high density environment in

which Nitrogen might be able to act as an oxydizer....I will look this up. Hal Clement 's highly imaginative works were always based on hard science (ie MISSION OF GRAVITY).

Perhaps the Martians offered the Titanians the opportunity to stay on Mars, but the little fellows refused such hospitality out of a strong sense of independence and absolute adherence to their philosophy of personal responsibility. (This can be a little morality lesson here).

*Mike*

*DATE: MON, 23 APR 2001 07:35:58 -0700*

Dear Mike and Jon,

Our overall critique of JTP and the direction in which it's going is good. We're zeroing in on some important stuff.

Re: the Titanians. We've done some good work here. What appeals to me most is having them breathe methane and process it into oxygen. That allows them to live on Titan in a cold environment, and the Martian machines are basically heaters. Rather simple. The Martians moved the Titanians to Titan because (1) it had a similar atmosphere; (2) it had similar gravity, etc.; (3) adapting the environment was easy for the Martians (heaters); and (4) it was close to Mars. Otherwise the Martians would have had to find some other similar planet and drop them off there and why do that if Titan is at hand? This was done before the Xenobots located the Martians, so there was no thought in the Martian mind that the X's might follow them and start a great war. Titan is the only body in the Solar System that satisfied all the requirements. Does that work? My question would be--can oxygen-based entities breathe methane? Maybe that's a question for Mike. If the answer is Yes, then I think we've got our story. The Titanians can breathe Earth and Martian atmospheres, but methane is natural to them--hence Titan rather than Mars. Their home planet is 100 below zero. If we all agree, then I think we've got it.

...

> *I would change "eccentric*  
> *prospector Jogren" to just "eccentric Jogren" or maybe*  
> *the "mysterious Jogren." Calling him a prospector will*

> *lead all our readers to think something like Oh, so*  
> *he is a prospector after all! Well, that settles that."*

Right, except that Steve Cliff seemed to think of him as a prospector. The Starmen were not satisfied with that, but Steve wasn't much curious about it. But I think your point is well taken and will make a change.

*David*

*DATE: TUE, 24 APR 2001 22:34:05 -0700*

Dear Jon and Mike,

> *If its action/intrigue/adventure they want, then perhaps we could have a*  
> *"pre-chapter" (a new # 1) that just gushes with it.*

We could indeed. Currently we are building tension very slowly, starting with the scene in the Fosters' home and then Armstrong Forest, then showing things gradually falling apart. Even the scenes in the Foster home follow that pattern: New Year's Day lovey-dovey, followed by astrogazing with some tension, following the Allen leaving the home angry and Kathy crying. It is always a risk to start a book off slowly and then build up. We could add a brief chapter in the beginning without really hurting the flow--in fact, it might really intensify it. The reader, but not the protagonists, would know that the pleasant opening has the dark, fearful pre-chapter as a prelude. After all, TRA picked up right where AOM left off--Zimbardo's flight. Maybe JTP just pick up right where TRA left off--Zimbardo's journey. We're halfway through JTP so far and Zimbardo hasn't even been seen yet.

If we want an opening chapter, it could be very brief--kind of like the opening scene of AOM. It would be interesting to have each book begin with a villain rather than the hero. I'm not making a case either way, but as I write I'm kind of moving in the direction of putting a short chapter in the front.

Also, I forgot one question that came up in the reading group: How did they decontaminate the Starventure so quickly? Could it be decontaminated at all, realistically? I answered by saying It could because we wrote it that way, but added that we assume that the 22nd knows more about such things than we do because of having lived through the

Collapse and the atomic fallout of that time. But still--is it plausible? How would a highly radioactive ship be made completely safe in less than a month?

*David*

*DATE: TUE, 24 APR 2001 08:50:49 EDT*

Dear Jon and David,

I read 7 and 8.....and I really like the story.....will print out 9 today.

I would replace the word "air" with the word "atmosphere" when describing the environment of Titan. All the elements and compounds should be capitalized (ie Nitrogen, Methane etc)

A delicate and gossamer ornithopter will not have the "flap-power" to knock anything over resembling a glass. (A sneeze would destroy one!)

I really like the description of the Methane lake and Methane snow.

I have a little idea here...we discussed the pioneering of a city or base on Titan....and how difficult that would be.....due to the extreme cold, for instance. I remember reading that Carl Sagan had a theory that a Comet impact on Titan (or anywhere else) would leave a "hot spot" for a couple of thousand years. Sagan brought this up as a possible warm spot for life, but we could co-opt the idea as a nice warm spot to more readily start a city. I'll admit that the idea of a cometary impact site remaining hot for that long is counter-intuitive, but it is apparently true. (Not to mention the water source that would come along with it!) So we could have our AM/Titanian re-settlement crews choose such a site on purpose.

I like Jon's idea of having the Titanians wanting their own world.

Extremely nice scene with Zip and Kristina.

*Mike*

*DATE: THU, 26 APR 2001 15:42:38 -0700*

Dear Jon and Mike,

We've had a lot of exchanges about the Titanians recently, so--just so that I have our decisions straight--this is where I think we are. Please correct me where necessary.

- The Titanians were rescued by ancient Martians about 12,000 years ago when their home planet was about to be destroyed by Xenobots. The name of this planet and the original name of the race are not known.<sup>84</sup>
- When the Titanians were brought to this Solar System, they asked to be relocated on Titan. It was about the same size as their planet (so the gravity was comfortable) and provided a challenge for their skills--it was a "fixer-upper" of a planet for them. They loved the opportunity to work on it, but needed some help from the AMs to get started.
- They are oxygen breathers but remarkably adaptable to various environments because of the wonderfully efficient polymerized extracellular hemoglobin-type molecules in their blood.
- The Titanians normally live at about 100 degrees below zero. Titan is too cold for that so the AM's provided nuclear-powered machines that would heat the -300 to -100 in selected sites where the Titanians built their cities.
- The oxygen they need is derived from mining methane ice hydrate on Titan to produce drinking water and oxygen. This source of oxygen is supplemented by gardens.

The rest of the information about the Titanians has already been written in the texts of AOM, TRA, and JTP--their emotional capacity, skill with engineering, lack of interest in the arts and history, population size, language, etc. I don't think we have any disagreements or problems with most of that material.

We are really describing a pleasant, loyal race of people who are, in fact, not as highly developed as human beings, and do not have the capacity to develop. They are certainly not "pets" or "higher animals"--they are intelligent beings--but have inherent limitations. This fact will be implied but probably not really stated in the Starman writings.

Let me know what you think. When we are of one mind, I'll go back to the text!

*David*

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<sup>84</sup> The Ahmanyans later revealed that the name of this planet was "Malda." Other points of the Titanians' history, which they themselves do not remember, are provided in *The Lost Race of Mars* by the Ahmanyans.

*DATE: THURSDAY, APRIL 26, 2001 8:32 PM*

Dear Jon and David,

I went by the library today for the very purpose of looking up data on decontamination and just how much radiation exists in the vicinity of Saturn. However, I got quickly side-tracked by all the cool books I found on Space Travel, exploration, asteroid colonization, etc. Will try again tomorrow.

Could someone forward Dan's comments on Titan?

ORNITHOPTER: I really would like to see a fragile thing, built to take advantage of a low grav or no-grav environment. It IS possible to build a robust, heavy, electric motor driven type, but it would have to flap very quickly to stay up (unless we used a very low grav field) Some current research is leading to synthetic muscle power for ornithopters. My original thought was to have just a plain old fashioned rubber powered thing made from extremely light and fragile materials. The rubberband would be thinner than the stuff that makes up the elastic in underwear! But I guess it would not be out of the ordinary for a mid-22nd century ornithopter hobbist to build a high tech, robust type thing....it could be a good foreshadowing of the 'Thopter type vehicle used when they visit the land of the Firewasps on Mars. Certainly by the 22nd century motor technology would be much superior to what we have now.

METHANE LAKE: If we go with Carl Sagan's theory of a "comet impact" hotspot on Titan, then we could very well have a liquid lake for some time. Any other good heat source would work, also. Let's not forget that such a lake is very likely to have a tidal pull from Saturn!

I was reminded in the reading I did today that Titan has a very cloudy atmosphere and observers in an approaching spacecraft would see no surface details.

More Later,

*Mike*

*DATE: THU, 26 APR 2001 15:20:35 -0700*

Dear Mike and Jon,

Let's see...



> *[Mike] About the Titanians biology....I am afraid that we will have to come up*  
 > *with an Oxygen source for them....at least for their cells. To have them run*  
 > *off Methane wont hack the scientific scrutiny of some readers. These*  
 > *Titanians will need a source of O<sub>2</sub> to be credible. But the O<sub>2</sub> does not have to*  
 > *be in their atmosphere. Lets have them capable of taking water apart into O<sub>2</sub>*  
 > *and H<sub>2</sub>...the O<sub>2</sub> (or O<sub>1</sub>) goes directly to their wonderfully efficient*  
 > *polymerized extracellular hemoglobin type molecule. These Titanians can PACK*  
 > *the oxygen like no other creatures. They are incredibly efficient with the O<sub>2</sub>*  
 > *they do have in their bodies. The H<sub>2</sub> goes directly to carbon compounds.*  
 > *Special bacteria in their systems can do the "electrolysis" of the water ,*  
 > *much like our E.Coli break up food substances for us.*

Sounds good. Especially if you consider the reply I had this morning from Dan Henton, our Ph.D. Chemist-advisor to the scene in JTP. I had sent him portions of the "Walk at -300 degrees" chapter having to do with the chemistry of the scenes on Titan.

I've read through the passage several times and I don't see any significant problems. Until someone actually gets a camera on Titan, we won't know if there are any lakes of liquid methane there. My guess is that there are not, unless the concentration of methane in Titan's atmosphere is higher than what is currently believed. It is more likely that most methane on Titan is either in the gas phase, or is solid (methane ice). Perhaps some underground source of heat could (temporarily?) melt large enough quantities that lakes could form before the methane all evaporated. You may be aware that even on earth, particularly on the continental shelf, that hydrated methane exists in a solid form. Such solid hydrates of methane are stable at higher pressures and lower temperatures. It's conceivable that most of the water on Titan would be tied up in such hydrates, and that one could derive much of one's needed drinking water by a mining operation that would involve heating up the methane ice hydrate to drive off the methane, leaving behind the water, which could be subsequently purified.

[David] So we could have the Titanians do this and get both water and oxygen. How's that?

> *Perhaps the Martians offered the Titanians the opportunity to stay on*  
 > *Mars, but the little fellows refused such hospitality out of a strong sense*  
 > *of independence and absolute adherence to their philosophy of personal*  
 > *responsibility. ( this can be a little morality lesson here).*

Sounds good, too!

- > *[Jon] Why did the Titanians move to Titan?*
- > *Perhaps it was simply because they asked to! The harsh*
- > *environment of Titan appealed to them: they saw it as*
- > *an engineering challenge -- plus they wanted a world*
- > *of their own. So they moved there.*

That ties right into what Mike said, so that works.

- > *What would the equipment do? Well, the Martian*
- > *supplied equipment would heat the cities, and the*
- > *Titanians supplied the rest.*

Especially if we have them work on the process for refining the O<sub>2</sub> as suggested in Dan's message--coupled with plants, etc.

- > *\* I noticed that you did work in a mention of Baltay,*
- > *but there is not even a hint as to what Baltay is: an*
- > *old abandoned ship, a comet, an asteroid, etc. I think*
- > *changing it to "planetoid Baltay" or something would*
- > *make it a little more clear what we're talking about.*

Good point!

- > *As we established in the last chapter, the ship is a*
- > *low-gravity environment. The ornithopter couldn't have*
- > *knocked the glass into Joe's lap: instead it might*
- > *knock it off the table and send it floating away into*
- > *space or something.*

That depends on what we mean by low gravity. There has to be enough gravity to keep plates, etc. on the table, which means there's enough gravity to spill stuff, too. I think before, we've just agreed to write gravity of some kind into the spacecraft without taking time to explain where it comes from. Will that be okay? Maybe I should mention somewhere in the text that there is low gravity--the way we did on the asteroid in TRA.

- > *We could fix this easily: we could just say that at*
- > *the moment, the ship was decelerating at a constant*

> *speed of 1 G -- Earth normal. The Captain arranged  
> this in order to host this dinner: it's hard to have a  
> full, elegant dinner in zero G. It would mess up the  
> Captain's approach, but it would only be for a few  
> hours and the Captain could make it up later. It would  
> be worth it for the occasion!*

That works too, maybe more easily. I'll do that.

> *[Mike] I would replace the word "air" with the word "atmosphere" when  
> describing the environment of Titan.*

Okay.

> *A delicate and gossamer ornithopter will not have the "flap-power" to  
> knock anything over resembling a glass.(A sneeze would destroy one!)*

I've described it as being made of sterner stuff than gossamer. Should I describe it over again and take out the "knock over the glass" scene?

> *I seem to remember reading something, long  
> ago, that suggested a possible method for  
> decontamination, so I think we can explain it but I'm  
> not sure. .... I'll have to research this  
> and see what I find.*

Okay. If we come up with a reasonable method we can put it in. Otherwise, we can leave it as it is and see who mentions it.

Mary Doman just sent me a terrific article on building material on Mars. I'll send parts of it to you guys in a moment.

Today I'll work on chapter 0 and tightening up the Titanian scenes. Time permitting, I'll go on to the next chapter after the arrival on Nyx.

I'll be out of town next Monday-Wednesday, but I will take my laptop and write as much as I can. So I will be writing, but you won't get any messages until Wednesday night.

*David*

*DATE: FRIDAY, APRIL 27, 2001 9:10 AM*

About Allen Foster looking at his landing spot on Titan (through the telescope).....I don't know what to say here other than if he were using a special radar imaging scope, then he could see beneath the ever-present clouds.

About this ornithopter business...the more I think about it, the more I am OK with the original writing of the scene.....I guess I just had to get over my personal bias in favor of the ultralight stuff.....in reality I am just plain happy that ANY sort of ornithopter has found its way into the story! Let the glass be knocked over!

*Mike*

*DATE: FRI, 27 APR 2001 08:09:33 -0700*

Dear Jon and Mike,

*> I received the new Chapter 1 this morning, and I was  
> very impressed. Wow! That really is a chilling scene:  
> it's terrific and does a lot to build suspense. I'm  
> glad we decided to add it!*

Me too! Great idea, Mike! I've already revised the chapter a little bit, with a number of small improvements, but I think the scene comes across well and will provide a strong impact to what is now a transition to New Year's Day in the Fosters' home.

*> Amazingly fearful creatures, living deep in a cave on  
> the planet of shadows, throwing fear even into  
> Zimbardo's men: it's a terrific picture. Zimbardo has  
> gotten much more than he bargained for.*

I wanted to provide an image of near-indifference in the crew after 5 1/2 months of travel, and even Z needing a bit of a boost to get his energy back. The others don't care about seeing the planet, they don't comment about its appearance, they're uninterested when they land, and indifferent about approaching an obvious alien habitation. Then the first sight of the Xenobots finally arouses some emotion in the humans! Terror!

The Xenobots don't get described until chapter 12 now--the next one I'm writing. I'm getting some ideas about them, and will look forward to putting them down in words.

Did you get the emails with the revised passages from existing chapters?

*David*

*DATE: THU, 26 APR 2001 18:12:15 -0700*

Dear Jon and Mike,

[re: the Titanian summary, from Jon]

> *That is all correct! It looks great and it's a good*  
> *summary of our recent exchanges. It all looks right to*  
> *me!*

Good. If Mike agrees, then we've nailed down the Titanians up to this point in our story-telling. I like your reflections on the peoples of the Starman world, Jon. The Martians, the Lucians, the other First Races--it's good!

> *[Mike] ORNITHOPTER: I really would like to see a fragile thing, built*  
> *to take advantage of a low grav or no-grav environment.*

Okay, let's do it that way. And I can have Joe knock over his own glass by making a grab at the ornithopter, so we can retain that scene.

Mike, why would the names of elements be capitalized? I don't follow that. I think you mentioned that in a previous email.

> *[Mike] METHANE LAKE: If we go with Carl Sagan's theory of a "comet*  
> *impact" hotspot on Titan, then we could very well have a liquid lake for some*  
> *time. Any other good heat source would work, also. Let's not forget that*  
> *such a lake is very likely to have a tidal pull from Saturn!*

Great. I haven't explained why there is a methane lake there--just described it. Be WE will know why it's there. Or, as Jon suggests, it can be because of the heat produced by the machines. The Titanians' cities, or some of them, could be under the lake bed. Regarding tidal pull, I think I put into the text that there were ripples in the shoreline--that was to indicate small tides--and also indicated that it is a shingle beach with large pebbles. My reasoning is that there is some erosion due to tidal pull, but not enough to produce the fine sand like that on Earth's beaches. Does that work?

> *I was reminded in the reading I did today that Titan has a very  
> cloudy atmosphere and observers in an approaching spacecraft would see  
> no surface details.*

Right. That's in there. I just put in that the view on Titan is, at best, a few hundred yards. There is the scene, however, in the astrogazing chapter in which Allen Foster zooms in on the landing place on Titan where he'd been 22 years earlier. Can that stay in? Does it need to be adapted?

Let me know what you think of the new chapter one. And I'll make the other adjustments to the text and then go on to the new chapter: Zimbardo's Superiors.

*David*

*DATE: WEDNESDAY, MAY 02, 2001 11:23 PM*

The "hornet" that Zip makes is likely to be a small short duration "thrusterball" type automaton/recon device. How about if it just uses conventional thrust type propulsion (for both "hover" and forward motion.)

*Mike*

*DATE: WED, 02 MAY 2001 17:41:27 -0700*

Dear Jon and Mike,

> *I do have questions about one scene that occurred to*

> *me recently: in the 'abandon ship' chapter, during one*  
> *portion a crewmember moves some food and water from*  
> *another ship to the one they are going to leave in and*  
> *explains that he has to do this because there isn't*  
> *enough food and water in the ship for them to live on*  
> *until they get to Titan. At the time that scene may*  
> *have been accurate, but now they are only 5 hours away*  
> *from Titan: they don't need any food or water for a*  
> *journey like that, and even if they did they are in no*  
> *position to partake of any of it.*

Oh, right. Glad you caught that. It was subtle.

> *I'm leaving tomorrow for a two-day retreat, during*  
> *which time I hope to*  
> *get at least 2 or 3 chapters done on the laptop.*  
> *Look for them on Wednesday night or Thursday.*

Got two chapters done, but I want to skim them both one more time. I think you'll like them, but they need a little alteration before submission to you two.

If I can, I'll get to it tonight.

Progress is going well. We ought to have this book finished by the end of May easily.

*David*

*DATE: THURSDAY, MAY 03, 2001 10:44 PM*

Dear Jon and David,

The chapters were EXCELLENT!!! I really had a Dig Allen and beyond experience while reading them.

The descriptiveness was wonderfully eerie.

Some suggestions:

1) The mug rolls out of the hand of Bors assistant, inferring a gravity field while the ship is in orbit....do we have a field on?

2) Xenobot should be capitalized.

3) The descriptive phrase "raw liver with spittle on it" might be better as "raw liver with a gelatinous sheen".....but then I am not entirely opposed to using the term "spittle"(I am sure it will send some people running to their dictionaries!) It is after all a Biblical term.

About this little hornet thing that Zip is going to use to snoop on the bad guys.....I really like Jon's thought about having Zip get into a cave and find a way to "airlock" the device into the complex....where it can use its little wings. I know this is obvious, but can we have it be a derivative of Joe's ornithopter work? You know, have a scene in which Zip says to Joe, "Hey, can you rig up a 'thopter that can carry a micro-recon unit?" Joes earlier mentioned ornithopter is just a foreshadowing of his more useful product.

When I earlier described a "thrust-ball" , I had assumed a vacuum environment.....cancel that idea if we are indeed going to go into the atmospheric realm of the hidden base.

Jon is correct in that the He<sub>3</sub> will be on the surface and only to a few cm depth, ....that is unless we can "invent" a situation in which a whole lot of rocks were laid down after the He<sub>3</sub> was deposited.

I really enjoyed reading these two chapters!

*Mike*

*DATE: THU, 03 MAY 2001 18:27:10 -0700*

Are you guys familiar with Gustav Holst's work, "The Planets"? That's the piece that Vly sends the Starmen on Titan.<sup>85</sup>

I am nearly finished with Leigh Brackett's book, The Starmen, which came out in England in 1954. I'll turn the last page tonight or tomorrow. Then I'll send you a few comments about it. I named a character in JTP from that book: Lee Kerrel. The author is Leigh Brackett (probably pronounced Lee), and the bad guy in the book is named Kerrel. I wonder if anyone will pick it up?

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<sup>85</sup> David later sent CDs of this orchestral work to both Mike and me.



...

- > *the "hornet" that ZIP makes is likely to be a small short duration*
- > *"thrusterball" type automaton/recon device. How about if it just uses*
- > *conventional thrust type propulsion(for both "hover" and forward*
- > *motion.)*

How about compressed air? Actually, I like Jon's idea of using a miniature battery from a compad. Sounds almost Rick Brantish.

- > *[Jon] Helium 3 will be*
- > *chemically attached to some other material (the name*
- > *of which escapes me). That's how it works: the solar*
- > *wind blows and this other material 'catches' it and*
- > *preserves it. So it won't be in pure form: it will*
- > *have to be chemically separated. If you need the exact*
- > *name of this other material, let me know and I can*
- > *find out for you.*

It would be nice to have it, for the sake of scientific plausibility. If I knew the basics of the process and how energy comes from it, I'll put it into the next chapter.

Jon, your plan for getting the hornet into the Xenobot compound sounds terrific. I've implied that Nyx is volcanic--glass formations, etc. If that is plausible, then lava tubes would work well.

- > *\* I noticed that Dennis Bronk was one of the people*
- > *who was knocked out by the drug in the coffee. Wasn't*
- > *Dennis Bronk one of the bad guys, though? He was*
- > *hand-picked by Beowulf Denn and had always been*
- > *somewhat suspicious he whole book. Why was he knocked*
- > *out?*

Well, I kinda figured that we would keep people guessing whether he was a bad one or not, but I feel that he's not. He's just a lumbering kind of fellow--in short, Joe's analysis of him is right. He's basically trustworthy and definitely not a Zimbardo-fan. So he gets zonked with the rest of them. Is that okay? The surprise bad guy is Evelyn Forrester. Remember she is the one who overheard the Starmen talking in the dining scene before the meltdown, so I had her pegged from the beginning. That's the only hint we've had

that she was one to be careful of. Zip stopped talking when he noted she'd been listening. Remember my cousin Laura wanted a female bad guy. So the bad guys aboard the Starventure are Lee Kerrel, Mike Saunders, Evelyn Forrester, and two unnamed men. The others are okay--Denn picked some of the crew, but not all. I don't know that we ever said that Denn had picked Bronk; I think I only said that he picked the four who got the dressing-down by Bors after the launch from Titan.

- > *\* The faceless Xenobots are fantastic: I like the idea*
- > *of them being mollusks -- slugs. <grin> We could call*
- > *them the Blobs from Outer Space! They are chilling:*
- > *that was a really great idea. Wow! Faceless creatures:*
- > *what an idea.*

Glad you like them! When you told April that you didn't know what they looked like and were looking forward to finding out, I knew the pressure was on! I wanted something that would be frightening without being stereotypical. So they're a little shorter than humans, but symbolically as well as literally "faceless," i.e. "nonpersons." Kind of like C. S. Lewis' book *Till We Have Faces*--"How can we look at the gods face-to-face till we have faces?"

- > *\* One point that occurred to me is this: how on earth*
- > *do the Zimbardo prisoners know all that about the*
- > *Xenobot operation? They seem to know an awful lot for*
- > *just being locked up in a cell. I think it's good that*
- > *they know: we just need to provide a good reason as to*
- > *where it came from. I know there was a mention of*
- > *another room they were in but I still wondered: the*
- > *Xenobots didn't seem the type to answer a lot of*
- > *questions.*

Well, somehow the reader and the Starmen, etc. need to know this stuff, and the only source is the Xenobots themselves, and the only person they spoke to was Zimbardo. I'm thinking they told Zimbardo all this stuff and he told his crewmates before going bonkers.

- > *The material that covers the*
- > *planet now (obsidian, I think it is) could never, ever*
- > *capture Helium 3.*
- > *So, that tells me that at one time Nyx was a very*

> *different place!*

Keep in mind also that it does enter the Solar System as far as the Belt. At that time its atmosphere becomes gas, etc., so there may be some possibilities there. But I really like your idea that it is a casualty of the first great war.

> *\* One thing that occurred to me is that the pirates  
> seemed to have an amazing turnaround. I imagine that  
> being locked up on Nyx had something to do with it  
> (what an experience that would be) but we might want  
> to give at least a few words of explanation as to why  
> they are human beings again!...Our reader  
> might find it strange that as soon as they find the  
> villains they are greeted with open arms! This isn't a  
> big point but I thought I'd mention it.*

Right. My thought is that, faced with horror, they either had to succumb (as Z did) or turn. They're still pirates and still to be arrested and tried, but after 3 months of isolation on Nyx with all that that means, they are happy to see other human beings, no matter who they are. Maybe it does seem like too much of a change--should I tone it down? But I think that the first reaction in such a circumstance would be eagerness to talk, talk, talk. Gebbeth does remain in a corner, but even he talks. Later, they'll become more wary and wonder if they've talked too much. At the same time, if they are ever going to escape, the new prisoners are their only hope.

> *I enjoyed reading these  
> two chapters and am looking forward to the rest!*

I've done a little rewriting of the end of the last chapter, since I had a scene where a laser beam diffuses off the window. That's gone now. I'll include the new ending of that chapter when I send the one that will get written in the next day or two.

Blessings!

*David*

DATE: DATE: THU, 03 MAY 2001 20:31:54 -0700

>> *the "hornet" that ZIP makes is likely to be a small short duration*  
>> *"thrusterball" type automaton/recon device. How about if it just uses*  
>> *conventional thrust type propulsion(for both "hover" and forward motion.)*  
>  
> *Wow! That's a terrific idea: it makes a whole lot more sense than the*  
> *idea I had. A little miniature "seeker" type craft would work well in the*  
> *low-gravity airless environment and could get around quite nicely. Fantastic*  
> *idea, Mike!!*

This science here is beyond me. If we're putting the hornet through the wall directly into an atmosphere, do we still need this? What kind of propulsion do we need for putting it through the wall? Just simplify it for me and I'll put it down.

> > *I like Jon's*  
> > *idea of using a miniature battery from a compad.*  
> > *Sounds almost Rick Brantish.*  
  
> *since the device works via compressed air*  
> *it will have to have some sort of on-board supply and*  
> *that will introduce more complications.*

I was thinking of something like a CO<sub>2</sub> cartridge, but it is probably not necessary if we are using a "through the wall" approach.

> > *I don't know that we ever said that Denn had*  
> > *picked Bronk...*  
>  
> *For some reason, it stuck in my mind that you did*  
> *say exactly that.*

Actually, I don't remember for sure. I'll have to look it up. If I did, I'll change it.

> *What is surprising*  
> *is the reaction of the crew from Earth. Of course, the*  
> *crew just met them and there really hasn't been time*  
> *for the reader to get an idea as to how they interact.*

True. I am implying without saying that there will be some sternness in the new prisoners when Poppy or whoever it is says, "So who are you?" And Bors begins to tell them. More will be told later when the hornet arrives. Keep in mind also that the sixteen people have just encountered the Xenobots for the first time and are probably more terror-stricken at the moment than thinking about their mission, and are eager to hear from the five pirates just what they are up against.

- > *The mug rolls out of the hand of Bors assistant, inferring a*
- > *gravity field while the ship is in orbit....do we have a field on?*

Ah, right. I'll have it float.

- > *Xenobot should be capitalized.*

Right again.

- > *[Mike] the descriptive phrase "raw liver with spittle on it" might be*
- > *better as "raw liver with a gelatinous sheen".*
- > *[Jon] That makes sense! That does sound more professional and more technically*
- > *accurate.*

But do keep in mind that it is a pirate that is saying it. I'm making their language a little more coarse than what one would find in the best restaurants.

- > *I know this is obvious, but can we have it be a derivative*
- > *of Joe's ornithopter work? You know, have a scene in which Zip says to Joe,*
- > *"Hey, can you rig up a 'thopter that can carry a micro-recon unit?" Joes*
- > *earlier mentioned ornithopter is just a foreshadowing of his more useful*
- > *product.*

Oh, absolutely! That was the idea all along! That's one reason the ornithopter has appeared twice already in the book.

- > *Jon is correct in that the He3 will be on the surface and only to a few*
- > *cm depth, ....that is unless we can "invent" a situation in which a whole lot*
- > *of rocks were laid down after the He3 was deposited.*

Well, there's got to be some way. We probably don't need to explain it if we just say, "This stuff is supposed to be on the surface. I wonder how it got down this deep--but here it is." Having the planet be a scourged planet from the first great war is a prelude, in a way, to what the Xenos did to Mars.

More later!

*David*

*DATE: FRI, 4 MAY 2001 10:49:22 EDT*

Dear Jon and David,

The little "hornet" would be best powered electrically.....compressed gas is is nowhere near as "energy dense" as a good battery....(especially a mid 22nd century one!) However, there are currently available some EXTREMELY tiny and "cute" CO2 motors....it's kind of a shame! Batteries also make sense because the "hornet" will be carrying surveillance electronics. Are we thinking "telemetry" feed back to a receiver....or are we going to have the little bugger fly back with a recording of what it saw?

We have an interesting opportunity to have some Starman problem solving here.....Zip needs to build a "makeshift" airlock while in this lava tube.....I think this kind of thing can be very exciting and instructive for readers. Just how does Zip take the "raw materials" at his disposal and make a primitive airlock? He can use some airtight plastic sheet and some sort of sealing compound related to the automatic hole fixing system from the StarVenture. David, I can help with the scene here if you like....and I think Jon pretty much has it figured out anyway. This whole scene is just deliciously charged with the tension of hard physics versus human problem solving!

About the He3 being covered by rock.....here's the answer! AFTER the He<sub>3</sub> layer was deposited, Nyx underwent a volcanic era in which a lot of basalt and other lava poured out onto the surface, covering the He<sub>3</sub>. The lava tubes themselves would be the easiest spots to start the mining of He<sub>3</sub>. The volcanic era could be the result of a long ago "gravitational encounter" involving internal heating....just like Io and Europa.

*Mike*

*DATE: SAT, 05 MAY 2001 06:23:01 -0700*

*> Here is the information on Helium 3 that I promised you, David!*

Great! Just what I need. I have a very clear direction for the rest of JTP now and I think the story will be strong and good!

*> > We have an interesting opportunity to  
> > have some Starman problem solving here.....Zip  
> > needs to build a "makeshift" airlock while  
> > in this lava tube.....I think this kind of thing  
> > can be very exciting and instructive for readers.  
>  
> Absolutely! I think it will be a great passage: it's  
> a very interesting problem that I haven't seen  
> encountered before. If you know how to do it, Mike,  
> please let us know!*

Right. Some information to work with from you, Mike, would be very helpful.

By the way, the next chapter will be named Light in the Shadowlands. It is a title of a book by Kathryn Lindskoog, a member of my parish whom you will probably remember (Jon visited her when he was out here a year ago), who was writing in this book about the fraud associated with works allegedly written by C. S. Lewis and published after his death.

*David*

*DATE: FRI, 11 MAY 2001 07:14:11 -0700*

Dear Jon and Mike,I only

*> spotted one flaw off-hand, and that was the statement  
> that said the Starmen had never been to an airless  
> world. Actually, they had: in fact, they lived on one!*

> *It's called the Moon.*

Ah, of course. Blast! I took that line and a few others from Leigh Brackett's *The Star-men* as a sort-of tribute. I'll fix it.

*David*

*DATE: MON, 14 MAY 2001 22:05:01 EDT*

Dear Jon and David,

My printer is indeed out of black ink, so I have yet to print out Ch.14....but I read it off the screen and it looks very exciting. A comment here: I would like to see "cataclysm of some sort" replaced with a more definitive lava eruptions that covered the He<sub>3</sub>. (The eruptions are what deposited the basalt layer on top of the He<sub>3</sub> laden regolith.)

Also the "invention" of the little robotic spy device could mention the fact that it is an ornithopter or entothopter (bird-flapper or insect-flapper).

I will get some ink tomorrow.

Jon mentions that we tend to edit out the "special effects" movie type scenes in the series.....while this is basically true, I think that we will have many interesting visuals should we and the public ever be lucky enough to see any part of this story on film/tape. (AMs with projector-vision come to mind!)

I had decided not to put anything but part of Nyx and some stars on the left-hand side of the JTP painting. Reasons being that I was not sure if I would mess it up, not sure exactly where to place the object for DJ centering, and it looked OK just as it is. But you guys know more about what is genre-proper here. If you want an "object" you will have one! I think a galaxy would be the way to go.....a nebula might be harder to recognize...although I think they can be prettier.....and the Hubble telescope has brought them out in more detail than ever before.

I can certainly send a photo of painting as David suggested, allowing him to prepare some DJ samples.

*Mike*



DATE: THU, 17 MAY 2001 18:14:53 -0700

- > [Mike] I have yet to print out Ch.14....but I read it off the screen and it
- > looks very exciting. A comment here: I would like to see "cataclysm of some sort"
- > replaced with a more definitive lava eruptions that covered the
- > He<sub>3</sub>. (The eruptions are what deposited the basalt layer on top of the He<sub>3</sub>
- > laden regolith.)

Will do.

- > [Mike] Also the "invention" of the little robotic spy device could mention the
- > fact that it is an ornithopter or entothopter (bird-flapper or
- > insect-flapper).

I think that's in there.

David

DATE: SUN, 27 MAY 2001 09:10:06 EDT

Dear Jon and David,

I really like the revisions and the description of the "slugs" is great!

I am a bit unsure about the Starman encryption frequency.....Microwaves are generally used for "line-of-sight" communications ( thus those towers with the dishes pointed at each other). I will check on this, but I fear that microwaves will be foiled by buildings, natural formations, etc.

It might be better to use a frequency further into the "radio" part of the spectrum.

Mike

DATE: SUN, 27 MAY 2001 15:01:40 -0700

Dear Jon and Mike,

- > [Mike] I am a bit unsure about the Starman encryption

- > frequency.....Microwaves are generally used for "line-of-sight"
- > communications...
- > It might be better to use a frequency further into the "radio" part of
- > the spectrum.

Suppose I just eliminate the term microwave in the description. I really don't know what I'm talking about here. I'm glad you both like the rest of it. Forward now, all the way to the end. It won't be long now.

*David*

*DATE: SUN, 27 MAY 2001 23:45:40 EDT*

Dear Jon and David,

Jon's suggestion of using the "million different frequencies on a preset but unique seed pattern" is a very workable solution. The receiver "knows" in advance where to look for the next signal segment. It's like knowing in advance what lottery numbers are coming up next. I do not know of an official name for this type of encryption, but we can make one up.

*Mike*

*DATE: SUN, 27 MAY 2001 17:24:58 -0700*

Dear Jon and Mike,

- > Maybe I'm crazy, but don't long radio frequencies
- > require sizeable antennas to pick up? Now that I think
- > about it, I think we've got a number of options here....

I'm out of my league here, so whatever you two agree on is fine with me. What we need is a way for the Starmen to communicate with confidence that the Xenobots can't find them, a reason that they cannot communicate with Bors and the crew of the Starventure, and a way to control the dragonfly without being located.

*David*

DATE: THU, 24 MAY 2001 19:39:04 EDT

Dear Jon and David,

My printer is not behaving, so I have still not printed out the chapters! However, I do like what I have read.

A couple of suggestions.....when Joe says to Zip..." it(the dragonfly) wont be a hovercraft.....", I am not sure hovercraft is the best term here. A true hovercraft is a vehicle that rides a cushion of air...while it is true that the 'thopter was able to "hover", I think calling it a hovercraft would either confuse some readers or invite a bit of correction from others. Perhaps Joe could say "this one wont hover like the other one, but it'll really haul out!"

Have we properly introduced the Xenobots? In this book we have revealed their "organic-ness"...but have we explained how they got the "bot" part of their name? The assumption here is that they were known only by their outward robotic "shells" for some time and were originally thought to be robots.

Don't get me wrong here, I REALLY liked David's description of them.....I suggest the following as possible solutions:

- 1) Save the actual close-up description for a future book
- 2) Make it clear somewhere in the dialogue that they were "once thought to be robotic" and were named accordingly. ( it is possible this has already been done and I missed it)

More later,

*Mike*

DATE: THU, 24 MAY 2001 17:28:47 -0700

Dear Jon and Mike,

- > [Jon] I did want to comment on the two amazing chapters I
- > received! I really like them: they surpassed all my
- > expectations. I enjoyed what you did with them, David:
- > the little changes you made to the plot (such as not
- > using the compad batteries, and having the atmosphere
- > inside the compound be alien) were terrific and helped
- > the storyline along.

Glad you liked them. We paint fairly broad canvas when we're plotting the story, but sometimes when I get down to the details a few small changes come to me that seem to make better sense. Hence, the power source change and the questions about the communication between Bors and Starmen, etc.

How about if, in answer to my own questions, we say that there is a special frequency or something which only Starmen use and is encrypted. They use this when communicating with one another. They hesitate to contact Bors directly with a compad because they expect that that line would be traced by Zimbardo or the Xenobots. The problem there is that using the dragonfly is risky since it could be traced as easily as a compad. What do you think?

- > > *Why don't the Xenobots tunnel directly into the*
- > > *Benefactors' operation? Why are these two systems*
- > > *kept separate by the Xenobots?*
- >
- > *That's a good question! My first guess was that it*
- > *was just plain fear: ...to play it safe, they are totally avoiding*
- > *the base. (They have no idea at all that the Martians*
- > *have already found them!)*
- > *Does that sound reasonable?*

That was kind of my idea too. I think it's a bit flimsy but will have to work. Our strength here is that no one knows who the Xenobots are or what they are capable of or even what they want. So we can be vague.

- > *I did find one error in the story as I was reading*
- > *it over, and it is this passage:*
- >
- > *Zimbardo did not know what to say, or even if he was*
- > *expected to say anything.*

Oh right. That should read "The Captain did not know what to say..." It is Bors speaking.

- > *[Mike] A couple of suggestions.....when Joe says to Zip..." it(the*
- > *dragonfly) wont be a hovercraft.....", I am not sure hovercraft is*
- > *the best term here. A true hovercraft is a vehicle that rides a cushion of*

- > *air...while it is true that the 'thopter was able to "hover",I think calling it a*
- > *hovercraft would either confuse some readers or invite a bit of correction*
- > *from others. Perhaps Joe could say "this one wont hover like the other*
- > *one, but it'll really haul out!"*

Good point! I'll make the change.

- > *Have we properly introduced the Xenobots? In this book we have*
- > *revealed their "organic-ness"...but have we explained how they got the*
- > *"bot" part of their name? The assumption here is that they were known only by*
- > *their outward robotic "shells" for some time and were originally thought to*
- > *be robots.*

There's something in the text where Mark (who is the linguist, remember) gives the derivation of the name, but I don't think he goes any farther than that. I did indicate that Zimbardo knew that they were living creatures inside metallic shells, and that he told the five companions. It is Gebbeth who describes them as "mollusks"--a rather accurate but pejorative term. Is that okay?

- > *Make it clear somewhere in the dialogue that they were*
- > *"once thought to be robotic" and were named accordingly. ( it is*
- > *possible this has already been done and I missed it)*

We could have Gebbeth say that Zimbardo's companions thought they were robots until Z. set them straight later. How's that?

*David*

*DATE: MON, 28 MAY 2001 08:15:18 -0700*

- > >*Why don't the Xenobots tunnel directly into the*
- > >*Benefactors' operation? Why are these two systems*
- > >*kept separate by the Xenobots?*
- >
- > *You know, now that I think of it, we really*
- > *shouldn't have done that: it makes a lot more sense*
- > *simply to have the Xenobots occupy the Martian base*

> *and/or not avoid the tunnels at all. Is it really*  
> *necessary to the plot to have them avoid the base?*

We needed to have a place where the Starmen can go which the Xenobots avoid--especially if the Starmen are going to use the hologram machine. Something like the chemical idea sounds workable. When Zip does the atmosphere check when he first enters the base, he can express some kind of wonderment about the nature of the atmosphere. It has all the elements of the atmosphere aboard the pirates' asteroid, but something else he can't identify and has never heard of before. Then later the Xenobots will find a trace of it in their own atmosphere in their base--remember that when Zip opens the passage to drop the dragonfly in, a small amount of the Benefactors' atmosphere mixes with the Xenobots' atmosphere--the amount that was in the chamber. It is only a teeny amount, not enough to cause the Xenos any damage but enough to register on the Xenobots' atmosphere maintenance system. That causes them to panic since they realize that either their system has been breached or (gasp!) their ancient enemy has returned secretly. Then when they see the Benefactors' warships appear, they REALLY panic!

It also occurs to me that we also need to have some kind of major threat from the Xenobots. Right now we only have them being ugly miners and making a threat about blasting Earth some day. We need some scene in which their immense fighting power is displayed, but does not utterly destroy the abandoned base or wipe out the prisoners. We need to see them as overwhelmingly evil and very powerful. Any ideas? How about if, in their panic, they blast the entire front of the abandoned city, thereby trapping Mark inside and burying the shuttlecraft. (Zip and Joe are outside when the city is destroyed, and Mark is in the hologram room. Zip and Joe are to fire major laser weapons against two Xenobot ships when the holograms appear to fire at them.) However, the hologram machine is not damaged. Then the Starmen do the same as we planned before--create two holograms of the Benefactors' ships and destroy two Xenobot ships using the method we thought of before. Then Mark will have to enlarge and crawl through the passage through which they dropped the dragonfly, and find the prisoners by going through the Xenobot tunnels. Then they effect the rescue and escape in the Starventure.

*David*

*DATE: TUE, 29 MAY 2001 22:27:59 -0700*

Mike, how close are you to getting me what I need to create the dust jacket for JTP, and the frontispiece and internal illustrations? My father is moving on June 23, and I'm vis-

iting him for the last time in his old house on June 17. If I can provide the master of the JTP dj on June 17, we can get 200 copies of the dj printed that week. Otherwise, I'll have to go locally and pay more. Can you get the cover art to me within a couple of weeks? I know you can't send the original and I probably couldn't do anything with it even if you did, but if you can get me something I can work with, I can take it to our digital guy here and get it done up with lettering, etc., in time to get a master to my father on June 17. I can wait a little longer for the internal black and white illustrations. Do you need any information for them? The dimensions for the frontispiece should be pretty obvious from the two we've done before.

Off to jury duty now with my laptop.

*David*

*DATE: TUE, 29 MAY 2001 22:37:06 -0700*

Dear Mike and Jon,

*> I am especially pleased with the title of the last chapter.*

Just about all the stuff you wanted in JTP will be in there somewhere, Mike. Some of the things involve changing the first draft (e.g. "hovercraft"), but you'll see the changes when I send you the complete second draft.

...

*> Another way to demonstrate their "diabolicality" would be to have  
> them perform some horrible torture on one or more of the Humans visiting  
> Nyx.....this is our chance to invent some really cruel behavior.*

I hesitate on cruelty. It seems out of the genre of the classic series books we're trying to emulate. The Skippy Dare books by Percy Keese Fitzhugh included cruelty, and I found it rather disturbing. It's possible to convey real evil symbolically (darkness, facelessness, instinct rather than feelings, etc.) which can be worse than overt evil. That's why I

think it is better to have Zimbardo "disappear" as a human being rather than execute him. You'll see what I mean in the last chapter of JTP.<sup>86</sup>

I wrote chapter 16 during jury duty today. A quick once-over and I'll get it off to you.

*David*

*DATE: WEDNESDAY, MAY 30, 2001 8:44 PM*

Dear Jon and Mike,

All your ideas sound good, Jon. I had forgotten all the background material connected with the Lucians/Xenobots. I can make those changes easily.

This is a parallel with the Tower of Babel and Pentecost, and somewhat with the elves in the Tolkien saga--those who went all the way to Aman/Valinor and continued to grow in light, and the dark or wood elves who remained in Middle Earth, never moving far along in their potential. Except here we have the opposite--a fall from light into darkness (sin, etc.) as opposed to moving from darkness into light by natural growth and love. Yet both show a marked contrast of existence.

If all goes well, I'll get the next chapter done tonight, and the last two next week. The last reading group is June 9, so the book has to be done by then.

*David*

*DATE: FRIDAY, JUNE 01, 2001 11:02 AM*

Dear Jon and Mike,

> *What about the introduction for JTP? I know we had discussed having a*

---

<sup>86</sup> From the first appearance of Lurton Zimbardo as a major character in *The Runaway Asteroid* to his demise in *Journey to the Tenth Planet*, David actually carefully researched the medieval and modern accounts of demon possession, and used these consistently to mark Zimbardo's decline into subhumanity.



> *Benefactor write one, but I don't think we have actually done that yet. I*  
> *think it is approaching time to get it written, though! I'll try to mull*  
> *over a few ideas today...*

Actually I looked at the file I had named "JTP Introduction" yesterday, and I must have misfiled it, since what it contained was only a message that April wasn't going to write it. I remember that you, Jon, had written a few lines about what someone named G'lai might write 50 years after the events described in the book.

Right now, JTP is a little over 40,000 words. It will end up at about 45,000 words. Unless we reduce the size of the font from 11 to 10.5, the way we did for TRA, it will be about 220 pages. I rather think that unless we want to set a precedent of having an introduction for every book, we can let this one go, unless we really have something to say.

*David*

*DATE: FRIDAY, JUNE 01, 2001 9:12 PM*

The last two chapters of JTP are shaping up fine! Should definitely have them done by next Thursday at the latest.

*David*

*DATE: SATURDAY, JUNE 02, 2001 12:19 AM*

I like JTP so far.....sounds really good.

My suggestion for the details for Zip's makeshift "airlock" are as follows.

Zip gets some "astro-tarp" heavy duty plastic and some Astro-grip super-sealant/adhesive (tube form). He goes into the Lava tube and finds a thin spot near the Xenobot base. He uses the tarp and glue to seal himself in a section of the tube...about the size of a phone booth or small cabin (to allow only a small amount of air to escape from the base, a greater amount might trigger an alarm, which he does not want).

Zip uses his small drill to make the hole.....air leaks from the base to the small section of the tube, but is sealed in by the tarp. (It would take about 2 to three minutes for a 1/4 inch hole, assuming a pressure of about 0.3 atmospheres) Zip places the dragonfly-spy through the hole, then seals the little hole with some more Astro-grip and then he cuts himself out of the tarp "airlock" and goes on about his business.

Mike

DATE: SATURDAY, JUNE 02, 2001 10:16 PM

Dear Mike and Jon,

Before I forget, an important JTP plot question: In the next chapter, it occurred to me that good thing might be to have Zip tell Mark to blend the atmospheres of the two bases deliberately to make the Xenobot base uninhabitable for them. The Starmen won't know about the element that the Benefactors added to the atmosphere, but they don't need to know that--only that the atmosphere is not Xenobotic atmosphere. The question then becomes: Why didn't the Xenobots get rid of the atmosphere in the beginning and use the existing mines for the Helium-3? We came up with the "bad element in the atmosphere" answer, and that works--except it occurred to me that if they could open the large hangar door and the airlock, all they had to do was evacuate the atmosphere completely, then reseal the place and put in their own atmosphere. So why didn't they do it? In other words, we're right back to Why did they keep their own mines separate from the original base?

...

> *My suggestion for the details for Zip's makeshift "airlock" are as follows.*

Sounds good. I'll rewrite the scene that way.

> *It sounds as if Jon has had a change of heart on the dedication situation...just when I was narrowing my choices down to one. But seriously, I am OK either way.*

Sure, we can make do with only two dedications. Or maybe Jon could use a historical figure like Clyde Tombaugh, the guy who discovered the ninth planet.

Do peanut-size cobalt bombs work for the Starmen to use in chapter 17?

I agree, Jon, that the plot similarities are not too much of a problem, but overall, I think the more variety we can put into details, the better.

Mike, did you notice the name of the Starventure's ship's physician? He's in the early part of chapter 17--the one who takes care of Bronk's burns.

*David*

*DATE: MONDAY, JUNE 04, 2001 12:26 AM*

OOOOPs! Is it possible that I had the wrong idea about Zip and the Dragonfly ? Is Zip in his spacesuit in a vacuum when he starts to drill the hole...or is he in a second mining base that happens to be adjacent to the Xenobot base? (If this second scenario is correct , and Zip is in an "atmosphere", then we can forget about the need for the make-shift airlock. And the consequent rewriting of that scene)

*Mike*

*DATE: MONDAY, JUNE 04, 2001 3:59 AM*

> OOOOPs! Is it possible that I had the wrong idea about Zip and the  
> Dragonfly ? Is Zip in his spacesuit in a vacuum when he starts to drill the  
> hole...or is he in a second mining base that happens to be adjacent to the  
> Xenobot base?( If this second scenario is correct , and Zip is in an  
> "atmosphere", then we can forget about the need for the makeshift airlock.  
> And the consequent rewriting of that scene)

Zip is in a small pocket chamber, a side passage in one of the Martians' mine shafts, in the abandoned base. He is with Mark, and they are in spacesuits. There is an atmosphere

in it, but it is a Martian atmosphere. I have Mark seal the tiny entrance into the chamber from the larger mine tunnel, so that, when Zip opens the little hole into the Xenobot base, the Xenos' atmosphere doesn't come into the Starmen's base. Mark seals it by tearing chunks of the wall out and bricking up the entrance. When the dragonfly has been deposited, they seal up the tiny hole they made into the Xenos' tunnel, and then open up the entrance that Mark had just sealed. Is that okay, or do you think I should rewrite the scene?

*David*

*DATE: THURSDAY, JUNE 07, 2001 10:14 PM*

Dear Jon,

The book is slightly over 50,000 words long. Once I get your comments, probably tomorrow morning, I'll send the entire text to you and Mark Johnson as an attachment.

Then on Monday I'll bind AOMs.<sup>87</sup>

*David*

*DATE: SATURDAY, JUNE 09, 2001 8:24 PM*

Dear Jon and Mike,

They both said, "This is the best one!" They liked it a lot! It read better to me too, once I ran through the last six chapters all at once. It's a good story.

The audience caught a couple of points needing clarification, which I provided. I also made a number of small changes, caught a lot of little bloopers and typographical errors, but overall I think it's pretty smooth. We'll see what Mark Johnson thinks.

*David*

---

<sup>87</sup> Since all copies of *Assault On Mars* were bound by hand, each one taking about an hour's work, they were bound over a period of more than two years.

DATE: SUNDAY, JUNE 10, 2001 8:04 PM

- > *What would you think about putting a red parakeet*
- > *in the third Starman book? ... I could see*
- > *one sitting in the corner of Richard Starlight's office: perhaps he recently*
- > *obtained one and marveled at that wonder of genetic engineering. Or perhaps*
- > *(best yet) there's one on Titan, cheering up the new folks at the*
- > *hospital -- it could be a gift from the genetic engineering masters at SE!*

Or it could be Kathy Foster's pet. Sure, we could put one in the story, and I like the idea a lot. Where do you want it? If it's in Richard Starlight's office, it can be a recurring character. How do you like the name "Scarlet"?<sup>88</sup>

- > *I have been carefully reading over the manuscript, and I've found a*
- > *number of mistakes: I'll try to get them all to you later, once I'm done.*

I sure have too! I've already corrected a bunch of them, but at this point it will be better if other readers find them. I'm pretty close to the manuscript now and won't be able to see what fresh eyes can.

- > *Overall, I really like this book! It's a great story, and one I really*
- > *enjoy. I think this is definitely a work we can be proud of: it is a good*
- > *addition to the series book world.*

I agree!

- > *One thing I did notice (that I thought I'd mention before I forgot) was*
- > *that, in the writer's notes, there is no mention of the fact that the*
- > *dragonfly invention was a tribute to the best Danny Dunn book of them all,*
- > *Danny Dunn, Invisible Boy.*

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<sup>88</sup> This is one of the many obscure jokes we placed in the Starman Series. There actually is no such thing as a red parakeet: parakeets come in many colors, but red is not one of them. Breeding such a bird has been the holy grail of parakeet breeders for decades, but so far no one has succeeded. The idea is that at some point in the future someone succeeded, and therefore this very rare bird became a highly prized gift to one of the most powerful men in the Solar System. What are your chances of figuring this out if you don't breed parakeets? Probably pretty small...

Wow--if I ever knew that, I'd forgotten it. I think we ought to write a small notice about that. How about it you draft it, Jon, and I'll put it on page 8.

...

Well, keep in mind that that scene was SUPPOSED to be wrenching. It has to cause the collapse of Robert Nolan, which is the main reason it's in there. It also indicates the results of radiation poisoning, which intensifies and focuses many other scenes, such as David's emotional outburst on the ship, his reaction to Mike Saunders' accusation after they leave Titan, Kathy's sobbing out her prayer, etc. I think the intensity is just what we need. It's placed in the book to be after David's outburst on the Starventure and before his reaction to Saunders' accusation.

...

If somewhere it says that six men accompanies Zimbardo, that's an error. It should be five. I'll check the text. It may say somewhere that there are six men in the Tartarus. The six are named, and the number is chosen to be subtle reminder of Revelation's 666.

Blessings!

*David*

*DATE: MONDAY, JUNE 11, 2001 12:53 AM*

Dear Jon and David,

I like the idea of an "Easter egg" here, yes ...I say go for it! Personally, I can't wait til I can see some of the genetic/breeding possibilities come to the pet world. A few years back there was a contest to see if anyone could breed a Panda-like hamster...wouldn't that be neat? Or a Bobcat with the temperament of a house cat?

*Mike*

*DATE: MONDAY, JUNE 11, 2001 11:36 AM*

> *The name of 'Scarlet' sounds great! As to where it can be placed in the*

> *series: anywhere would be fine. I imagine that the easiest place to put it*  
> *would be Richard's office: the bird could just be another part of the room,*  
> *something like the huge globes he has. We'd need a line explaining that this*  
> *bird is a new addition (he obviously wasn't in the first two!) but it*  
> *shouldn't be hard. That's where I would recommend placing him.*

Sounds good. I'll do it.

*David*

*DATE: MONDAY, JUNE 11, 2001 10:25 PM*

Dear Jon and Mike,

I see your point, Jon, but as you say there's not much that can be done at this point. I'll fix the paragraph you used as an example. This is probably just my writing style, which one may hope will improve with practice. The writing is pretty much a first draft with a few polishings here and there. There just isn't time to go through the manuscript several times and fix all the details.

J. R. R. Tolkien wrote with enormous precision, taking twelve years to write Lord of the Rings. C. S. Lewis wrote things pretty much as a first draft and could whip out the Chronicles of Narnia in 2-3 months each. I guess I'm more like the latter--but without the same skill level!

Do keep in mind, though, that I myself haven't read the manuscript of JTP, except in portions out loud with an audience. I haven't read it to myself with time to make serious changes. When I read aloud and pause to consider rewriting an awkward sentence or paragraph, the audience boos and wants the story to continue! Serious rewriting has to be done alone. And that will still happen sometime in the next couple of weeks, after I let some time pass so I can go through it with a little fresher eye than right now.

*David*

DATE: MONDAY, JUNE 18, 2001 1:13 AM

Dear Jon and Mike,

Got Mark Johnson's comments just a moment ago. Not as thorough by any means as Jon's, but very helpful. Jon's comments were 15 pages long--Mark's were 2 1/2!

Other than typos and a few ordinary things, Mark had this comment to make:

- > *Chapter 6*
- > *First several paragraphs. I REALLY don't like Zip*
- > *becoming a blubbering idiot. He is highly trained and*
- > *in command, he should NEVER allow himself to react in*
- > *this way.*
- >
- > *The ending with Zip's father making a spectacle of*
- > *himself is out of place in a kids series book. In an*
- > *adult book it would be a very effective scene, but*
- > *here I think it is gross. He is reduced to the level*
- > *of freak for no good reason (unless he goes through*
- > *some type of miracle medical cure in a later book that*
- > *restores him to full health).*

Now Mark is the second person to express distaste over this scene--Jon's mother was the first. I still think it is not only an effective scene but a necessary one. Zip's collapse and Allen's explosive reaction are critical to show that there are unresolved issues in the matter of Allen's poisoning. Also, of course, Allen's scene is essential in order to cause Robert Nolan's collapse.

However, I am thinking that maybe these scenes ought to be rewritten in some way that doesn't lose sight of the goal, or water down the effect, but tones down their extreme nature. They are very emotionally demanding of the reader, which is what I intended. Although they are successful that way, it may not be best overall. I wonder if we ought to make some changes. Mark commented that in TRA Zip was almost invisible--very little personality development. In JTP, he criticizes Zip for losing control of his emotions. He may be right, in that I have over corrected in JTP, and that a middle ground is preferable. In the scene where Zip almost punches Mike Saunders, Zip is very emotional but doesn't lose control.



Your thoughts?

*David*

*DATE: MONDAY, JUNE 18, 2001 2:11 PM*

Dear Jon,

Your suggestions as to what to do with Mark's comments on the Zip/Allen scenes are just what we need to fix them! Mark responded that his main concern about Zip's collapse is that he lost it when other lives were at stake. That's a good point, so I can tone it down somewhat without losing the effect.

> *Here are a few things about JTP that my parents mentioned:*

>

> *\* In the scene where Zip tells Dr. O that since he could discover the*

> *planet, he could name it: technically, didn't the pirates discover the*

> *planet first? I still think that Dr. O should get the credit, since he*

> *actually found it: Zimbardo was just given directions (and besides, pirates*

> *don't count!). Just thought I'd mention this.*

I think you and I talked about this before. Basically, the pirates don't get to name it for the reason you mentioned. But also, the pirates didn't discover it--Zimbardo was shown where it was by the Xenobots. O is really the first human who discovers it--although even he had the help from the pirates' rumors which could only have come from Zimbardo. But anyway, O is the first "honest, upright" person who discovered the planet and announced the discovery, so he gets the credit. The pirates knew about it but hid the information.

It'll be kind of nice, maybe, to have the debate over who really discovered the planet first, just as there is debate over who really discovered America first: Columbus, Lief Ericson, Swithun, the Chinese, or the native Americans. Probably they ALL discovered it. When I wrote a paper on the Columbus event back in 1992 for the 500th anniversary, I made the point that, whoever got there first, Columbus is the one whose landfall began the sustained contact between the European and American peoples. That's why he gets the press. Nobody argued with that.

- > \* Chapter 4, paragraph beginning with "Allen returned to the normal
- > telescopic program", sentence 5: "Allen had deliberated chosen" should be
- > "Allen had deliberately chosen"

Mark found that too. It's fixed.

- > \* Chapter 7, para. 1, s2: "passengers was spending" should be "passengers
- > were spending"

Oops. Fixed.

- > \* Chapter 7, 5 paras. from the end: "huge force of Titanian engineers was
- > involved" -- the 'was' should be 'were'

The subject is "force," not "engineers." Verb is therefore singular, i.e. "huge force...was involved"

- > \* Chapter 12, para. that begins with "I don't rightly know, but they've got
- > some sort of mining...", last sentence: "Look like something" should be
- > "Looks like something"

Blast! I'll fix it.

- > \* Chapter 14, para. beginning with "Sorry Joe! said Zip, turning up the
- > range...", last sentence: "enable to dragonfly" should be "enable the
- > dragonfly"

Ditto.

- > \* Chapter 15, para. 2: Mom wondered what was meant by the sentence "other
- > human beings and finding that they were under arrest" -- she thought the
- > Xenos had put them under arrest or something. It needs to be made clear that
- > the Earth humans are arresting Zimbardo's men.

Good point. I'll fix it.

- > \* Chapter 16, para. that starts with "Joe and Mark are with me in the
- > abandoned base." -- the Captain doesn't know anything about the abandoned
- > base: he saw the base where Joe and Mark landed, but he has no way of

> *knowing it was abandoned. The Captain, then, wouldn't have any clear idea*  
> *what Zip was talking about.*

Wow, that's subtle! Good eyes--I'll fix that too.

More later!

*David*

*DATE: MONDAY, JUNE 18, 2001 4:09 PM*

Dear Jon,

I\*S order is ready to go.

Mike's illustrations arrived in the mail today. Two of them were full-page drawings, and all were done in pencil! I have photocopied them to make them black and white, and reduced them so that they will fit onto the pages. I think he did a good job. There is no background except in one of them, which I will have to trim to make it fit for the frontispiece, but they will work. I do wish we had one or two more--the forest scene and the Gorge scene would have been beautiful!

The scenes are a lovely portrait of Kathy, a Xenobot (this looks very good!), the shuttlecraft descending onto Nyx (which I will use for the frontispiece), and the dragonfly in Zip's hand.

I now have everything I need to produce the final text with illustrations, and there should be nothing to stop me from achieving that by this evening. I've got all afternoon to work on the revisions of the text. With luck, I'll even be able to bind the authors' copies this week. If not, next week for sure. Look for your author's copy of JTP with dust jacket by the end of June at the latest. The end is very much in sight!!

*David*

*DATE: MONDAY, JUNE 18, 2001 8:18 PM*

Dear Jon,

Mike is incommunicado in California right now, so I'm only sending this to you.

As usual, your grasp of detail is very fine, and your suggestions immensely helpful. I am using about 85% of them or more. There are a few I'm not using, and, just so you know, here's some explanation:

I see what you mean about the "was <action>" construction. That is a correct use of English, but I overdo it and sometimes mix constructions, which is NOT correct. I think I've corrected most of the big ones.

A shingle beach is one that is made up of coarse gravel rather than sand.

"It's pretty creased and torn, but Sure I have it!"--I'm not sure about this, but I think it is a way of writing when the speaker is using a form of indirect quote. E.g., He told me Yes. But since I'm not sure, I'll change it.

Regarding whether forests really provide oxygen or not, I'm pretty sure they do. Don't plants take in carbon dioxide and give off oxygen? Even old growth forests? But Armstrong Forest is not really an old-growth forest, being only a century old. It only appears to be one, and only in parts. Either way, I think it's obscure enough that we should leave it. It's important to the story line that AF provide oxygen, since that was the original reason the forest was first planted in Amundsen City.

The Titanians' voices are low because they are so small. Their vocal cords can't produce loud noises for the same reason that a cat can't growl like a lion.

The slingshot course around Saturn to get the relaunched Starventure up to speed: Your observation sounds right--they're really too close to make it work. Should they loop around the planet several times, or just head out directly?

Your point about why the Starventure is in a big hurry to get to the tenth planet is a good observation too. That wasn't explained when Richard met with the people at SE. The reason is that they want to capture Zimbardo as soon as possible. Should we make that explicit?

I changed Earthbase to Elijah Base, and made it clear that Allen Foster's ship in 2130 was named Elijah--the prophet who ascended to God in a chariot of fire.

The eleven prisoners at the end? Six pirates, four mutineers, and Evelyn Forrester. Evelyn is the 11th.

And here are the texts I've revised so far. There are still some to do. Let me know what you think...

*David*

*DATE: MONDAY, JUNE 18, 2001 10:37 PM*

Dear Jon,

*> >Don't plants take in carbon dioxide and give off oxygen? Even old growth  
> >forests?  
> Yes, they do, but at the same time rotting vegetation removes oxygen,  
> and in some forests (such as rainforests) the amount of oxygen they take up  
> is actually more than the oxygen they give off. Rainforests actually don't  
> provide any oxygen at all: they remove more oxygen from the air than their  
> plants give off.*

Then I learned something today too, in exchange for the shingle beach. Let's assume that the gardeners, or environmental engineers if they're called that in the 22nd century, keep AF in an oxygen-producing mode.

*> I would suggest just having them head straight out into space.*

Will do.

*> I think that if we say they are in a big hurry, it would be good  
> to explain why. I'd recommend either taking out that line, or adding another  
> line explaining why they were in the hurry (i.e. they wanted Zimbardo, and  
> they wanted him NOW).*

Sounds good.

> *Ah, I'd forgotten her! Evelyn seemed almost invisible to me when I read  
> the book: she didn't have a lot of character. Maybe I just wasn't paying  
> attention.*

Well, her invisibility was to be counted on. Remember, she was deliberately next-to-invisible in her first appearance, eavesdropping on the Starmen. It was the "invisibility of the waitress" that made it possible for her to be the mutineers' tool.

> *"I saw my father almost dead from radiation! This happened to him, years  
> ago!  
> I." Mark stopped him.  
> I think, after the second I, should be either a -- or three dots, to  
> indicate that he was cut off.*

The text has that--it just didn't get through the email for some reason. Fred Woodworth would know why.

> *This passage is definitely weaker than the other one: it doesn't have  
> the same impact as seeing Zip suddenly crumple to the floor. I think it's  
> ok, though: I'm willing to go with it. It does a good job of balancing!*

Yes, it's weaker, but it still works and answers Mark's concern about Zip's falling apart when lives were at stake. I think that was a good point, and having to tone this scene down was a factor in not toning down Allen Foster's big scene later.

> *I think you've got a good start here, David, but yet I think that almost  
> gives it away: ...I would recommend changing it slightly to say that, long  
> ago, a vast,  
> empty city was discovered on Mars. This city was a large one, but it was  
> pretty empty, and no other city or artifact was ever found. The city didn't  
> look too terribly advanced, but it proved that at one time there was a  
> native race on Mars. Then -- something happened to the planet that leveled  
> it and wiped everything out, but it looked almost as if the city was emptied  
> before the disaster occurred.  
> The speculation was that the Martians saw the disaster coming and  
> left -- but, Mark could wonder, could the story really be that the  
> Benefactors came to Mars and evacuated them, the same way they evacuated the  
> Titanians?*

Excellent. That's why you're the plotter on the team!!

*David*

## Writer's Notes

### Overall Theme: "Perfect Love Casts Out Fear"

In the beginning of Journey to the Tenth Planet, there is a feeling of fear that is a growing undercurrent to an idyllic situation. Armstrong Forest has clear overtones of the Garden of Eden; it is called a "pristine paradise" in one place. One phrase ("still waters") is a deliberate pointer to Psalm 23. Zip's obvious deep, demonstrative love for Kathy and the "normal" family scenes set the stage. Gradually things go awry. At the end, fear overwhelms even the Xenobots, and Zimbardo himself goes so deeply into fear that his possession takes him over completely and he becomes a gibbering remnant of a human being. The book, then, will have pristine beauty gradually overcome by fear; fear will be mingled in conflict with love (darkness with light), then at the resolution, each goes powerfully one way or the other. The Starmen into light, love, and truth; and the villain into complete darkness. In the course of the scenes on Nyx, the first impression of utter fear is gradually transformed into a sense of wonder.

### Special Notes

- Dr. O. suffers from Asperger's Syndrome, a neurological disorder whose sufferers are often brilliant but lack basic social skills. Dr. O is an extreme case.
- Title of chapter 13, "Light in the Shadowlands," is a title of a book by Kathryn Lindskoog, a member of my parish and a friend and correspondent of C. S. Lewis. Theme of her book is exposing fraud in the posthumously-published writings of Lewis by the executor of his estate and the anonymous owners of the copyrights of his works.
- A few descriptive lines come from the book, The Starmen, by Leigh Brackett, published in Great Britain in 1954 by Museum Press Limited. The quotations are intended as a tribute.
- One line comes from the booklet, The Challenge of the Hills, by Capwell Wyckoff, published in 1931 by the Board of National Missions of the Presbyterian Church in the U. S. A. The quotation is intended as a tribute.

### Explanation of Names

Sherry Barneveld: A tribute to ultra-fan Mark McSherry, who lives in a town named Barneveld

O: The brilliant but unbalanced astrophysicist who discovers the tenth planet. The name O symbolizes a person who is both complete and empty. The description is based on Hong Nguyen, a Vietnamese Episcopal priest in my locale, but O's personality is similar to that of a man I know named Paul M.

Derf Bors: A name whimsically based on that of the Episcopal Bishop of Los Angeles and a friend of mine, Fred Borsch. To my great surprise, a few days after inventing this name, I found a restaurant in Santa Barbara, CA, named Derf's.



Martin Caidin: Named for an early American astronaut

Kristina Fox: Based on Kristi, a friend of Jon Cooper

Lee Kerrel: Adaptation of Leigh Brackett, name of author of the 1954 book *The Starman*, one of whose characters is Kerrel

### Christian Symbols

1. Armstrong Forest is described as a "pristine paradise," and is intended to be reminiscent of the Garden of Eden. It is patterned after Butchart Gardens in Victoria, British Columbia, and is designed to contrast sharply to the frozen, dark, and fear-haunted tenth planet.

2. The quotation Zip makes to Kathy in *Armstrong Forest* is taken from the earliest versions of George MacDonald's book, *The Princess and the Goblin*. The pertinent passage is:

"There was once a little princess who--"

"But, Mr. Author, why do you always write about princesses?"

"Because every little girl is a princess."

"You will make them vain if you tell them that."

"Not if they understand what I mean."

"Then what do you mean?"

"What do you mean by a princess?"

"The daughter of a king."

"Very well, then every little girl is a princess. . ."

3. "Still waters" in chapter two comes from Psalm 23.

4. Kathy prays at the end of chapter 5.

5. Joe says, "there are more of us than there are of them," reminiscent of Elisha's words to Gehazi in 2 Kings 6:16

6. Description "a sound like many waters" in chapter 17 is reminiscent of the voice of God in Revelation

7. Last line of JTP is based on last line of the *Paradiso* in Dante's *Divine Comedy*, translation by Kathryn Lindskoog (published by Mercer University Press, Macon, Georgia, 1998, pp. 227-228). Dante finished all three portions of the *Comedy* with the word "stars."