Rendezvous with Rama

by

Philip Whitcroft

Based on

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By

Arthur C Clarke

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In a far distant solar system RAMA (Dark cylinder closed at both ends) begins its journey.

Rama accelerates through interstellar space between several solar systems and sling shots around the stars.

Directly ahead is a pale white star. Rama passes Neptune. As Rama approaches Jupiter the inner planets of the Solar System are visible as dots in the distance circling the Sun.

A small but growing human colony on Mars.

The quiet is broken by a loud emergency alarm.

ALARM SYSTEM
Emergency! Emergency! To the cabins! To the cabins! There is an emergency in this area. Go to the emergency cabins immediately! Emergency! Emergency! To the...

Suddenly people come into the corridor and hurry to the “Emergency Cabin” at the end.

ALARM SYSTEM (CONT’D)
This area is depressurizing!
Emergency!...

Bulkhead doors close the section off.

The Observatory door opens and MYRNA NORTON (thin boned, 12) dawdles out followed by DR. CARLISLE PERERA (older, frail) who moves as quickly as he can.

PERERA
Go Myrna, Go! Please just go!

Myrna is disgruntled but runs on ahead to the cabin.

ALARM SYSTEM
The cabin in this area must close in ten seconds,... five seconds, four, three...

Perera struggles into the small crowded room.
ALARM SYSTEM (CONT’D)
Two, one. Cabin closing!

The automated system closes and seals the door.

EXT. MARS ORBIT - SAME TIME

An asteroid streaks towards the planet.

Clamped onto the asteroid is the Solar Survey Spaceship
ENDEAVOUR (large fuel tanks and rockets with a crew module
the size of a single house on the front). Endeavour’s main
engines trust against the asteroid.

INT. ENDEAVOUR, BRIDGE - SAME TIME

Commander WILLIAM (BILL) NORTON (42) is shaken by turbulence.

NORTON
Solar Survey Base Mars. This is
Endeavour. The parking orbit looks
good to us. We are calculating ten
seconds from now to shut down our
engines.

SOLAR SURVEY BASE (O.S.)
We agree Endeavour.

NORTON
Joe, on the mark.

Navigations Specialist JOE CALVERT (handsome and a little
geki, 27) prepares to switch the engines off.

CALVERT
I have it.

Calvert turns off the engines and things settle down.

SOLAR SURVEY BASE (O.S.)
That’s a nice job by you and your
crew Commander Norton. The orbital
construction companies are already
bidding crazy money for the
materials in that rock.

NORTON
Good. We got lucky in the Asteroid
Belt finding this one.
SOLAR SURVEY BASE (O.S.)
Whenever you’re ready you can release the clamps and we will bring you down. Enjoy the ride. Welcome home.

EXT. MARS ORBIT - SAME TIME
Endeavour releases its gripping arms from the rig embedded in the asteroid and blasts away.

INT. SOLAR SURVEY OBSERVATORY, EMERGENCY CABIN - SAME TIME
Myrna and Perera sit next to each other. Myrna is upset.

PERERA
I’m sorry I shouted Myrna but you have to take these drills seriously.

MYRNA
It’s OK Doctor Perera. But they’re only ever drills and there are so many of them.

PERERA
We’re lucky they are drills. It used to be for real, too many times... I’ve lost people I care about before and I don’t want to lose you.

MYRNA
You might be the only person who would miss me.

PERERA
Now that’s not true Myrna. Your parents might be away but they would miss you terribly.

ALARM SYSTEM
That concludes the safety drill for scenario 28-04. The results report will be on Media in a few hours time. Thank you for your participation.

The cabin door opens and they begin to leave.
PERERA
Please Myrna, take the alarms seriously and don’t hesitate to act on them.

MYRNA
OK.

INT. ENDEAVOUR, BRIDGE – LATER

Having landed at the Mars Solar Survey Base the crew switch things off and un buckle themselves. Near Norton is Executive Officer JERRY KIRCHOFF (abrupt tough guy with a heart, 48).

NORTON
Power down. Put everything away or take it with you... Maintenance are due to tear everything apart... yeah... and put it back together again during these three months.

KIRCHOFF
(quietly)
Three months... don’t anyone hurry back.

NORTON
(to Kirchoff)
Yeah Jerry, I know Myrna would be happy with a long delay.

KIRCHOFF
This last trip must have been hard on her with her mother back on Earth.

NORTON
It’s been a change for all of us. Without her it doesn’t feel like a family anymore. There’s only Myrna and me. You’ve got seven in your gang!

KIRCHOFF
Tell me about it! In three months I’ll be so tired I’ll sleep through the launch!

NORTON
From what I hear Myrna’s been very busy with Child Center and working with Doctor Perera. Perhaps I’ll just be in her way.
INT. SOLAR SURVEY OBSERVATORY - LATER

Norton walks into the Observatory research lab where Perera and Myrna are at monitors working.

PERERA

NORTON
Hi there.

MYRINA
(not excited to see dad)
Hi Dad. Just going to finish this one off.

PERERA
Commander Norton, it’s good to see you. How did that iron source asteroid look?

NORTON
It looked good for mining to me. All the samples and data should be arriving with you right after they get them unloaded.

PERERA
Good, good... Myrna has been being very helpful. There are many research students who could learn the proper techniques from her. Isn’t that right Myrna? Come on now. I’ll finish that. You go with your Dad.

Myrna reluctantly breaks from her work. With little enthusiasm she hugs her Dad. They begin to leave.

MYRINA
Oh no, wait. Doctor can we please look at the strange one before I go? Please.
PERERA
Strange, aren’t they all strange? I told you there won’t be anything there. I don’t like going out of sequence.

Myrna pulls a disappointed face and stares at Perera.

PERERA (CONT’D)
OK... Commander do you have five minutes while we chase a computer phantom?

NORTON
(knowingly)
Yes as long as you promise not to send me to land on this ghost.

PERERA
(defensively)
Sometimes we lose them. I try not to recommend too many of those. Right. OK Myrna. Object 31/439.

MYRNA
I’m downloading the new data file.
(to Norton)
The first file suggested that it’s forty kilometers across!

PERERA
There has not been one that big discovered in a hundred years.

NORTON
That’s a big old thing to be hiding.

MYRNA
The scopes started scanning in the right place... The scan widened out... It widened again... It must have moved a long way.

PERERA
A ghost can move quite quickly.

MYRNA
They’re picking it up!

PERERA
OK. We have it. Let’s plot the or...bit. Well, I’ve never seen one of those before.
A Solar System display on the monitors plots the known orbit and slowly projects the expected course.

MYRNA
Doctor Perera, what does this mean? Is it going straight at the Sun?

PERERA
No. It’ll go very close to the Sun, but it is going so fast it will shoot straight out of the Solar System.

MYRNA
Where did it come from?

PERERA
Interstellar space. The great void.

NORTON
This is its first and last visit to the Solar System?

Perera nods.

NORTON (CONT’D)
We aren’t harvesting minerals from that!

PERERA
Very true. Myrna shall we calculate the spin and shape? For completeness.

MYRNA
OK. I’m requesting the light curve data. Here it is...

On Myrna’s monitor a chart appears with a flat line.

MYRNA (CONT’D)
Ur, it doesn’t have a light curve.

NORTON
Of course it does! All asteroids spin. As the surface moves the light changes!

MYRNA
I know, but this one doesn’t. Come and look.

Norton and Perera look at Myrna’s monitor. Norton is bewildered and looks to the puzzled Perera for an answer.
PERERA
Very strange... I'll ask the Earth based group if they can use their equipment to look at this.

Perera shakes his head before walking off deep in thought.

NORTON
Come on Myrna. Let's get your stuff from Child Center and find our accommodation block unit.

INT. ACCOMMODATION UNIT - LATER

Norton and Myrna wheel bags into the small and impersonal temporary accommodation. They check out the rooms and equipment and begin to unpack their things.

NORTON
Have you been sending regular videograms to your mother?

MYRNA
I try... What about you?

NORTON
I contact her occasionally. She seems to be looking a bit better.

MYRNA
Yes she's been going outside! For walks!

NORTON
Being back on Earth has given her some strength.

Perera arrives.

MYRNA
Doctor Perera, did I leave something at work?

PERERA
No, No. I wanted to tell you that 31/439 is even stranger than we thought.

NORTON
(sarcastically)
Has it turned around and gone back the other way?
PERERA
(unimpressed)
You remember it had no light curve?

MYRNA
Yes.

PERERA
Well actually it does have a light curve. But it is a very small variation, very quick and regular.

MYRNA
How many hours does it take to spin around?

PERERA
Four minutes!

MYRNA
Four minutes!

NORTON
How could it hold together spinning at that speed?

MYRNA
Nothing that small could have enough gravity.

PERERA
No, actually that’s not true. A collapsed star, like a neutron star or a black hole, would have more than enough gravity.

NORTON
That would rip apart the Solar System!

PERERA
Yes indeed, that is the good news. If it was a collapsed star orbits and environments would already be devastated. So it can’t be one of those.

MYRNA
So how do we find out what it is?
PERERA
We are trying to persuade the Space Advisory Council to let us use the Farside Space Telescope to look at it. There is already quite a bit of interest. Media have picked it up as a curiosity.

NORTON
While you’re twisting the arms of SAC members we will be checking out the new EarthSide Shopping Zone.

MYRNA
Great, great. Let’s unpack later. Can we go now?

NORTON
I was thinking about in the morning.

MYRNA
Ohh, OK.

INT. EARTHSIDE RETAIL ZONE - NEXT MORNING
Busy, clean and nice, but compact. Capitalist garishness. Loud flashy advertising highlighting image above function.

Holographic machines mirror the customers but with different clothes on. They review current clothes before deciding what to show each customer. Norton is not paying much attention to the dull menswear he is shown wearing. Myrna is enthusiastic in looking at young women’s fashions.

MYRNA
A group of the girls at school wear things like that all the time. Everyone says they look like they have spacesuits on!

NORTON
I wear a spacesuit a lot of the time.

MYRNA
Yes, but you have to. These girls never go outside. One day this other girl came in wearing the same thing, and they made fun because she looked so big in it. But she actually was going outside later that day! Here hold this.
Myrna passes her coat to Norton. Her holographic image no longer wears any coats.

NORTON
Have you been outside at all this last year?

MYRNA
Only once, when we collected rock samples with the Mountain field trip... That girl was only big because she is new here from Earth. She has got the thick bones and the big muscles...

Myrna looks thoughtfully at her own thin arm.

Norton moves and his holographic machine detects the girls’ coat he is holding. It shows Norton wearing a series of girls’ coats. Myrna notices it and laughs.

Norton looks around and sees himself in a crazy coat. He pulls a mock grumpy face and throws the coat at Myrna.

INT. EARTHSIDE RETAIL ZONE, BIOSPHERE - LATER
A Biosphere is the showpiece of the shopping zone.

MYRNA
Wow, it’s the Biosphere. Let’s go and look.

The domed biosphere contains large plants and a watery haze.

MYRNA (CONT’D)
Dad it’s huge. Look at all this space.

NORTON
(less impressed)
For Mars this is quite something.

MYRNA
Look at this tree... and this flower... and all this green... Is all of Earth like this?

NORTON
... in some places... with an open sky, and the wind...
I’m sure it’s more comfortable for Mum. Look it’s a lake!

Myrna runs to the edge of what is really a pond. Norton doesn’t correct her. Norton gets a call on his communicator.

OK... I’m sorry Myrna. I’ve been called in to Solar Survey. Are you going to be alright to find your way back from here?

Aww, OK Dad.

We’ll come back here soon. I’ll see you this evening.

INT. ACCOMMODATION UNIT - EVENING

Myrna is doing some work and listening to music. Norton and Perera arrive looking troubled.

Hi there. Doctor did you get the pictures you wanted?

Have you not seen the news?

Myrna shakes her head.

The pictures are all over Media.

Why?


The music stops and the monitor on the wall shows blurry jumping pictures of Rama.

So... what.. is it?
NORTON
It seems to be some kind of alien space vessel, 50 kilometers long, and 20 kilometers across. It’s been named Rama...

PERERA
A visitor from the stars.

MYRNA
Wow.

NORTON
Myrna, we’ve got some bad news. The United Planets want to rendezvous with Rama. There is only one ship in the Solar System that might be able to do it. Endeavour. It will be difficult but it looks like there is a way.

MYRNA
Are you going? When?

NORTON
Blast off is targeted for fourteen hours. If we don’t go by then we won’t make it.

Myrna is shocked and upset.

MYRNA
You’ve only just got back.

NORTON
That’s one reason why we can make it. The ship is flight ready. The maintenance can wait. They’re frantically fuelling, and loading her up.

MYRNA
So am I staying with Doctor Perera. Is that why you’re here?

PERERA
Myrna, I’m sorry. I’m going as well.

Myrna is distraught.
MYRNA
You can’t! I’ll be alone! I don’t want to spend all my time at Child Center.

PERERA
They don’t know what they will find when they get to Rama. The only research equipment to hand is in the Observatory and I know best how to use it. They are going to put whatever they can onto Endeavour.

NORTON
We need the Doctor’s expertise as well. We know about asteroids and rocks but Rama might not have any of them. We need biology, research... and perhaps diplomacy.

PERERA
I’m so sorry Myrna.

NORTON
We have got to get back to prepare.

PERERA
If there was anyone else...

NORTON
Myrna I know it’s hard. But this is important. Otherwise we wouldn’t go. Please come to the Base in the morning and we’ll say goodbye then.

Perera and Norton leave. Myrna has an idea and calms down.

INT. SOLAR SURVEY BASE, OUTSIDE ENDEAVOUR – NEXT MORNING

Endeavour is being chaotically loaded and fuelled.

KIRCHOFF
We’re going to have to clear this area soon. Get that last load on board! It’s the last chance to say your good-byes everyone. I’m about to start throwing out non-essential people!
NORTON
(to Kirchoff)
Jerry, I’ve checked the fuel, air, water, and food myself. We have what we need to live.

KIRCHOFF
With a launch program this chaotic it will be a miracle if we so much as get off the ground!

Kirchoff dashes across the pad to his wife and five children.

KIRCHOFF (CONT’D)
Big hug everyone, big hug!

They have a big group hug.

Nearby Calvert is embarrassed by his parents.

CALVERT’S MOTHER
Remember don’t touch anything, don’t look them in the eyes, they’ll read your brain you know, and don’t eat anything.

CALVERT’S FATHER
The lad might get a little hungry if he doesn’t eat anything!

CALVERT’S MOTHER
Alien food of course!

CALVERT
OK, OK. I’ve really got to go now. Urm. I’ll urm see you when I get back. Bye then.

Life Support Specialist KARL MERCER (Ordinary looking, details oriented, 35) shakes hands with friends.

CALVERT (CONT’D)
Karl, let’s go.

Calvert and Mercer wave back to the friends and family as they walk to the ship.

Perera comes out of Endeavour and approaches Norton. Both look out searchingly across the pad.

NORTON
Are you looking for your grandkids?
PERERA
No, no. They have all gone their various ways since their grandmother was killed... Is there still no sign of Myrna?

NORTON
I didn’t think she would take it this badly.

PERERA
First her mother leaves her. Now we are doing the same.

Kirchoff is back near the ship.

KIRCHOFF
Bye! Love you all! Right. Come on crew. Let’s get on board and do...

He pauses to look at the countdown at 40 minutes.

KIRCHOFF (CONT’D)
... some of the Launch Protocol.

They board. Norton lingers on the ramp.

INT. ENDEAVOUR, BRIDGE – LATER

Strapped into their seats with less than a minute to launch.

SOLAR SURVEY BASE (O.S.)
(informally to Norton)
No sign of her Commander. We’ll look after her.

NORTON
Thanks.

SOLAR SURVEY BASE (O.S.)
(formally to everyone)
We are at T-minus 30 seconds. Looks good from here. Good luck Endeavour.

NORTON
(to the crew)
Let’s do this right. Remember we’re short handed for this part of the mission. So watch all the stations.

Engines start. Support towers fall away.
SOLAR SURVEY BASE (O.S.)
Engines ignited and 5, 4, 3, 2, 1.

Endeavour blasts off.

INT. ENDEAVOUR, BRIDGE - LATER

The crew are out of their launch suits.

CALVERT
Our trajectory is good. We are on course for our rendezvous with Calypso.

KIRCHOFF
Commander, the good Doctor is still strapped into a launch seat back there looking a bit green. I don’t know how he’s getting on with space travel!

NORTON
Yeah, thanks... You have the bridge.

KIRCHOFF
OK.

NORTON
Karl, Joe, I think we’ll need to give the Doctor a hand to set up.

Norton is followed by Mercer and Calvert to the rear of the bridge where Perera is strapped in gazing out of the window at the Mars colony.

PERERA
The colony is so different from when I arrived. People, good people, used to sacrifice and battle, every day, just to keep it alive. We seemed to spend half our lives in the emergency cabins. But just look at it now. I didn’t think I’d ever leave.

NORTON
Doctor Perera, have you met Joe Calvert and Karl Mercer?

PERERA
Yes Bill. We’ve done some work together on life support equipment.
NORTON
Good. Shall we get you out of that seat? They’ll help you set up some of your equipment.

PERERA
OK. It’ll be quite a challenge. They threw out the mining equipment and threw in anything they could pick up from the Observatory. Hopefully we’ll be able to get the basics into working condition before we get to Rama.

INT. ENDEAVOUR, LABORATORY - LATER

Things are secured to the walls, ceiling and floor, and some things float around. They have cleared a space and are setting up some of the basic tools from the Observatory.

CALVERT
You travel with a whole lot of stuff!

PERERA
Obviously we will have resources available to us from the rest of the Solar System. But there is only so much they can do for us remotely, and with a 10 to 20 minute communications delay.

Calvert and Mercer detach large cabinets from the wall and move them into position.

MERCER
We’re still under orders to OK our every move with Base.

CALVERT
Media says the United Planets have already fallen out over Rama. Mercury’s government was very unhappy about us going anywhere near it.

Bang, Bang... A banging begins from one of the loose cabinets. They notice it but don’t pay it much attention.

MERCER
The Mercurians have all gone crazy. Media Mercury is reporting Rama as an intergalactic invasion ship!
PERERA
Maybe they are right.

MERCER
Media Mercury just spouts whatever their “Sun God” maniac of a dictator thinks will keep them all in thrall to him.

Bang. The loose cabinet explodes open with things flying out. The cabinet goes one way and hits the wall. Myrna and her bag fly out the other way and crash through some equipment.

CALVERT
What the...! Who the...!

PERERA
Myrna! What are you doing here?

Myrna is not prepared for zero gravity and tries to float over to Perera. She misses and floats comically across the room swimming and groping before hitting the other wall, grabbing a beam, and clutching tight to it.

CALVERT
(laughing)
We’d better fix you to the floor.

MYRNA
Sorry Doctor. I thought you might need an assistant.

INT. ENDEAVOUR, BRIDGE – MOMENTS LATER

Norton and Kirchoff monitor the approach of CALYPSO (A ship like Endeavour but newer and cleaner).

NORTON
Calypso. We’re lined up for you to commence your docking approach.

Perera enters followed by Calvert with Myrna holding his arm.

PERERA
Commander I think you’re in for a surprise.

Norton looks around, sees Myrna and jumps up angrily.

NORTON
Myrna! What are you doing here?
CALVERT
Smashing up the laboratory!

NORTON
We really don’t need this! Don’t you know how dangerous this is going to be? And the supplies! An extra person!

Myrna is shocked and tearful at Norton’s anger. The others are uneasy. Kirchoff moves between Norton and Myrna.

KIRCHOFF
Bill. Shall we work it out later?

ERNST (O.S.)
Endeavour we are going to boost our way towards you now.

Norton calms and slowly returns to his task.

NORTON
OK Calypso.

Myrna cries as Calvert and Perera lead her away. Myrna briefly turns back, realizing they are docking with another ship, frightened of being left behind.

MYRNA
(to Calvert and Perera)
We are meeting another ship?

CALVERT
Yeah. We need a boost from Calypso to get us to Rama. Calypso has picked up fuel from two other ships so they can help us. This is the big idea that makes it possible for us to get there.

INT. ENDEAVOUR, REAR OF CENTRAL HUB - LATER

A hatch opens and on the other side the crew of Calypso (Commander LAURA ERNST (Intelligent and caring, 39), Executive Officer BORIS RODRIGO (Quiet and introspective, 41), Navigations Specialist JENNY PAK (Sarcastic, fit and confident, 28), Communications Specialist RUBY BARNES (Worried and matronly, 33)) is gathered with bags and storage containers ready to come through.

NORTON
Welcome aboard everyone. We’ll help you with everything.

(MORE)
We’re thinking about putting it all in the mess for the moment. So we can get underway as quickly as possible.

They come through and the crews meet each other. Pak carries one of the containers and refuses to hand it to Calvert when he offers to take it.

Ernst and Norton are together off to one side.

**ERNST**
Hi Bill. How have you been?

**NORTON**
Not bad Laura. How about you?

**ERNST**
I’m not sure I like this plan for getting to Rama. It’s odd that we are going to use our new ship to boost your old one!

**NORTON**
That did come up in the planning. It was chaotic enough loading up Endeavour at Base. It didn’t make sense to move all the stuff again.

**ERNST**
I know. You’re going to owe me big after this!

**NORTON**
We left our Surgeon behind. Do you want your old job back?

INT. ENDEAVOUR, BRIDGE - LATER

Both crews are in Endeavour’s bridge and the area to the rear of the bridge secured in seats. Myrna and Perera are in the area to the rear looking at monitors with some ability to see and hear towards the front. Pak is sitting next to them.

**PAK**
Are the Solar Survey relaxing their age criteria? Hi, I’m Jenny.

**MYRNA**
I’m Myrna. This is Doctor Perera. I’m Commander Norton’s daughter.
PAK
Do you normally come on these missions?

PERERA
She’s not supposed to be here. She is a stowaway.

PAK
The more the merrier.

MERCER
Commander... Norton the hatches are sealed. The gripping arms are all ready to go.

NORTON
Commander Ernst.

ERNST
Calypso. Main engine start.

Calypso is directly behind Endeavour with gripping arms connecting them. Calypso’s main rear engines start.

The crews are pressured by acceleration and the ships shake.

MYRNA
So we’re getting a push?

PAK
More than that.

NORTON
Is it looking OK?

CALVERT
Looks good from here.

Norton looks guiltily at Ernst who is not happy.

NORTON
Endeavour. Main engine start.

Endeavour’s main rear engines start and blast directly onto Calypso. Calypso begins to smoke, burn and heat up.

They accelerate and shake. Monitors show what is happening outside. Sensors specific to Calypso display warnings.

MYRNA
What are we doing?
PAK
Toasting a very expensive booster rocket.

MYRNA
Isn’t it going to explode?

Perera looks at Pak to suggest not telling Myrna the truth.

PAK
Well, urm... they think it is going to last at least two hours.

MYRNA
So when are we going to separate from it?

Perera shoots Pak a really distressed look.

PAK
They’re hoping for about two... and a half hours.

PERERA
(Unconvincing)
But, they are monitoring some sensors really closely and will be able to tell when it is about to happen, and detach.

INT. ENDEAVOUR, BRIDGE - 2 1/4 HOURS LATER

Sensors are critical. Everyone is stressed and tense.

ERNST
Bill. We can’t keep going like this!

NORTON
If we don’t get enough out of Calypso we won’t have any fuel reserves left to get away from Rama.

Norton looks worriedly towards Myrna.

Bang. Endeavour jolts.

MERCER
She is beginning to go! That was the side booster tank. It could spread!
CALVERT
That’s pushed us into a roll!

NORTON
Separate! Separate! Release the grips!

Mercer pushes the controls.

EXT. ENDEAVOUR & CALYPSO - SAME TIME

Calypso is red and white hot. The two ships twist and roll attached to each other. The gripping arms detach with Calypso in front. The ships spin separately, alarmingly close to each other, before another side blast on Calypso pushes her a small distance away. Calypso explodes flinging a small amount of debris at Endeavour.

INT. ENDEAVOUR, BRIDGE - SAME TIME

The crew feels the explosions and impacts. Alarms and warnings sound.

NORTON
Can we stabilize the heading? We need to stabilize the heading!

CALVERT
I’m trying!

Calvert fights the controls and uses side boosters. Endeavour stabilizes.

ERNST
Are we still going to Rama?

CALVERT
I’ll have the main engines back on soon.

Norton does some quick calculations.

NORTON
All of us are going to Rama.

Norton looks reassuringly around at everyone including Myrna.

INT. ENDEAVOUR, NORTON’S ROOM - LATER

Norton alone in his room watches the end of a videogram from the ADMIRAL of the Solar Survey.
ADMIRAL
... I appreciate that you are busy
but it would help us a great deal
if you could do some presentable
Media. Bill, now that news of your
mission is out, the attention is
unbelievable. Every association,
society, professional group -
serious and crazy, wants to contact
you. We are going to try to shield
you from them. But it would help if
you could give us something to work
with. We are seeing some extreme
views and rumors. You are being
followed by all mankind. I know the
responsibility is great and I’m
happy that it fell to you - someone
as professional as you.

As the videogram ends the door opens and Myrna enters
clutching her stuff.

MYRNA
Hi Dad. I understand you have a
spare cot in here.

Norton and Myrna stare tensely at each other.

NORTON
Yes I do. It’s on that wall. You
know you’re going to have to stay
out of everyone’s way... and
compose a great videogram to
explain this to your mother.

MYRNA
Oh yeah...

INT. ENDEAVOUR, FITNESS ROOM - LATER

The fitness room contains ten exercise machines. Most are
different but there are two stationary bikes and two
treadmills. Mercer is on one of the treadmills, Barnes is on
a stair climber, and Rodrigo is bench pressing.

BARNES
I’m really glad your one of these
is working, ours has... had been
broken for a month.

MERCER
Does Laura always make you follow
extreme fitness regimes?
BARNES
It’s not normally this bad. She obviously wants to get us in shape for whatever is ahead.

MERCER
On this regime I’ll be in the best shape of my life!

BARNES
Yeah. Your muscles are not wasting away while she’s in charge!

First Calvert then Pak come in to start exercising. Calvert checks a display showing his personal fitness regime.

CALVERT
Oh, what to do first?

He turns to a stationary bike just as Pak moves towards the same one.

PAK
You better take it. It looks like you need it more than I do!

CALVERT
No, no. I’ll use this one.

Calvert takes the other bike. The machines have electrical resistance motors that generate electricity so the displays show “Electricity Generated”.

Pak and Calvert start at the same time. Their pace is steady but as Calvert notices that Pak is slightly ahead he goes quicker. Pak sees what Calvert is doing and accelerates.

The others notice a race is breaking out and watch.

MERCER
Joe. I’m not sure that’s a good idea.

CALVERT
We don’t have to let these Calypso types have everything.

Calvert goes quicker. Pak smiles a little and responds.

RODRIGO
Jenny. I don’t think this is proving much.
BARNES
I think it’s proving quite a lot.

Calvert pushes on again but begins to look stressed. Pak lets Calvert catch her and move into the lead.

MERCER
Joe. I wasn’t really talking about Calypso versus Endeavour. There’s another problem.

Calvert is more determined than ever. Mercer looks at Barnes and Rodrigo and shakes his head as they smile knowingly back at him.

Calvert leads with Pak just behind. Calvert tires. Pak is calm. As Calvert struggles Pak suddenly puts on an extraordinary burst of acceleration. Going much quicker than either of them has gone before she flies past Calvert and quickly out into a huge and ever expanding lead.

Exhausted, Calvert slows down and looks on in astonishment as Pak keeps on going.

BARNES
I think what Karl was trying to tell you was that Jenny competed for Mars at the last Lunar Olympics.

CALVERT
Karl... you... couldn’t have... er... just said that?

The other three laugh as Calvert talks. Pak keeps on going.

INT. ENDEAVOUR, BRIDGE – WEEKS LATER

Mercer has a camera. Calvert is in front of him holding some notes. Ernst and Norton are at their stations. Myrna plays a computer game to the rear of the bridge.

CALVERT
OK everyone. We’re doing another broadcast to the Solar System.

Myrna turns off her game and calls up a picture of Rama and pretends to be doing a calculation. The others tidy themselves up. Norton is unimpressed but gets ready.
CALVERT (CONT’D)
As I go around I’m going to ask you
some of the questions being asked
by the public... Karl, go.

Mercer starts the camera.

CALVERT (CONT’D)
As you can see we are on the bridge
of Endeavour and today we are going
to try to answer some of your
questions. The first one is for
Commander Norton. “Commander, what
do you think you’ll say when you
meet an alien?”

NORTON
Well Joe, I should point out that
it is considered quite unlikely
that we will meet any aliens on
Rama. Based on her current orbit
and velocity it is more than
200,000 years since Rama passed
near any star, and that star is an
irregular variable. That’s a type
of star not suited for life. So
they did not start there!

CALVERT
Perhaps they are just sealed
inside.

NORTON
Our experts are telling us nothing
can stay fully sealed for that
long. 10,000 years at most. So Rama
is likely to be a ship that has
exhausted its provisions. A
derelict, drifting among the stars.

Ernst was not paying attention to the question and answer.

CALVERT
Surgeon-Commander Ernst, is Rama a
tomb?

ERNST
It... is possible... that Rama is
an alien version... of the Great
Pyramids. Sent into space with all
of the possessions of a Pharaoh. To
ascend him into heaven...
The others are troubled by this idea. Myrna is especially frightened. She looks apprehensively at the picture on her monitor. Norton looks around hoping that Myrna didn’t hear what was said. He realizes that she did and is annoyed.

In the awkward silence he waves Mercer to stop the camera.

NORTON
Joe! Are there no easy questions?
Laura, if he asks you questions
about curses and mummified aliens
please avoid answering them!

Myrna is even more scared. Norton realizes he made it worse and goes over to Myrna.

NORTON (CONT’D)
Myrna, there’s quite a few crazy ideas around. There’s not much to be gained by worrying about them. We’ll be careful when we get there.

Myrna is not very reassured. Ernst is sympathetic.

ERNST
Myrna, why don’t you go with Joe and Karl to the laboratory and help Doctor Perera answer his questions?

Calvert sheepishly nods and leaves the bridge, followed by Mercer and Myrna.

Ernst and Norton are alone. Norton shakes his head.

NORTON
How can I protect her from this?

ERNST
Bill, I think she wants a dad more than she wants a commander.

NORTON
I was never a very good dad. I’ve missed a lot of time with her. I always thought her mother was better than I was. I didn’t want to get in the way.

ERNST
What happened to Myrna’s mother?

NORTON
She never adjusted to Mars colonial life.
It’s a hard change and she held on as long as possible for Myrna’s sake. She became a shell of her former self. I wasn’t there for her either... When she got the respiratory disease I think she was actually happy! It gave her an excuse to go back to Earth. We all knew she wasn’t coming back. She’s pregnant now. Myrna will have a half-sister that most likely she’ll never meet.

ERNST
Bill... Be her dad.

INT. ENDEAVOUR, LABORATORY - SAME TIME

Calvert and Mercer are preparing to film in the laboratory which is more set up than before.

Perera is working and reaches momentarily for a pain in his stomach. He shakes this off and is positive about the camera.

Myrna searches around the room, sees a small probe with its panel not attached, and starts screwing the panel onto the probe to look busy. Perera is puzzled but then figures out what she’s doing.

PERERA
Joe, Karl. Are you ready for us?

CALVERT
Yes, thanks Doctor.

Calvert signals and Mercer starts filming.

CALVERT (CONT’D)
Doctor Perera, this is a good question for you. “What are we going to do when we get near Rama?”

PERERA
Aah yes, indeed, yes we are just getting ready for that.

Perera looks at Myrna, inviting her to contribute.

MYRNA
Yes we are. We’re just getting these probes ready.
PERERA
We are going to hover about a thousand meters from one end of Rama and conduct some tests. We are going to fire four probes out along the sides of Rama. They will do sensory sweeps along the outside.

CALVERT
Take pictures...

PERERA
Well, yes. That and some other things.

CALVERT
Are we doing anything else?

PERERA
There is the anti-matter test.

CALVERT
The anti-matter test?

PERERA
Yes. You see if Rama is made of anti-matter, and we land Endeavour on it, it will look like the Solar System has two Suns. Briefly, as we are annihilated.

CALVERT
So... we’re going to test that by landing on it?

PERERA
Oh no, no. No, we are going to blast some water at Rama from a safe distance, and watch to see if there is an explosion on contact.

CALVERT
Yes that does sound like a good idea. Myrna, there have been lots of questions for you. Millions I’m told. But let’s just do a couple of them. “Since you are only twelve, why are you here?”

MYRNA
Well, Endeavour had to leave really quickly, and Doctor Perera needed an assistant with experience of the equipment...

(MORE)
and the other students had all gone mountain climbing and weren’t going to make it. So I guess I just sort of had to come.

CALVERT
So you’re saying you were a particularly good fit into Doctor Perera’s equipment.

MYRNA
Yes... that’s sort of it.

CALVERT
“What is the most fun you can have on board Endeavour?”

MYRNA
Er, well, I guess... That would be looking out of the window. Here let me show you... Over this way.

Myrna moving awkwardly but getting better, goes to the window and Mercer follows.

MYRNA (CONT’D)
Look, do you see it?... Out there, that way... We are starting to get closer now and it just keeps getting bigger and bigger. Rama.

Mercer points the camera out of the window at Rama.

EXT. ENDEAVOUR, APPROACH TO RAMA - SAME TIME

Our viewpoint leaves Endeavour through the window and moves back along the side of Endeavour to show both ships.

Over several days, Endeavour approaches the back of Rama and closes in alongside. Pulling back from Endeavour, the immense scale of Rama is apparent as Endeavour is dwarfed.

Endeavour moves past and in front of Rama.

Four small streaks launch from Endeavour and go outwards around Rama.

In close-up, a cloud of mist from Endeavour wisps through space toward Rama. It goes in past the pill-box structures and lands on Rama, briefly forms a dew, and then slides away.
INT. ENDEAVOUR, BRIDGE - LATER

Everyone at their stations. Endeavour in very close to Rama.

SOLAR SURVEY BASE (O.S.)
We have the final OK. Endeavour, you are cleared to land on Rama as planned.

NORTON
Rama Base. Instructions received. We are commencing our landing procedure... OK Joe take us down, well onto... the ship.

CALVERT
We’re still matching the spin. I’m targeting the center.

Calvert boosts Endeavour towards Rama. Myrna, Perera and Pak sit as before to the rear of the bridge.

MYRNA
So we’re going to land in the middle of the circle... What happens if we miss?

PAK
We’re trying to miss. We are going in at the middle but then we’re going to try and rest against one of the pill-boxes.

PERERA
It’s possible that gravity will hold us to the surface anyway. The probe calculations put Rama’s weight at about a trillion tons. It might be enough.

PAK
And if we miss the pill-boxes and gravity is not enough, we will be on the universe’s best carousel ride... Until we get flung off the side.

Myrna is nervous and Perera is bewildered by Pak’s comment.

PERERA
(sarcastically)
Do we have to sit next to you for these things?
Kirchoff has a display showing the distance to Rama.

KIRCHOFF
Ten meters to go. We are on course... Five meters, four, three, two, one...

They land softly. Out the windows the pill-boxes look distant and small. Initially the ship stays still.

KIRCHOFF (CONT’D)
We’re moving! Look! We are definitely moving.

ERNST
I agree. We’re going to need a pill-box.

At first they move slowly before gaining speed.

KIRCHOFF
We’re getting quicker... and we’re spinning... Start using the boosters to control it.

CALVERT
I think I have it.

They are headed towards a gap.

KIRCHOFF
We’ll need to go forward for that one!

ERNST
Perhaps backwards for that one.

NORTON
Joe, pick one and hit it.

CALVERT
Will do.

Calvert waits patiently for the ship to rotate and boosts forward, correcting the spin and going sideways on towards the third pill box on the other side. They boost fully into line at the last moment.

CALVERT (CONT’D)
Brace for impact.

Everyone holds on tight for a big crash. The contact is barely noticeable. They look around to confirm if that was it. Calvert turns towards Norton and nods.
NORTON  
Rama Base. Endeavour has landed.

INT. ENDEAVOUR, MESS - LATER

Norton, Ernst, Calvert, and Pak are eating. Myrna is at the window. Everything is quiet. They are on edge looking at unchanging instruments and the starkly geometric landscape.

Myrna is apprehensive. Calvert decides to try to help her.

CALVERT  
I’ve heard a different suggestion about what Rama is.

Some of them roll their eyes. Norton is skeptical.

CALVERT (CONT’D)  
No. This one’s not scary. It’s nice, it’s nice!

NORTON  
OK, let’s hear it. At least there’s no camera here so you can’t give the whole Solar System nightmares.

ERNST  
How many times do I have to apologize for that?

CALVERT  
Myrna, you know those cuddly two-by-two animal stories about Noah’s Ark? Maybe Rama is a cosmic ark full of cuddly animals it has saved. That’s nice, isn’t it?

MYRNA  
Joe. I’m twelve, not four! And what happens to all the animals that are not saved?

CALVERT  
Oh yeah...

PAK  
If we get in there and find lots of pairs of alien animals Joe can be first to try cuddling them!

The others laugh at Calvert and it breaks the tension.
INT. ENDEAVOUR, NORTON’S ROOM – LATER

Norton is trying to read an “EVA Equipment Report” but struggles to concentrate. Perera enters.

PERERA
Base confirms our calculations. We have three weeks here before it gets too hot. There are no vibrations, no electrical currents, no radioactivity...

NORTON
No welcoming committee.

INT. ENDEAVOUR, AIR LOCK & BRIDGE – 24 HOURS LATER

Norton and Mercer are standing in Endeavour’s air lock wearing space suits. Kirchoff and the others are at monitors on the bridge.

KIRCHOFF
Commander, that’s it. We’ve been here 24 hours. As instructed.

NORTON
Good. Are you getting the full array of telemetry?

KIRCHOFF
Confirmed.

NORTON
OK. Open the outer air lock door.

The door opens. Norton and Mercer boost towards the pill-box the ship is resting on. They inspect Endeavour for damage.

NORTON (CONT’D)
Endeavour looks good.

They turn to the pill-box. After a few meters Norton comes across an interruption in the smooth metallic wall. Six radial slots are recessed with six bars like the spokes of a wheel within them.

Norton is confused, then notices deeper recesses at the ends of the spokes. Instinctively, he puts his hands into two of them and pulls. The wheel slides smoothly out of the wall. Norton is shocked and freezes with embarrassment.
KIRCHOFF
OK Bill, let’s not run that one past Base.

ERNST
They may know we’re here now. Are we detecting any changes?

RODRIGO
No Commander. It is as before.

NORTON
200,000 years to become vacuum welded, and it’s as smooth as silk.

MERCER
Well Skipper, are you going to turn it?

NORTON
We can’t check everything with Base. What do you think Karl?

MERCER
It’s a manual control for an air lock. It’s a sensible precaution for any technology.

NORTON
And it would be fail-safe?

Mercer nods. Norton grips the wheel. It does not move.

NORTON (CONT’D)
Give me a hand.

They each get a grip and again it does not move.

MERCER
The other way?

There is no resistance and the wheel turns through a full circle. Half a meter away the wall opens slowly like a clamshell. They look in at a short corridor with another air lock visible in the darkness at the end.

INT. ENDEAVOUR, LABORATORY - 2 DAYS LATER

Perera, Myrna and Pak are at a large graphic map of the corridors and air locks explored so far.
PERERA
The seismic soundings showed the hull as being about half a kilometer thick. It should end about here.

Perera points close to the end of the graphic.

MYRNA
Also, there are three pill-boxes, three tunnels, with three air locks before the long central corridor. They’re through two more at the other end. The third is going to be the last!

Perera and Pak silently nod their agreement.

INT. RAMA, LAST AIR LOCK - LATER
Ernst, Calvert, Norton and Mercer are inside the corridors.

NORTON
OK. Let’s find out what’s inside.

Mercer turns the final air lock control. The door opens to reveal total blackness.

Norton boosts himself forward attached to a safety rope carrying a camera. He floats across a platform and out into the open blackness. His light shines into the space and reveals nothing.

He realizes he is clutching his safety rope very hard. The rope reaches the end of its length and still he sees nothing. Unsettled, he turns around to look back at the entrance and scans his light across the wall.

He is hovering over a small crater in a much larger crater. All around there is a complex of geometrically precise terraces and ramps. About a hundred meters away are the exits of the other two air locks.

NORTON (CONT’D)
I’m sending out a flare. Here goes.

He ignites a flare. As he throws it, he tries to stop himself, realizing he is not sure what he might hit. Its small light spins away into the darkness.

Norton is exposed and vulnerable. He calms himself and suddenly remembers to close his eyes and point the camera.
The flare explodes with a bright flash. Norton slowly opens his eyes and finds himself at the base of a crater 16 kilometers across. The walls of the crater slope up around him until they merge into the solid wall going up on all sides. On the crater surface are three very long stairways stretching from the air locks to the wall.

Awed and disoriented, he shakes his head, and twists around to face along the cylinder. The impression is of standing on a very high hill looking out along a valley stretching into darkness.

Down on the surface below are possible highways, canals, and towns. The surface circles around so that the same thing is on the sky above.

At the limit of vision is a band of deeper darkness forming a complete circle ringing the interior.

NORTON (CONT’D)
A... Cylindrical Sea!

The flare gutters and dies and Norton is back in darkness.

INT. ENDEAVOUR, NORTON’S ROOM - NEXT DAY

Norton is sleeping peacefully in his bed. Myrna comes in.

MYRNA
Dad, Dad, wake up.

NORTON (Worried)
What happened?

MYRNA
You’ve been asleep for ten hours!

NORTON
Oh, anything else?

MYRNA
The spotlights and cameras are making good progress with the mapping. They’re using familiar names for everything – London, New York, Copernicus... The inside surface area is four thousand square kilometers!

NORTON
Yes, it’s big all right!
**MYRNA**

The test descent team is waiting for an OK... and, oh yes, there is a message for you from Base.

Norton gets up and goes to his monitor. He briefly looks at Myrna, as he considers if he should play it, and plays it anyway. He listens while cleaning his teeth, etc.

**ADMIRAL**

Commander you are OK to descend the stairs. Media is following your every move. The Mercury representative has left the monitoring committee, so we should have less resistance to your progress. Mercury has gone quiet. Maybe they are not so troubled anymore. You are doing a great job. Good luck Bill.

**INT. ENDEAVOUR, REAR OF THE BRIDGE – LATER**

Norton and Myrna arrive. Rodrigo and Pak are on the monitoring stations.

On the monitors Ernst, Calvert and Mercer are in a spotlight steadily floating head first down one of the ladders.

**NORTON**

How are they doing?

**RODRIGO**

They’re OK.

**PAK**

I think Mercer might have been skipping some of his fitness regime.

**NORTON**

Laura. How are you doing?

**INT. RAMA, LADDERS – SAME TIME**

Ernst is descending the ladder head first.

**ERNST**

Guys, I’m going to stop... Bill, this is not too difficult but the Coriolis force is gently pushing me away from the ladder.

(MORE)
ERNST (CONT'D)
You have to concentrate otherwise you drift away from the ladder sideways as Rama spins.

CALVERT
Is it just me or is the gravity starting to drag us upwards?

MERCER
It is only a fraction of a gee.

CALVERT
That fraction of a gee is enough to make me think I’m diving head first down an eight-kilometer cliff!

ERNST
You’re right. We should try going feet first. Watch out, I’m going to swing around.

Ernst swings around. She looks past her colleagues up to the blinding distant spotlight. Then she looks down past her feet and briefly reacts to vertigo.

ERNST (CONT’D)
Whoa... Take it steady you two... and don’t look down.

CALVERT
We’re already looking down!

ERNST
You’ll see what I mean. Come on. We should be off the ladders and onto the steps soon.

As Calvert and Mercer turn around Ernst lets go of the ladder. Very slowly she begins to fall.

INT. RAMA, STAIRS & ENDEAVOUR, BRIDGE - LATER

The crew monitoring the mission has Perera with them.

PAK
There is something undignified about this.

On the screens Ernst, Calvert and Mercer are descending the stairway by sliding down the handrail.
MYRNA
It's difficult to walk down stairs in low gravity.

PERERA
The stairs would only really be useful for going up.

PAK
I can't believe the Ramans ever did it that way.

PERERA
The stairs were probably only for emergencies. Those slots were probably for some kind of vehicle.

Ernst, Calvert and Mercer reach a platform.

ERNST
We have reached the two kilometer platform as planned.

NORTON
I hope you enjoyed yourselves. Climbing back up won't be quite so easy!

MERCER
That's what we're here to check.

Mercer walks back and forwards jumping a little. Ernst gets out some detection instruments. Calvert looks at the steps on either side of the platform.

CALVERT
The steps are definitely getting smaller as we go down. They are changing size to allow for the changing gravity.

MERCER
It's already a tenth of a gee here. You really notice the difference.

ERNST
There is no change of temperature. Still just below freezing... But... the air-pressure is higher than at the hub. Doctor Perera have you detected anything that might be a problem?
PERERA
No. It looks sterile to me.

The others are confused. Ernst works on her space suit.

PAK
Commander, Laura is overriding the safety systems of her space suit!

NORTON
Laura, what are you doing?

ERNST
I’ve checked the composition. At this altitude it’s not ideal.

RODRIGO
What about the risk of contamination? Base is not going to like this.

PERERA
There does not appear to be any risk and we are not going near any other humans for a long time. So we will be well quarantined.

PAK
I don’t want to be quarantined. Joe, Karl, can’t you stop her?

Calvert and Mercer look at each other and shrug concerned agreement.

MERCER
This would be the first other world where we can work without breathing gear! Good luck.

Ernst stops work and brings her hand up to her visor.

ERNST
I’m going to take a sniff.

Ernst cracks open her mask tentatively and sniffs at the air very softly. She breathes a little, and takes a deeper breath. She closes her visor.

NORTON
Laura?

ERNST
Well it’s kind of... stale and musty with a metallic tang...

(MORE)
and at this pressure you’d be dead pretty quickly. But further down I think we should be OK.

The others relax.

NORTON
OK. There’s no point going any further till we’re ready to go all the way. Let’s find out how you do coming up. We’ll be timing you. But take it easy.

INT. ENDEAVOUR, REAR OF CENTRAL HUB - LATER

Norton arrives to find Ernst in her space suit less the helmet and gloves finishing medical checks on Calvert and Mercer. They are out of their space suits wearing thermosuits. The last check is a muscle scan using a device placed against the back of their calves.

ERNST
It looks like you guys are OK. But no more skipping fitness requirements!

Mercer winces as he and Calvert head off to their quarters.

NORTON
So what are we really looking at?

Ernst begins to take off the remainder of her space suit.

ERNST
Going down will be easy. It looks as if we can slide most of the way on the bannister!

NORTON
Jerry is working on packaging things, and using sleds to get our stores and equipment down. By throwing them off the edge!

ERNST
Eight kilometers! That’ll be quite a shot.

NORTON
We can either carry them down or collect them at the bottom.
Ernst finishes taking off her space suit. Still wearing a thermosuit she starts doing medical checks on herself.

ERNST
We’re very lucky the air is breathable. We can probably leave our breathing gear behind at Level Three. Beyond that we obviously need food, water and thermosuits, and we’re in business.

NORTON
And climbing back out again?

ERNST
Difficult to estimate. I’d say we should allow six hours, including some break time. Hopefully living in one half gees will build up some muscles and make us quicker.

NORTON
That leaves the darkness to worry about.

ERNST
We’ll need a full set of searchlights at the hub. A little help?

Ernst wants to scan her calves but can’t do it herself. Norton takes the device and puts it on Ernst’s calf muscles.

NORTON
A light beam for each of us will help... So we can go camping down on the plain?

Ernst is briefly distracted by the physical contact with Norton. Norton senses it and is also self conscious.

ERNST
Yeah, er I’d better go clean up.

They linger briefly before moving apart.

INT. RAMA, CAMP ALPHA & HUB - TWO DAYS LATER

Norton and Calvert are at Camp Alpha at the base of the Alpha Stairs. The Camp is in disarray with the sleds just beginning to be unpacked.

Up at the hub Kirchoff prepares to send down a sled.
KIRCHOFF
Skipper I’m sending down package number five. It has a beacon, its spotlight has picked it up. Are you all OK to receive it?

NORTON
Yeah Jerry, Joe and I could use a workout. Try to aim this one somewhere near the Camp!

Kirchoff looks down at the distant camp lit by spotlights. He moves sideways along the hub platform and grips the sled. He judges the impact of Rama’s spin.

KIRCHOFF
This looks about right. Skipper, it’s on its way now.

He pushes the sled and it moves off slowly followed by a spotlight. The spotlights are a bank of lights mostly following beacons.

INT. RAMA, CAMP ALPHA & HUB - EIGHT MINUTES LATER

Norton and Calvert assemble some equipment. Ernst and Mercer are approaching the Camp under a spotlight dragging a sled.

Kirchoff at the hub looks down at the fast moving sled nearing the bottom.

KIRCHOFF
Commander, I think this one is looking good.

NORTON
OK. We see it.

CALVERT
It’s coming right at us.

Calvert looks around at the darkness.

CALVERT (CONT’D)
Do you think the Ramans mind us throwing things down their walls?

NORTON
If they’re bothered by anything it’s probably our lousy aim!
CALVERT
We’re going to score a few points with this shot. It’s a shame it’s the last one.

The sled bears down on them at over 70 miles an hour. They are unconcerned.

Kirchoff looks down and reaches for a control panel, pauses for a moment, and pushes a button. Nothing happens. He is flustered and pushes the button again much more urgently.

The sled throws out parachutes and drag brakes, slows down, and stops near the camp.

NORTON
Nice Jerry. Thanks. We have package five.

They continue assembling equipment. Ernst and Mercer arrive.

ERNST
Great. Do we really need to set up the tents?

CALVERT
Technically we might be indoors but I think I’m going to need some walls to sleep.

MERCER
I’m with you on that one.

NORTON
Did you see anything where you went?

ERNST
It was a half a kilometer just like this. Metallic, spotlessly clean and totally quiet.

NORTON
I’m thinking that tomorrow we will go and take a look at the buildings we’re calling Paris and stop at the Straight Valley on the way.

CALVERT
I always wanted to see Paris!

The others nod agreement and continue assembling Camp Alpha.
INT. RAMA, STRAIGHT VALLEY - NEXT DAY

Norton, Calvert & Ernst walk across the oppressive dark plain of Rama under spotlights. Calvert is whistling a tune but stops when Norton looks at him. Norton gets a communication.

  MYRNA (O.S.)
  Dad, how is it going in there?

Norton is happy to hear Myrna.

  NORTON
  It’s hard work walking so far in this gravity.

  MYRNA (O.S.)
  Why didn’t we bring a car?

  NORTON
  They’re not normally much use on asteroids! Are you looking after my ship?

  MYRNA (O.S.)
  Boris and Jerry are trying to avoid each other... I’m bored. Doctor Perera is working on weather calculations! I don’t understand it.

  NORTON
  (looking around)
  Weather?

At the edge of the spotlight is a break in the surface.

  CALVERT
  That’s the edge of the irrigation channel.

Norton ends his communication.

  ERNST
  Why would an irrigation channel run ten kilometers from here straight towards the Sea, and stop short of it?

Norton uses a finger pad to move a spotlight out across the valley, along it a bit, and back the other way. The valley is 40 meters deep, 100 wide, with 60 degree sloping sides.

Norton targets the bottom of the valley which has a white, ice like appearance.
NORTON
I’m going to get a sample of that.

Norton goes down into the valley on a safety rope. He pauses before stepping onto the white surface tentatively. He doesn’t slip at all. He rubs his hands across it.

NORTON (CONT’D)
It’s not water.

Norton shines his light into the surface and it glows brightly but he can’t see anything in it. He reaches for his geology hammer. He taps the surface once and it clunks. He hits it again harder with a louder clunk. He takes a swing and the noise is a crack that reverberates around the valley.

Ernst and Calvert are worried. Norton stops himself with the hammer raised above his head. He looks around as the noise fades. The surface is unbroken and the quiet returns.

CALVERT
(Quietly)
Let’s not smash the Sistine Chapel.

Norton’s heart is racing. He walks along the surface breathing heavily and struggling to settle himself down. The strangeness and stress of the situation has built up and he takes some time to get back under control.

ERNST
Bill, have you found something?

NORTON
No, there’s nothing down here. Haul me up... We’ll head straight to Paris.

INT. ENDEAVOUR, REAR OF THE BRIDGE - DAYS LATER

Myrna is recording commentary for Media. She displays pictures the first of which is a map of Rama. Rodrigo is in the background.

MYRNA
After investigating one of the Straight Valleys. Here. The explorers visited three of what we are calling towns. The first one we have pictures of is Paris. That’s it from the Hub. Several hundred buildings with wide streets.

Myrna pauses her camera.
MYRNA (CONT’D)
Boris, do you have to float around like that? I’m trying to do Media.

RODRIGO
Why? Are there not enough anchor people in the Solar System?

MYRNA
My Dad asked me to. It saves them from having to do it. Anyway I don’t have much else to do around here.

Myrna starts her camera again.

MYRNA (CONT’D)
These are the close up pictures. As you can see if Paris is a city, it is a strange one. No windows, no doors, all plain rectangular buildings.

Perera arrives troubled and pale.

MYRNA (CONT’D)
Oh look, here’s Doctor Perera. Doctor what do you think these buildings are?

PERERA
(hurriedly)
I’d say storage facilities. The grooves that run along the ground into each structure might allow for moving heavy materials in and out.

Perera stops the camera.

PERERA (CONT’D)
I have to contact the Commander right now.

RODRIGO
I have the channel open... Commander do you have a moment for Doctor Perera?

Norton comes on screen eating at Camp Alpha.

NORTON
Yes Doctor.
PERERA
I think there is a serious problem. You’re still cold inside Rama, yes?

NORTON
It’s a bit nippy.

PERERA
We are inside the orbit of Venus and getting closer to the Sun.

RODRIGO
Endeavour’s cooling system is already working quite hard.

PERERA
Yes. The inside of Rama is cold and the outside is getting hot. That heat must be working its way through the hull.

MYRNA
It might be nice if it warms up a little.

PERERA
Yes but I think it will cause something else. The rising hot air will meet at the Hub and begin to swirl. In one word, hurricane.

NORTON
Have you run this past Base?

PERERA
Yes, and they don’t agree. Their expert has an obsession with weather patterns on Venus and a brilliantly theoretical explanation of why I’m wrong.

NORTON
Well Doctor you know I can’t stop the exploration without Base agreeing.

PERERA
I know. But there is something you can do. Just in case I’m right.
INT. RAMA, EDGE OF THE CYLINDRICAL SEA - NEXT DAY

Ernst, Calvert and Pak walk across the plain under a spotlight approaching the edge of the Sea.

CALVERT
Let’s take it slow up to the edge.

PAK
(sarcastically)
Someone with your great flying coordination could dance along the edge of a fifty meter drop!

CALVERT
You’re welcome to it.

ERNST
No messing around you two. Be careful.

The edge of the Sea cuts the ground off in front of them. The spotlights directly behind them cast vast shadows out across the frozen surface of the Sea.

PAK
(looking sideways and up)
You can see the curve from here.

ERNST
Let’s take a look at New York.

Ernst uses the spotlight controls to move their beams away to the island in the sea, New York. Standing in the dark both Calvert and Pak unconsciously step back from the edge of the cliff.

New York is lit up revealing tall structures with a mechanical symmetry.

ERNST (CONT’D)
Let’s see if we can find any docks, harbours... or ships.

The spotlights spring back onto them. They walk along the rim of the Sea.

CALVERT
Looks like we’ll have to use the rope to get down.

PAK
What’s that along there?
CALVERT
Some steps?

INT. ENDEAVOUR, LABORATORY - SAME TIME

Myrna approaches Perera.

MYRNA
Doctor I’ve been thinking about what you said about Rama warming from the outside.

PERERA
Yes.

MYRNA
Well I was thinking about the Sea. It is probably melting from underneath and when ice turns to water it shrinks. So does that mean that the top layer will collapse downwards at some point?

Perera thinks briefly and suddenly is very concerned.

INT. RAMA, STEPS TO THE SEA & CAMP ALPHA - MOMENTS LATER

Ernst and Calvert are in the shadow at the bottom of the steps using flashlights. Ernst puts a foot on the ice.

ERNST
Yes. This is definitely ice.

Ernst is initially tentative and then strides out across the ice. Calvert looks a little uneasy but follows Ernst.

At Camp Alpha Norton hurries with his communicator.

NORTON
Laura, come in now. Laura, come in! Joe, are you there! Joe!

He pauses to figure out who was with Ernst and Calvert.

NORTON (CONT’D)
Jenny! Come in. Anyone talk to me!

Pak hears this at the top of the steps.

PAK
Yes Commander, this is Jenny.
NORTON
Your group must not go on the ice.
Do you understand! You must not go on the ice!

PAK
Ernst and Calvert are on the ice.
They’re getting a sample.

Pak looks as Ernst gets out a geology hammer.

NORTON
The ice could collapse at any time.
Get them off the ice!

Ernst hammers on the ice. Pak runs down the stairs.

At Camp Alpha Norton is worried. Suddenly there is an almighty rending crack sound, then a long-drawn-out series of crystalline crashes like a million glass-houses being demolished.

NORTON (CONT’D)
What is that? Where is that? Get the lights to the Sea!

The spotlights move to the Sea but they can’t see the Sea on the side they are on. They move the beams all around the Sea.

The beams get to the top of the Sea up above them as vast shards of ice break up and collapse. One huge piece rears side ways on into the sky and crashes into the water. Norton and the others at Camp stare at the spectacle with terrified concern.

Standing on the ice as the noise continues Ernst has a piece of ice in her hand.

CALVERT
What did you do?

PAK
Laura! Joe! Run! Run! Look!

Pak is near the bottom of the stairs pointing almost directly up. Calvert and Ernst look up and realize they are in trouble. The ice cracks around them. They run as the ice behind them out in the middle of the sea collapses violently.

They make it to the steps just as the ice falls away. All of them run up the steps with the water splashing behind them.

They dive over the top of the steps to safety and scramble away from the edge ultimately lying on their backs.
Above them is the now widely lit up spectacle of a tumultuous circular sea. Sickeningly disoriented they quickly twist to look at the ground.

ERNST
This is Ernst we are all... OK.

Ernst looks at the sample of ice in her hand.

INT. RAMA, CAMP ALPHA & ENDEAVOUR, LABORATORY - NEXT DAY

Norton takes off his shoes and communicates with Perera who is in the Laboratory with Myrna.

PERERA
Commander I received the sample of the sea and we’ve done some tests on it. It is water but you wouldn’t want to drink it, or swim in it.

NORTON
That’s a shame. Joe was planning a pool party.

PERERA
It’s a dilute organic soup containing traces of almost any carbon compound you’d care to name, as well as phosphates and nitrates, and dozens of metallic salts.

MYRNA
Yes and there’s no life at all. Not even micro-organisms.

NORTON
Which rules out going fishing.

PERERA
Bill, the fact that the Sea has melted means that the wind could come at any time. I think it will pick up very quickly.

NORTON
We have what we need in place and we’re all going there soon. If nothing happens I’ll tell Base we’re doing some tests!

PERERA
It’s not a question of if. Move quickly.

(MORE)
As the air inside Rama heats it will rise towards the central axis. It will hold some of its spin speed on the way up. I’m calculating winds between two and three hundred kilometers an hour!

Kirchoff, Mercer and Pak walk in. Norton ends his communication.

NORTON
Jerry, how about the change of scenery?

KIRCHOFF
How about the change of gravity more like! All this walking is no mucking about.

NORTON
So what was London like?

PAK
As the pictures suggested...

MERCER
Yes a collection of cylinders linked together by pipes connected to what are obviously pumping stations. Everything is sealed up.

KIRCHOFF
Waiting for the day when we decide to blow or laser our way in.

NORTON
(looking around)
We’re not doing that... until we have no alternatives.

Pak’s hair flutters in the wind. They all feel the breeze and look at each other with concern.

INT. RAMA, STRAIGHT VALLEY - LATER

The crew inside Rama except Calvert are on the plain approaching the Straight Valley. The wind is ferociously strong. They struggle to hold to each other and keep moving.

NORTON
We are nearly there!
They fight their way forward and over the edge of the Straight Valley. They tumble down to the corner of the valley where Calvert is waiting for them in a secured tent.

CALVERT
I was starting to think you had all gone without me.

Inside they are sheltered but the wind continues to rattle and howl outside.

CALVERT (CONT’D)
Does anyone want a packet of tea?

The others look at him with relief.

PAK
So will this wind ever let up?

NORTON
Doctor Perera thinks it may last at most a day before some kind of equilibrium is established and everything settles down.

MERCER
Best get comfy then. Where’s that packet of tea?

INT. ENDEAVOUR, BRIDGE - LATER

Rodrigo, Barnes, Perera and Myrna listen to a speech.

MERCUERY’S DICTATOR (O.S.)
... so it is for the greater glory of Mercury and the survival of mankind that we have acted.
(Applause)

MYRNA
Why does Base want us to hear a speech from Mercury’s dictator?

PERERA
Shush, we’re about to find out.

MERCUERY’S DICTATOR (O.S.)
... we must prevent Rama from carrying out its mission to manoeuvre into a Sun dominating orbit!
(Applause)
RODRIGO
We’d all be Sun worshippers living that close to it.

MERCURY’S DICTATOR (O.S.)
Raman technology clearly far exceeds ours and any encounter we have will lead to our destruction or our slavery! Mercury has responded to the threat and all future generations will thank us for it!

(Applause)

MYRNA
What kind of response?

MERCURY’S DICTATOR (O.S.)
A high energy nuclear device will arrive at Rama in the next few hours. We will give the crew of Endeavour twenty-four hours to get clear of Rama before we Mercurians become the saviours of all mankind!

(Applause and Cheering)

The broadcast stops.

MYRNA
Why are they doing that? What is there to be afraid of?

The others look at each other for an answer.

RODRIGO
Myrna, I’ve been to Mercury. It’s a brutal, dangerous place for only the toughest people. They use nuclear weapons for mining because the Sun’s radiation is so savage that some extra contamination doesn’t matter. They live deep underground in a constant battle with their planet and with the Sun.

MYRNA
So why do people live there?

RODRIGO
Limitless solar energy gives them great rewards.
PERERA
But they pay a price. Their values are twisted. They fight first and usually don’t bother to ask questions later.

BARNES
We have to try to warn the others.

INT. RAMA, STRAIGHT VALLEY, SHELTER - LATER

The wind continues but they are relaxing.

CALVERT
So where should we be looking for the Ramans?

MERCER
We need to get to New York.

KIRCHOFF
Back on Endeavour Ruby was telling me that she thinks we have what we need to build a boat.

PAK
You’re not getting me out on that Sea! Anyway there is also the whole Southern End that we haven't been to.

CALVERT
To get there you have to sail over the Sea, and the cliff on the other side is not fifty meters with steps. It’s a shear five hundred meters!

PAK
(qietaiy)
Sounds like we need to fly.

MERCER
Why a fifty meter cliff on one side, five hundred meters on the other?

Ernst and Norton are in the corner talking to each other.

ERNST
Myrna’s missing her mother.
NORTON
Life in Space isn’t for everyone.
She left us for wide open spaces.

ERNST
If you’re born away from Earth like me and Myrna you don’t get that choice. Exiled by gravity from our origins.

NORTON
You don’t want to go to Earth.

ERNST
OK, OK, no I don’t... some of us are at home in Space... Sometimes it’s difficult though. You stand on the Moon. Earth’s a hypnotic disk, dazzling, and so close. Like you could reach out and touch it.

Kirchoff rushes over holding his communicator.

KIRCHOFF
The wind has eased, the communicators are getting signals again.

RODRIGO (O.S.)
You must all leave Rama immediately.

INT. RAMA, CAMP ALPHA - LATER

From Camp Alpha they are going onto the stairs at 20 metre intervals. Norton and Ernst are last and take a final look at the now chaotic camp as they leave.

ERNST
Crystal clean for longer than the whole of human history...

NORTON
We do that most places we go.

INT. RAMA, LADDERS NEAR HUB - LATER

Kirchoff and Mercer have reached the hub. Pak, Calvert, Ernst and Norton are climbing the ladders.

Norton is bored, tired, and counting rungs.
Norton is consumed by dazzling light. His eyes shocked closed, he misses his grip on the ladder, and floats blindly flailing his arms. He grabs the sidebar of the ladder and holds on tight.

Norton cannot open his eyes. He tries and tries again. Finally he can look at the dark gloves on his own hands.

NORTON (CONT’D)
Dawn...

He glances over his shoulder but is stunned and cannot look anymore. Panicing he grips tighter to the ladder. Slowly he steadies himself.

He moves behind the ladder to face outwards and attaches his safety clip.

He opens his eyes and sees an immense view. The Straight Valleys are gigantic strip-lights beaming blueish light at the opposite side of the world.

He can see the full length of Rama. The northern plain is in the foreground with towns and wide open spaces. The sea is in the middle with the island New York and the high Southern Cliff. The Southern continent looks like a patchwork but is difficult to make out. The far end is forty kilometers away, dominated by enormous spikes pointing right at them.

Norton remembers the others. The three he can see are each clinging to the ladder.

NORTON (CONT’D)
I’m here. Is everyone OK?

MERCER (O.S.)
I think I see everyone.

NORTON
Keep your eyes closed until you’re sure you can take it.

Ahead Calvert catches up with Pak who is not moving.

CALVERT
Jenny, just stare at the wall and keep climbing. It’s not far to the top.
Pak is comforted. She is annoyed with herself. She begins to climb slowly upwards.

Backing away from the climbers shows the cavernous enormity of the Northern end of Rama. A sweeping view of the Northern continent includes a glimpse of the shelter now sitting on one of the lights.

Back across the sea into New York and behind a Spider Biot (a small sphere with 3 eyes and 3 whiplike legs that moves by whirling around) as it emerges from the caverns and fixes it’s long cold gaze on the crew.

EXT. SPACE, NEAR RAMA - LATER

A nuclear missile boosts to intercept Rama and as an impact looks imminent the missile adopts a parallel track and its boosters stop.

INT. ENDEAVOUR, BRIDGE - LATER

The disconsolate crew look at the missile.

PAK
I can’t believe they’re going to do it.

CALVERT
A whole world comes to visit us and we destroy it.

INT. ENDEAVOUR, BRIDGE - LATER

Ready for blast off, they finish the launch sequence.

NORTON
Joe, blast off in 5, 4, 3, 2, 1...

Calvert presses the button and the engines make noise. Emergency warnings activate.

CALVERT
I’m aborting the launch, abort the launch!

Calvert shuts down the engines. Norton is not very concerned. Ernst is worried and intervenes.

ERNST
Karl, what happened?
Mercer looks inattentively at a problem diagnosis display.

MERCER
I think the guidance system failed when we started up the engines.

ERNST
The missile! We can’t sit here!

NORTON
We’re going to have to tell Mercury we need another twenty-four hours, and hope they give it to us.

INT. ENDEAVOUR, MESS - LATER

Mercer, Calvert, Ernst, Norton, Myrna and Perera are in the mess. The mood is very down.

PERERA
How long can we maintain the pretense that we are doing something here?

NORTON
It’ll be a little while yet. Base is running diagnostics and the Solar System’s finest minds are working on our “technical” problems. Eventually one of them’s going to realize we pulled the plug out on the guidance computer.

CALVERT
Mercury won’t give us any more chances after this. We’re going to have to go.

NORTON
The Admiral says the extra time has done no good with the diplomacy. Apparently Mercury’s politicians are very angry.

PERERA
It doesn’t look like there is anything for us to do. It’ll do no good sacrificing ourselves with Rama.
INT. ENDEAVOUR, NORTON’S ROOM – LATER

Norton is depressed in his room when Rodrigo arrives.

    NORTON
    Boris, what’s the problem?

    RODRIGO
    I think I can do something about
    the missile but I’m not sure it’s
    right to try.

    NORTON
    What do you mean?

    RODRIGO
    To attempt what I have in mind
    would risk all of our lives. I
    can’t ask anyone to do it if they
    don’t want to. I know I believe
    Rama is special and is worth
    saving.

    NORTON
    What’s your plan? If it sounds
    plausible we’ll get the crew
    together and let everyone decide
    for themselves.

INT. ENDEAVOUR, MESS – 1 HOUR LATER

They are all gathered in the mess. The mood is thoughtful.
They listen intently to Norton and Rodrigo.

    NORTON
    Well you’ve all heard the plan. As
    we said at the beginning the
    decision is for each of us to make.
    We won’t do this unless we all
    agree.

A long silence.

    PERERA
    The decision is easiest for me.
    I’ve got the least to lose. The
    chance is worth it. I agree.

    KIRCHOFF
    I agree as well. I could not look
    my kids in the eye if I don’t stand
    for something.
ERNST
I agree.

BARNES
Yes.

MERCER
You can’t always know what the outcome will be, but you have to do the right thing anyway.

CALVERT
I’m game.

PAK
Yeah.

It looks like all are in agreement and they relax. Myrna is staring out of the window at Rama, and Norton is staring at Myrna. The others notice they have not yet heard from Myrna and they all look at her.

Seeing Myrna under focus Norton speaks before she has to.

NORTON
I don’t agree.

The others are surprised.

NORTON (CONT’D)
Myrna means too much to me. I have too much to lose.

Myrna looks around quickly with tears in her eyes.

KIRCHOFF
I guess that’s it then. We’ll prepare to leave.

MYRNA
No Dad. I won’t let you do it. You can’t make the decision for me. I choose to save Rama and I know you do too.

Norton smiles proudly at Myrna and nods.

INT. ENDEAVOUR, BRIDGE & SPACE, OUTSIDE ENDEAVOUR - LATER

Ready for blast off, they finish the launch sequence. Kirchoff is filming Norton and Calvert.
NORTON
Joe, blast off in 5, 4, 3, 2, 1...

Kirchoff stops filming. Barnes works at the communications panel. They don’t blast off.

BARNES
The broadcast has gone.

NORTON
Good. Go Boris, and good luck.

Rodrigo is outside Endeavour on a space scooter. He boosts away from Rama towards the missile.

NORTON (CONT’D)
That broadcast might confuse them enough to get an extra few moments.

MERCER
Hopefully he’s not going to need them.

Mercer starts a count down display from 10 minutes.

Two cameras on the missile detect Rodrigo and point at him.

Watching to the rear of the bridge with Pak and Perera, Myrna is worried.

MYRNA
The cameras have him already. It knows he’s coming! They’re going to see him and detonate it!

PERERA
Yes, the Mercurians will see him. But not for the five minutes it takes the pictures to get from here to Mercury.

PAK
Then hopefully they will dither for a minute or two, watching our launch broadcast and waiting for orders.

PERERA
Even if they don’t it will be another five minutes before the detonation command comes back.

At the communications panel Barnes suddenly looks worried.
BARNES
Commander, we’re getting a message from Mercury. I’m putting it on.

MERCURIAN (O.S.)
Commander Endeavour from Mercury Space Control. You have one hour from the receipt of this message to leave the vicinity of Rama. We suggest you proceed maximum acceleration along the spin axis. Please confirm.

CALVERT
If the missile has already received its command instructions Rodrigo won’t be able to stop it!

PERERA
(to Myrna)
Our plan to cut the main and backup communications cables will do no good if it already has its commands.

Rodrigo turns his scooter around and boosts the other way to slow down.

Inside the counter is now at four minutes.

Rodrigo pulls along side the missile.

NORTON
Boris, we have a message from Mercury. But hopefully you’re OK. Proceed as planned.

Rodrigo attaches the scooter and jumps onto the missile being tracked by its cameras. Briefly he contemplates waving but doesn’t.

He works on the first cable and cuts it with 2 minutes left.

PAK
That’s a relief. If it was booby-trapped that would probably have set it off.

MYRNA
Booby-trapped!

Rodrigo pulls himself along the missile and cuts the second cable with 42 seconds left.
CALVERT
That thing is getting no more commands from Mercury now.

Just as Rodrigo relaxes the missile’s boosters ignite.

RODRIGO
It’s moving in!

PAK
They’ve already sent the order!

NORTON
What can we do? Anyone?

ERNST
There is no way he can disarm the warhead.

MERCER
He’s not going to be able to open the booster rockets quick enough.

PERERA
The navigation. The navigation! That navigation antenna is pointed at Mercury. It’s triangulating!

NORTON
OK. Boris unless you have something better we’re suggesting disconnecting the navigation antenna. In the middle there.

RODRIGO
OK.

Rodrigo fumbles with the much smaller wires using oversized cutters. He gets the wires in the cutters and slashes them. Moments later the antenna starts to drift aimlessly.

RODRIGO (CONT’D)
Now to make it forget where it was.

He uses his scooter on full boost to push the missile around. The missile’s boosters come on narrowly missing Rodrigo and propelling it away from Rama.

The crew celebrate.

NORTON
That’s great Boris. Now come on back here. That thing’s still going to blow up in 50 minutes or so.
INT. ENDEAVOUR, BRIDGE - 50 MINUTES LATER

Rodrigo arrives and is greeted as a hero.

    CALVERT
    Nice one Boris. You keep working out like that you’ll be competing
    against Pak at the Lunar Olympics!

    NORTON
    Well Boris, you’ve done your part. Now we get to see what Rama’s going
    to do.

    RODRIGO
    We all did our part.

    ERNST
    Right. Everyone rest up, eat up, and get ready to go back into Rama.

    MERCER
    There it is!

Between Endeavour and the looming Sun the missile explodes.

INT. ENDEAVOUR, NORTON’S ROOM - NEXT MORNING

Norton is working. Myrna arrives followed by Perera.

    MYRNA
    Dad, I have something to ask.

    NORTON
    Yes.

    MYRNA
    Can I come with you... into Rama?

    NORTON
    We discussed this. There are no space suits for you on board.

    MYRNA
    One of Jenny’s spare suits can be adjusted.

    NORTON
    Maybe, but we haven’t got time to do it.
MYRNA
Well ur, Joe pointed out to Karl that if we had a problem with life support I’d need a suit, and while you were in Rama Jerry did the work... and Karl’s checked it.

Norton is irritated with his conspiring crew.

NORTON
I’ll talk to them about it... I guess you’ve come a long way.

MYRNA
Great!

Myrna hurries out past Perera who is pale and drawn.

PERERA
I have a similar request to make. Also Jerry suggested that if we all go into Rama we can shut down Endeavour and save fuel and supplies.

NORTON
Doctor. Are you sure?

PERERA
Bill, when we blasted off from Mars we knew I wasn’t going home again.

Norton is uneasy but accepts the point.

INT. RAMA, HUB - LATER

Myrna, Pak, and Mercer exit the air lock. There is a vast tunnel of cloud all the way to the other end of Rama.

MYRNA
It’s huge, and look. Clouds!

Myrna goes towards the edge and stares out. Mercer checks an instrument and is surprised.

MERCER
What? Jenny what oxygen reading are you getting?

PAK
Urm..., humm, that’s 50% higher!

Mercer unlocks his suit and opens the visor.
MERCER
Well, isn’t that convenient. Wow it’s a lot fresher, and warmer.

Pak and Myrna begin to open their suits.

MYRNA
Where did all this oxygen come from?

INT. RAMA, LADDERS - LATER

Mercer, Myrna, and Pak descend the ladders. They enter the dense clouds and Mercer stops. Myrna almost bumps into him. Pak does bump into Myrna.

PAK
Whoa, sorry. We should spread out a little.

MERCER
Listen! What’s that noise?

INT. RAMA, STAIRS - LATER

Further down they emerge from the clouds into the Raman day. The view is less stark and more atmospheric. The clouds over the plain make it look like a broad valley.

MYRNA
A waterfall!

From a source in the clouds water falls in a curve.

PAK
Newton would never have figured out gravity living here!

MERCER
Coriolis effect. Myrna, you’ll never see a class room demo better than that.

MYRNA
And look at the Sea!

PAK
It’s not the same color. It looks sort of green!
MERCER
Photosynthetic life! That’s where the oxygen has come from!

MYRNA
What do you mean?

MERCER
Well, it’s the same as on Earth. Life that uses light for its energy produces oxygen. Enough of it to change the atmosphere. On Earth it took three hundred and seventy five million years to oxygenate the atmosphere. Here it’s taken two days!

MYRNA
I wonder what it’ll produce tomorrow?

INT. RAMA, CAMP ALPHA - LATER

Mercer, Myrna and Pak are nearing the bottom of the stairs. The others are surrounded by sleds containing the parts for making a boat.

BARNES
This is what the boat plan looks like... I’ve tried to keep it stable and strong.

KIRCHOFF
Ruby, that looks good. We’ll be on our way to New York real soon.

Ernst looks at the clearly unwell Perera and pulls Norton away from the others.

ERNST
Bill, the Doctor looks unwell. Should I examine him?

NORTON
I think he has a good idea what’s wrong.

ERNST
How are we going to get him back up the stairs?
NORTON
We’ll cross that bridge when we come to it.

Mercer comes off the stairs followed by a tearful Myrna.

NORTON (CONT’D)
Myrna, are you OK?

MYRNA
It’s so... beautiful...

Myrna walks right through the camp and the others watch her. Walking out into the vast open space she spreads her arms and spins and jumps around. She begins to run.

Myrna runs as fast as she can for as far as she can and after 150 meters exhaustion stops her. She collapses onto her back and stares at the clouds.

INT. RAMA, STEPS TO THE CYLINDRICAL SEA – THREE DAYS LATER

A makeshift raft is nearly at the water being slowly lowered on a set of rigging by Ernst, Rodrigo and Pak. At the bottom are Barnes, Calvert and Norton.

CALVERT
Did we bring any bottles of champagne?

BARNES
(to people at the top)
Slowly, slowly. She’s almost there!

A bump on a line sets the boat swaying. It crunches against the cliff. Everyone winces but it is OK.

NORTON
I’ve got a packet of fruit punch here.

Barnes is unimpressed and concentrates on the boat.

CALVERT
We don’t have a name.

NORTON
I’ve got one. Endeavour is named for one of Captain Cook’s ships. So we’ll use the name of another of his ships.

The boat is almost in the water.
NORTON (CONT’D)
I name this boat Resolution.

Norton explodes the fruit punch packet against the boat.

CALVERT
The ropes are slackening! She must be floating!

BARNES
I’m going to need some volunteers to go sailing.

Norton and Calvert look at the boat, the sea, and each other.

INT. RAMA, ON THE CYLINDRICAL SEA – NEXT MORNING

Barnes, Norton, Calvert and Mercer sail on Resolution. Norton looks at the wall of water rising up and around the world.

NORTON
I’m not sure that I’m getting used to this!

CALVERT
It’s not really normal is it. It feels like we’re about to be rolled by the biggest wave you ever saw.

MERCER
From both sides!

BARNES
Perhaps we shouldn’t talk about it.

MERCER
You’re right. It’s more the water that’s getting to me. Simple single cell life and poisonous organo-metallic salts!

CALVERT
You’re making me thirsty!

NORTON
Laura says it will kill you if you swallow too much of it, and might disintegrate you if you swim in it for too long.

BARNES
Why are we talking about that!?
CALVERT
And just look at that Southern Cliff. We know what the Northern one is for, it can get very choppy down here! But five hundred meters?

MERCER
What kind of wave does that?

BARNES
What sort of idiots talk about these things when we’re right out in the middle of it!?

NORTON
OK you guys. We’re getting close now.

The immense looming outer walls of New York are ahead with its vast towering buildings.

NORTON (CONT’D)
If it is the capital city it certainly has the architecture for it.

MERCER
It’ll take us a while to look around.

CALVERT
Maybe someone will give us the tour.

INT. RAMA, NEW YORK - MOMENTS LATER

Barnes stays with Resolution as Norton, Calvert and Mercer climb the steps.

MERCER
Is this a defensive wall?

CALVERT
We’ll find out when we go over the top.

They tentatively step onto the ten meter thick wall and look at the city.

NORTON
It’s looks more chemical plant than city. Let’s have a look around.
They go down and wind their way through the city.

CALVERT
If this is a factory, where are the raw materials?

MERCER
Suppose it uses the Sea. It contains everything you’d need.

NORTON
Underground pipes to the Sea... But what do they make?

Norton puts his ear on a wall and shakes his head. He kneels down and puts his ear to the ground. When he looks up Calvert and Mercer are standing still looking past him.

NORTON (CONT’D)
If it’s a machine it is a very... quiet... one.

Behind Norton is a Crab biot (low and flat, about two meters long and one wide with six legs and scissor like claws) with debris on it’s back moving towards them.

CALVERT
Move slowly. Look behind you.

Norton looks around, stands up, and holds out his hands as the crab biot comes nearer.

NORTON
Hello. We come in peace.

The biot ignores Norton leaving him looking silly.

MERCER
Should we follow it?

CALVERT
“Hello. We come in peace”! You’ve had plenty of time to think about what you might say!

NORTON
I didn’t see you give it a cuddle!
Let’s follow it.

The biot seems to be going to the edge of the city. Calvert looks over his shoulder.

CALVERT
I think we’re being followed.
They stop and look back.

CALVERT (CONT’D)
Look. Over there!

Back along the street following them at a discreet distance is a Spider biot.

NORTON
That one’s definitely looking at us.

They are contacted on their communicators.

ERNST (O.S.)
We are seeing some strange metallic robot creatures moving about on the plain. Everyone be careful. They don’t appear to be a threat. Don’t do anything aggressive.

INT. RAMA, CAMP ALPHA – THREE DAYS LATER

Mercer is filming Calvert.

CALVERT
We have now observed a wide variety of different “biots” working inside Rama. They appear to each have specific functions. We have given them names including “Spiders”, “Bulldozers”, “Cranes”, “Crabs”, and “Sharks”... We’ve not yet seen a “Shark” but there are clear signs of something in the Sea. Today I’m going to show you some of the biots in action. The first one is standing over there.

Calvert points at a Spider biot standing near by.

CALVERT (CONT’D)
That’s a Spider biot. They seem to travel around just looking at things. We’ll be back with one of those in a minute. Now with Jenny Pak’s help I’m going to show you a scavenger Crab biot at work.

Pak waves at the camera, they pick up a broken sled, and carry it to a pile of other trash.
PAK
There it is approaching now. They appear to have understood that when we pile things here outside the camp, this is our trash.

Calvert and Pak back away. The Crab biot arrives, cuts up, and picks up the trash.

CALVERT
You can see they are good trash collectors. They pick it up, cut it up, take it to the Sea, and just throw it in... Up over that way. If Karl focuses on that light. Hopefully it’s not too bright on the camera. You can see Window Cleaner biots at work.

Small dots are working their way along the light. Calvert, Mercer and Pak move to a tent in the camp.

CALVERT (CONT’D)
For the last part of our biot broadcast we are going to join Surgeon-Commander Ernst. Laura, can you tell us what we are looking at.

Ernst is ready to do an autopsy on a Spider biot.

ERNST
Unfortunately, this biot had an accident on one of the lower level stair platforms. This gives you a chance to take a close look at it before I do an autopsy.

Mercer sweeps the camera over the body.

CALVERT
So there you have it everyone. One of Rama’s most intriguing mysteries. The biots!

Mercer stops filming. Ernst looks around at the array of medical cameras she will use.

ERNST
Now can I start the autopsy?

CALVERT
OK yes thanks.

Calvert, Mercer, and Pak leave the tent.
PAK
It’s a great shame Doctor Perera’s not able to help with the autopsy.

A scream from behind them in the tent makes them run back the other way. They find Ernst jumping around shaking her arm.

CALVERT
Laura. What happened?

ERNST
It gave me an electric shock!

INT. RAMA, CAMP ALPHA - LATER

Perera is in bed very weak and unwell. Ernst and Norton are outside his tent.

ERNST
Bill. You should have told me.

NORTON
There was nothing you could’ve done, and he didn’t want the fuss.

ERNST
If he’d continued the molecular treatments on Mars he could have lived a year or more longer.

NORTON
Even those treatments reach their limit. This was once in a lifetime.

Myrna arrives as the lights of Rama begin flashing.

NORTON (CONT’D)
There go the lights again.

MYRNA
Can I visit the Doctor?

ERNST
OK.

Myrna tentatively approaches Perera who stirs awake.

PERERA
Hello Myrna. What are the lights doing out there?
MYRNA
They have begun a regular pattern of occasionally pulsing. We think it’s a maintenance routine.

PERERA
That’s odd...

MYRNA
Did Laura tell you about the autopsy?

PERERA
Briefly.

MYRNA
It’s unbelievable! Organic but with metal in it. No mouth. No stomach. No gut. How does it eat?

PERERA
It doesn’t.

MYRNA
And no air intakes. No lungs. No blood. No anything!

PERERA
Well it has muscles, three legs, three feelers, three eyes and a brain, and of course its battery.

MYRNA
Yes 80% of it is electrical power storage. I’ve never heard of anything like that!

PERERA
Actually you have. Electric Rays on Earth use electricity for defense. These creatures use it for energy. Apparently a Spider biot has one purpose. As an observation device.

MYRNA
How does a creature evolve like that?

Perera coughs and grimaces.

PERERA
They don’t Myrna. Creatures like the ones we’ve seen on Rama have been designed, for specific jobs.
MYRNA
A biological robot crew!

PERERA
Yes... Myrna, you know that I’ll be going away soon don’t you? It has been a joy to experience this with you.

Myrna has avoided this subject and is emotional.

MYRNA
Doctor, you can’t! No!

PERERA
Myrna... You’ve seen what draws both of your parents. You’ve experienced space, and a comfortable environment. Now do you see that even as your parents are drawn away from you, they both love you... Some day something wonderful will draw you away, but you’ll still love those you leave behind... Myrna, I’m... going away... but I still love you.

Perera is exhausted and falls asleep. Myrna turns and sees Norton at the door and they hug each other.

INT. RAMA, CAMP ALPHA - LATER

The crew eats a meal. Ernst walks over holding a monitoring that updates her on Doctor Perera. She meets Norton away from the others.

NORTON
How’s he doing?

ERNST
I don’t think he’ll wake up again... It’s just a matter of time.

Norton and Ernst join the others who are mournful. Norton shakes his head and takes a few deep breaths.

NORTON
So, what else can we do here?

KIRCHOFF
We can enter some of the buildings.
MERCER
Yeah. I’ve thought about that and I think lasers are the first thing to try. Explosives are more likely to damage the interior.

KIRCHOFF
What about it Bill? Is it time to break our way in?

NORTON
Yes I think it probably is. We’ll have to be careful, and watch the biots closely as we do it.

The lights pulse as before. Myrna is the only one who watches.

ERNST
It seems a shame that we can’t go to the Southern Continent.

BARNES
We’ve taken a good look at the Southern Cliff and there’s nothing to help you.

CALVERT
The scooters are useless with air resistance and gravity. Even with no gravity at the axis they don’t have the range to get very far.

PAK
Well there is... Commanders can I talk to you.

Pak walks away followed by Norton and Ernst.

NORTON
Yes Jenny.

PAK
We do have something on board that might be able to fly along the axis.

ERNST
(Annoyed)
Jenny, are we transporting what I think we are transporting?
PAK
Sorry. It was the only way to get
Dragonfly to the Moon.

ERNST
That must weigh 25 kilos!

PAK
It’s about 20.

NORTON
What are we talking about?

PAK
I competed in the Sky-bike event at
the last Lunar Olympics. Flying
acrobatically inside the Lunar
Dome. But my partner and I were let
down by our equipment.

NORTON
I think I saw that on Media. A wing
failure yes?

PAK
(bitterly)
Yes... A team of Martian engineers
has worked in secret on a
revolutionary design. It’s
incredible. We’ll ride circles
around the others.

NORTON
So we have a Sky-bike on board
Endeavour?

Ernst’s monitor sounds an alarm and she looks at it.

NORTON (CONT’D)
Is that what it sounds like?

ERNST
No. It’s saying the monitoring
wires have been disconnected!

Ernst followed by the others hurries to Perera’s tent.

A Crab biot cuts up the debris of the tent. Another biot is
moving the motionless Perera onto its back. Two Spider biots
stand close by.

KIRCHOFF
They’re taking him away as trash!
We have to stop them!
Kirchoff, Calvert, Mercer and Barnes go in close around the biots. The biot with Perera moves one way and they block it. It moves another way and they block it again.

CALVERT
We just want the body, the body.

The biot stops moving and raises its claws. The Crab biot stops work on the tent and moves alongside. The Spider biots are agitated. Another Crab and a Crane biot approach and two more Spider biots arrive.

ERNST
Maybe they think he’s an infection risk.

Kirchoff and Mercer draw their weapons. It is a stand off. The crew upset and angry, the biots dispassionate, not understanding and determined. Norton looks at Perera and steps in followed by Ernst.

NORTON
Jerry, Karl. Put your weapons away!

TERNST
We can’t fight them. We have to let him go.

They slowly accept it and are pulled away. The biots carry on their work. The biot with Perera hurries off to the Sea.

INT. RAMA, HUB - THREE DAYS LATER

Ernst, Calvert, Pak, Rodrigo, and Barnes look at the newly assembled DRAGONFLY (An ultra thin delicate flying machine with two seats and peddles powering a propeller).

PAK
Look Joe, when we’re out there don’t touch the controls and just do what I tell you. This is going to be hard work but fortunately we can take our time by resting in the zero-gravity. Do you want me to help you climb on?

CALVERT
(joking)
Do I just grab this bit?

PAK
No!... I must be crazy letting you anywhere near this. You goon!
Calvert and Pak climb into their seats.

**ERNST**
Are you two ready to go? Stay in contact with us. Remember the oxygen is thin up here. Don’t exhaust yourselves.

**PAK**
You ready Joe? Start pedalling slowly.

They pedal and Dragonfly moves off slowly. Pak tests things and makes minor moves and adjustments. Dragonfly rattles.

**PAK** *(CONT’D)*
Pedal a little harder.

**CALVERT**
Is it supposed to rattle like that?

They gain speed and Dragonfly rattles more.

**PAK** *(happy)*
I think we’re OK.

Pak makes Dragonfly loop, dive, and spiral downwards.

**CALVERT**
Whoa. What the... What are you doing?

**ERNST**
Where are you going? You can’t go too low. The gravity will be too much!

Dragonfly levels out a little way down from the axis. The rattle is gone.

**PAK**
Dragonfly is designed for some gravity. She is more stable down here. We can go back up each time we need a rest.

**CALVERT**
OK. Can we discuss these things ahead of time?

Ernst communicates.
ERNST
Bill, come in.

NORTON (O.S.)
I’m here.

ERNST
They’re away and it works! They’re going to see if they can make it to the Southern End.

NORTON (O.S.)
That’s great. Keep me posted. We think we have a way to heat up the laser torch. Our next attempt should be hot enough to get through.

INT. RAMA, LONDON - 3 HOURS LATER

Norton, Mercer, Kirchoff, and Myrna walk through “London” carrying equipment and looking around warily.

KIRCHOFF
The biots appear not to have noticed what we have in mind.

MERCER
They’ve seen us attempt it already. Maybe they just know we will fail.

NORTON
Hopefully they don’t care.

MYRNA
Or they think we’re Ramans and we can do whatever we like!

NORTON
There it is. The main central building. That’s the one we decided on.

Myrna checks her watch and looks at the lights.

MYRNA
I’m thinking right about... now.

Moments later the lights begin their earlier pattern. Myrna counts the pattern and notes it.

MYRNA (CONT’D)
I wonder if...
KIRCHOFF
(interrupting)
This looks like a good spot, that track suggests this is an opening of some kind.

Kirchoff approaches the middle of a wall with a groove running into it.

MERCER
I’ll start down here. All of you turn your backs.

Mercer lowers a mask over his eyes, fires up the laser torch and starts to cut through the wall.

MERCER (CONT’D)
It’s working!

Norton and Kirchoff look around uneasily. Myrna is occupied with her notes and calculations.

INT. RAMA, HUB & AXIS - SAME TIME

Pak and Calvert on Dragonfly are at the axis of Rama above the Southern Continent. Calvert is tired. Dragonfly floats to a stand-still.

PAK
Take a rest Joe. I’m going to get a good camera sweep.

Pak puts Dragonfly into a slow rotation and points a camera upwards holding it steady.

CALVERT
What’s the endurance record for Sky-biking?

PAK
We’ve already beaten it. It was 2 hours, 25 minutes. We went past that 30 minutes ago. Of course no-one else ever got the chance to stop and rest in zero gravity.

CALVERT
Make sure you mention it to your competitors.

PAK
I’m sure it’ll come up.
At the Hub Ernst is alone watching the camera images.

    ERNST
    Beautiful! This will keep the map-makers happy. Can you see anything not shown by the camera?

    CALVERT
    Not really. It’s quite a view down there. The square pattern still looks like fields. But no two of them look exactly the same.

    PAK
    Which way are we going next?

Ernst reviews medical telemetry.

    ERNST
    Joe, you need to let Jenny do more of the work. But I think you’ll be OK to take a look at the Horns.

Calvert grimaces and looks at the distant Horns sticking out of the Southern End of Rama. One immense central spike extends 5 kilometers along the axis and 6 smaller ones, half the size, are equally spaced around it.

INT. RAMA, LONDON - SAME TIME

Mercer completes the cutting and shuts off the laser torch but the metal in the middle of the hole is still there. The others turn and look at Mercer expectantly.

Mercer pushes the metal and it doesn’t move. He hits it and it still doesn’t move. He hits it hard with his shoulder and the metal falls in with a very loud echoing bang and Mercer nearly goes through the hole.

All of them flinch backwards expecting something to come out at them. Mercer is flustered. They all wait for Norton.

Norton looks through the hole from a distance and goes closer. He realizes he can’t see anything and reaches for his flashlight. It shines through the hole and sparkles inside.

Norton ducks through into what looks like a Greek temple made of glass – row upon row of vertical crystalline columns about a metre wide. Hundreds of them stretching into the distance.

Norton walks to the nearest column as the others come through the hole. Norton shines his flashlight through a column and the light refracts in colors all around the temple.
MYRNA
It’s so pretty.

MERCER
But what does it mean? Who needs a forest of glass pillars?

Norton taps on a column and the noise is metallic.

KIRCHOFF
I could’ve sworn this pillar was empty. Now there’s something inside it.

NORTON
Where? I can’t see anything.

MYRNA
I can, here look! Oh, I’ve lost it.

NORTON
What is this?

Mercer is walking around one of the columns.

MERCER
As you go around the column objects appear. As if they are actually inside. But you move a little further, and a different object appears.

INT. RAMA, AXIS NEAR END OF BIG HORN & HUB - LATER

Pak and Calvert cautiously approach the spike of the Big Horn. They move alongside it and stop.

ERNST
What can you see?

CALVERT
Just Big Horn. It’s absolutely smooth. No markings.

PAK
And the point’s so sharp you could use it as a needle.

CALVERT
I’m going to take a closer look.

Calvert unstraps himself and pushes off to the Horn. He touches it, taps on it, and puts his microphone against it.
CALVERT (CONT’D)
It feels like solid glass. Are you detecting any sounds Laura?

ERNST
No. Nothing except the usual thermal noises... OK since you’re there how about flying down to the end?

INT. RAMA, LONDON - TEMPLE OF GLASS - SAME TIME
They are spread out going through the temple taking pictures.

They see a confusing array of objects. Some are tools and utensils, others are unrecognizable, all apparently intended for a practical use.

KIRCHOFF
Holograms. It’s like a museum.

MERCER
It’s more like a catalogue. Having these things together might make sense to a Raman. Just like having books besides boots in the dictionary makes sense to us.

NORTON
I like that idea. A catalogue of life sized 3-D templates. Solid blueprints.

MYRNA
What for?

NORTON
Well, things don’t exist until they are needed and then they’re synthesized as required.

MYRNA
So if a Raman needs a hammer, he... she or it, enters a code and a hammer is manufactured from an image?

NORTON
Something like that.
KIRCHOFF
I feel like lasering into one of these to get at the objects. That’s how real they look.

NORTON
You’d be like a monkey grabbing at a mirror reflection of a banana!

They move into a group of larger two meter wide pillars.

MERCER
Bill, Jerry, Myrna – come and look at this!

Inside a column is a set of Raman clothing. Two and a half meters tall with numerous pouches for tools and apparently three arms and three legs.

MYRNA
Raman clothes!

NORTON
Maybe. Look three arms and three legs. No wonder three is their magic number.

Myrna suddenly remembers something.

MYRNA
Oh no. I’ve got to get outside.

Myrna rushes through the hole and looks up at the lights.

MYRNA (CONT’D)
Any moment now...

The pattern begins but it is shorter. Myrna watches the first third of the display. Norton, Mercer and Kirchoff follow her outside and watch as she calculates.

MYRNA (CONT’D)
Dad, I think we have to get out of Rama.

NORTON
Why?

MYRNA
The lights flashing is not maintenance. It’s a message, and we’ve been ignoring it!

(MORE)
Each time they flash the pattern repeats three times and each third has three less flashes. 24, 21, 18, that was 15! It’s a countdown!

NORTON
When will it reach zero?

MYRNA
If the pattern continues it’ll reach zero in a little bit over nineteen hours.

NORTON
What happens then?

INT. RAMA, AXIS AMONG THE HORNS & HUB - SAME TIME

Pak and Calvert watch the light pattern finish from near the Big Horn close to the Southern End. They are dwarfed by the immense structures around them.

CALVERT
I can’t shake the image of a sparrow flying around the roof of a cathedral.

PAK
Well, maybe this is a religious shrine.

CALVERT
Everything we’ve seen in Rama has been functional. Perhaps this is the engine.

PAK
If this is an engine how come there were no vents or nozzles on the outside.

CALVERT
This could be a “Space Drive”. Propulsion by distorting the fabric of space and riding the wave.

PAK
Save me Laura! Joe has started talking theoretical physics!

Ernst at the hub listens but is hearing something else.
ERNST
You guys, are you hearing anything unusual?

PAK
No. What do you mean?

ERNST
Quiet for a few seconds. I’ll play it back to you.

Pak and Calvert go quiet for about ten seconds.

ERNST (CONT’D)
Here it comes.

Over their communicators comes a deep throbbing pulse lasting for ten seconds that continues around them.

PAK
What is that?

CALVERT
The voice of Rama.

ERNST
You may be in a strong magnetic field. Get out of there. It could be dangerous.

INT. RAMA, LONDON - SAME TIME

Huddled around Myrna’s calculations.

MERCER
The numbers look right. Rama’s preparing for something.

MYRNA
It’s a warning. I’m sure it is! We shouldn’t hesitate.

KIRCHOFF
But we’re still too far from the Sun for a perihelion manoeuvre.

NORTON
Maybe we just don’t understand it. I think we’d better get ready to leave anyway.
INT. RAMA, AXIS AMONG THE HORNS - MOMENTS LATER

Pak and Calvert try to get away from the Horns.

PAK
Laura are you there? Laura?

Both of them stop pedaling because they can feel something around them. Calvert itches his arm and notices that all the hairs on his arm are standing up.

He looks up at Pak and stops in horror seeing the loose bits of her long hair standing up.

CALVERT
Electricity! There’s a charge building up around us. There’s going to be a thunderstorm!

They pedal quickly. Lightning flashes between the Small Horns and thunder follows.

In front of them small bits of lightning dance around the end of the Big Horn. Calvert looks from the Big Horn to the Small ones and realizes they are directly between the ends.

CALVERT (CONT’D)
We have to get out of here!

An almighty crack as a bolt of lightning sears past them from a Small Horn to the Big Horn. Followed by another from a different Small Horn.

PAK
We have to dive. We have to dive!

They dive downwards accelerating away from the Horns through more bolts of lightning, some of which become arcs waving over vast distances across the sky.

INT. RAMA, HUB & AXIS AMONG THE CLOUDS - MOMENTS LATER

At the hub Ernst watches with great concern. The electrical display builds up spectacularly at the far end of Rama. She tries to find Dragonfly.

ERNST
Pak, Calvert, come in!

PAK
We’re here.
ERNST
I can’t see you. Where are you?

PAK
We’re in the clouds.

ERNST
That’s too low. You won’t be able to get back up!

PAK
We’ll try to fly back over the Sea. But we are going down. We’re going to crash.

Ernst gets a communication.

NORTON (O.S.)
Laura, we have to be ready to leave Rama. Call Jenny and Joe back.

ERNST
Bill, they’re going down. They’re at the far end and they’re going down!

INT. RAMA, DRAGONFLY - MINUTES LATER

Pak fights the controls. Calvert is exhausted.

CALVERT
Jenny, what do we need to do?

PAK
As we get lower the wings will break up. As that happens we need to pedal real hard, and hopefully slow our fall.

CALVERT
We’re not going to make the Sea are we?

PAK
No. We’ll be well short of it.

Pak fights the descent as they spiral down. The wings break and fold. Dragonfly accelerates downwards.

The field below is spikes of glass, and then metallic spears. Pak swerves them towards a gap between the fields.
They slow their descent but still crash down hard in the middle of the Southern Continent.

INT. ENDEAVOUR, BRIDGE - SAME TIME

Rodrigo and Barnes arrive on the dormant ship and activate its systems.

RODRIGO
We’re OK now the life support is back up again. The engines are ready. Now we need a crew.

Barnes looks out of a window.

BARNES
What is that?

Rodrigo looks. Just visible at the outer edge of Rama is a vast lattice construction slowly expanding on all sides.

The lattice covers the rear outside end and all the way along the sides. Only the Northern end needs completing to form a full exterior shell. The outer sheen of the lattice is like a solar panel.

RODRIGO
It’s being built all the way around.

BARNES
That’ll crush us, or trap us!

RODRIGO
It’s a heat shield! We have to get out of here before it’s complete!

INT. RAMA, SOUTHERN CONTINENT - MOMENTS LATER

Calvert and Pak lie still in the wreckage of Dragonfly. They are conscious but exhausted.

CALVERT
Jenny, are you OK?

PAK
I think so? How about you?
CALVERT
Nice crash.

PAK
I thought so too.

CALVERT
Since we’re here I guess we should take a look around.

PAK
Especially since that Crab will chop us up if we don’t move soon.

A Crab biot approaches as they crawl out of the wreckage.

CALVERT
Better grab our things.

As the Crab starts work they grab their things and sit down near by. Pak is upset watching Dragonfly being destroyed.

PAK
So much for my Olympic Gold medal.

CALVERT
It’s a truly spectacular excuse. An alien robot ate my bicycle!

They laugh. Calvert adjusts his communicator.

ERNST (O.S.)
... in. Joe, Jenny come in!

CALVERT
We’re here. We’re both beat up, but we’re OK.

ERNST (O.S.)
Thank goodness! I thought I’d lost you.

INT. RAMA, LONDON - LATER

Norton is frustrated and troubled.

NORTON
I think we know what the countdown is for. Boris is estimating that the heat shield will complete in about sixteen hours. Just when the count hits zero.
KIRCHOFF
So how do we all get out of here by then?

MERCER
We have to rescue Joe and Jenny.

KIRCHOFF
What about the five hundred meter cliff?

INT. RAMA, SOUTHERN CONTINENT - LATER

Calvert and Pak walk between fields behind the Crab carrying Dragonfly in the direction of the Sea.

CALVERT
He’s still going the way we have to go. I wonder if this is where he is going to stop?

PAK
I think the map called this one Copernicus, after the lunar crater.

They approach the edge of a pit half a kilometer wide. The Crab carries on past the pit. Half a kilometer down in the pit is a pool of leaden-green water. Three ramps cut into the sides of the pit helix all the way down into the water.

Ascending a ramp is a barely visible biot. Calvert watches it as Pak scans the other side of the pit. Pak glimpses a rapid moving indistinct whirlwind like creature. She considers telling Calvert but decides not to.

CALVERT
We should get some pictures and carry on.

INT. RAMA, LONDON - LATER

They discuss what to do.

MYRNA
I’ve figured it out and I’m sure it can work.

NORTON
OK so we have a plan for the cliff. This time we’ll take your word for it on the numbers. What else do we need?
MERCER
Well, we have to cross the Sea...

NORTON
(Myrna and Kirchoff also)
Resolution!

KIRCHOFF
Do you think she will still be there?

NORTON
That’s the only hope we have. Karl and I will go because we’ve been out before. Jerry, Myrna, go back to the Camp. Grab anything that looks essential, and make your way up the stairs.

MYRNA
OK Dad. Be careful.

NORTON
Myrna, I’ve never been more proud of anything than I am of you.

Norton and Myrna hug each other.

MERCER
Is it getting darker?

Mercer gets out a scientific instrument and holds it up.

MERCER (CONT’D)
It is! The lights are starting to go out!

INT. RAMA, SOUTHERN CONTINENT - LATER

Calvert and Pak walk towards the Sea but still have several kilometers to go.

PAK
I don’t think they have a plan. Maybe they’re just keeping us busy for the time that’s left. We’re stuck here.

CALVERT
If the Commander says he’s going to meet us at the Sea’s edge in three hours time, I believe he’ll be there. We have to try something.

(MORE)
I don’t think we’d last long in here without supplies. Wow, look at that.

They pass a field covered in a jewel like cut glass. Other fields include dense columns of metal, hexagonal inlaid multi-colored tiles, a blank grey, a spongy quicksand surface, and one with three rows of fences but nothing except a hole on the inside.

I don’t want to meet whatever they keep in there!

They all seem to be farm fields of extraordinary kinds.

Calvert notices something and walks away sideways.

Where are you going?

Pak follows and finds Calvert clambering into a dense mesh work of growing frames with plastic under them.

Growing through a hole in the plastic is a group of plants. The only life they have seen, each plant has a stunningly beautiful flower with leaves like butterflies' wings.

With difficulty Calvert gets through and reaches down to picks a flower. He climbs back off the field again.

For you.

Pak shows affection and moves in close.

You’re a goon.

They kiss.

INT. RAMA, STEPS TO THE CYLINDRICAL SEA - LATER

Norton and Mercer approach the boat launch rigging.

The rig is there. Now we need the boat to be on the end of it.

To their relief Resolution is hanging on the launch rigging.
NORTON
Let’s lower it down a little, go down and cut the rope when we get on.

INT. RAMA, STEPS TO THE CYLINDRICAL SEA - MOMENTS LATER

Norton pulls Mercer onto Resolution which dangles six feet above the water.

MERCER
I think we should’ve lowered it down some more.

NORTON
You’re right, but anyway.

They grip the boat and Norton hacks through the rope dropping them heavily into the water.

NORTON (CONT’D)
I don’t suppose you were paying attention when Ruby was driving this thing?

MERCER
Not really.

NORTON
I’ll have a go at it then.

Norton figures it out and pushes a lever. The boat goes the wrong way towards the cliff. He fumbles and gets some power in the other direction just in time to avoid crashing. They power off across the Sea.

INT. RAMA, HUB - LATER

Kirchoff and Myrna are tired as they come off the ladders and meet Ernst.

KIRCHOFF
Where are they?

ERNST
Jenny and Joe have reached the edge and they’re coming around. Bill and Karl will reach the Southern Cliff soon.
INT. RAMA, SOUTHERN CLIFF – MOMENTS LATER

Calvert and Pak are walking along the cliff to where Resolution approaches across the Sea.

PAK
It doesn’t look like they have any equipment.

CALVERT
No, but at least they’re here.

Norton stops Resolution 50 meters from the cliff face. Norton and Mercer wave to Calvert and Pak and communicate.

NORTON
Glad to see you look OK.

CALVERT
It’s good to see you guys too.

NORTON
Well urm, there’s something about this plan that we need to tell you.

PAK
Oh no. You can’t leave us here!

NORTON
No, no, it’s not that. You’ll be safe, but you’ll need some nerve. We know you’ve got plenty of that. You see, urh, you’re going to jump.

CALVERT
Jump! It’s five hundred meters!

PAK
Have you gone mad!

NORTON
Five hundred meters yes, but at only half a gee.

CALVERT
So – have you ever fallen two hundred and fifty meters on Earth?

NORTON
It’s all about terminal velocity.

PAK
Terminal’s the right word for it!
NORTON
In this atmosphere at this gravity
the fastest you can fall from any
height is ninety miles an hour.

PAK
Ninety miles an hour!

NORTON
Oh and we think we can slow you
down a little.

CALVERT
How?

NORTON
Uhr well, you need to hold your
trousers above your heads.

Calvert and Pak look at each other in disbelief.

CALVERT
So we can look really stupid!

MERCER
It’s the only parachute you’ve got,
it makes a difference to... Myrna’s
numbers.

As he starts saying “Myrna”, Norton tries to stop him.

PAK
Myrna’s numbers! You want us to
jump off a five hundred meter cliff
based on the calculations of a
twelve year old!

NORTON
Look you guys, we’re running out of
time. Rama is battening down and
building a heat shield. We have to
go now!

MERCER
Hold your trousers above your heads
for as long as you can on the way
down. Stay rigid and vertical. Take
a deep breath and hold your nose
and mouth on the way in. Try not to
swallow the water.

NORTON
Don’t think about it. Just jump!
Calvert and Pak look at each other and then look over the edge. Pak starts to take her trousers off and Calvert follows suit. Staring into each others' eyes steels them to jump.

They don’t look down again or pause. Both step purposefully to the edge and jump.

It takes 20 seconds to reach the water. They have time to look around and see the water approaching. Their trousers are minimal parachutes until they let go of them and pull their arms in. They spear feet first into the water at close to 90 miles an hour.

Norton goes full speed over to where they disappeared into the water and he and Mercer desperately search.

Under the slimy acidic water Calvert and Pak desperately swim up. Breaking the surface together they gulp air. Pak gags and chokes having swallowed some water.

Norton and Mercer pull Pak on board while Calvert floats with his eyes and mouth closed until they pull him up.

MERCER
(to Pak)
Throw up. Throw up!

They wipe them off and become concerned about Pak.

NORTON
Rinse with this.

Norton passes them both drinks.

Suddenly an alarm - loud, piercing and high pitch falling to a lower pitch goes off all around Rama repeating three times.

Norton reaches for his communicator.

NORTON (CONT’D)
Hub, what is that?

INT. RAMA, HUB - SAME TIME

Ernst, Myrna and Kirchoff listen to the alarm. At the other end of Rama there is a huge electrical display. On monitors biots all move quickly to the Sea.

ERNST
It’s a signal. All the biots are going to the Sea.

After the third alarm Rama starts shaking.
MYRNA
Is that a quake?

Ernst and Kirchoff look at each other in horror.

KIRCHOFF
Endeavour. Can you feel that?

INT. ENDEAVOUR, BRIDGE - SAME TIME

Rodrigo and Barnes are also feeling the shake.

RODRIGO
Yes we feel it. There it is.

An instrument shows them accelerating slowly.

RODRIGO (CONT'D)
We’re accelerating! Rama is accelerating!

INT. RAMA, ON THE CYLINDRICAL SEA - SAME TIME

Still close to the Southern Cliff they can’t feel the shake but hear the communication.

MERCER
Acceleration!

PAK
Space Drive!

CALVERT
Are we rising?

The Sea becomes turbulent and is pushed backwards by the strengthening acceleration towards the Southern Cliff.

Biotics come off the top of the cliff, fall down hard into the water, and are chopped violently to pieces by huge Lobster and Shark biots.

NORTON
We have to get out of here!

CALVERT
Now we know why they have a five hundred meter cliff!

The Sea climbs much of the way up the cliff face with Resolution rising with it.
High up the face of a truly immense wave at close to a 45 degree angle they sail down hill through the rough water. Biots smash down around them and they weave to avoid the Lobster and Shark biots.

They cling on tight as Resolution almost rolls and starts to break up. Reaching flatter but still sloped water clinging onto bits of Resolution they fight to hold it together.

Ahead of them biots are pouring off the Northern Cliff.

INT. RAMA, HUB - LATER

Myrna gazes out and through a gap in the cloud sees movement on the Gamma Stairs.

    MYRNA
    Who’s that?

    ERNST
    Who’s what?

The gap in the cloud closes.

    MYRNA
    I, I thought I saw, through the cloud, someone climbing the Gamma Stairs... It must have been a biot.

INT. RAMA, ON THE CYLINDRICAL SEA - LATER

Resolution is coming apart as they approach the shallow water near the Northern Cliff. Biots are strewn all over the Sea and keep coming off the cliff.

    NORON
    We’re almost there!

The side of Resolution gives way leaving Mercer dragging through the water holding on to a rope. The Sharks and Lobsters are gathered half in and half out of the shallow water dismantling the electrically charged biots in an orgy of destruction.

    CALVERT
    Hold on Karl! Hold on!

Full speed through the melee. Biots fall down from above and chop at them from below. They fight them off, duck and weave through them.
Norton targets the steps and without slowing down crashes onto them.

Norton, Calvert and Pak (helped by Calvert) jump onto the steps avoiding the claws of a lobster biot. Norton pulls the rope Mercer clings to. A biot cuts the rope.

NORTON
Karl!

Mercer ducks and fights as he swims for the steps. Resolution falls apart and falls away into the Sea. They battle off biots as they pull Mercer from the water.

Slipping and sliding up the wet steps they watch and move as biots from the cliff crash down around them.

CALVERT
Watch out!

A biot falls directly at them but it is a Spider biot so they deflect it away.

At the top of the steps a herd of biots is coming at them.

NORTON
Come on. Keep going!

Weaving around the biots they get away from the Sea.

INT. ENDEAVOUR, BRIDGE - LATER

Rodrigo and Barnes are concerned about the expanding heat shield that now stretches well out in front of Rama and forms a steadily closing circle.

INT. RAMA, HUB - LATER

Rama’s lights are almost out. Ernst and Kirchoff reactivate the spotlights and target them at the group on the plain approaching the base of the stairs.

ERNST
(to her communicator)
You have to hurry. There’s not much time left!

Myrna checks on the Gamma ladder and sees something close.

MYRNA
What’s that!?
She turns a spotlight to the Gamma ladder. At a poor angle someone is coming quickly up the ladder.

MYRNA (CONT’D)
Look! Who is that?

KIRCHOFF
I see... a Raman?

The figure reaches the Hub and floats over towards them. It is Perera looking twenty years younger.

PERERA
Hello Myrna.

MYRNA
Doctor Perera. It’s you! How, I, what? How are you?

PERERA
I’ve never felt better.

Ernst happily but suspiciously approaches Perera. She touches his face studying his new appearance.

ERNST
It’s ... unbelievable.

PERERA
I’m glad you can all see me.

ERNST
Why?

PERERA
Since I woke up on the plain down there I’ve been wondering if I was a ghost!

KIRCHOFF
Wow. It must have been an Ambulance biot. I guess they have medical functions as well.

ERNST
You got here just in time. We have to wait for the others before we exit.
INT. RAMA, CAMP ALPHA - LATER

Already exhausted Calvert, Mercer, Norton and Pak are only able to pause for a moment going through Camp Alpha and starting to climb the immense stairway.

Pak is barely conscious and is being lead by Calvert but she keeps on walking.

INT. RAMA, HUB - HOURS LATER

Almost completely dark. Myrna wears her space suit and has the others’ suits ready for them.

MYRNA
(to herself)
It’s almost zero time.

INT. RAMA, LADDERS - SAME TIME

Norton, Mercer and Calvert struggle, shattered and unable to move. Pak is unconscious, very sick and being carried by Mercer.

CALVERT
I don’t think we’re going to make it. I can’t move anymore.

NORTON
I think you’re right. We’re not going to make it in time.

They stop and clutch the ladder. Norton looks across the dim shadows of Rama at the towns and the Sea.

NORTON (CONT’D)
It was... beautiful.

They do not move.

Out of the darkness above Ernst appears followed by Kirchoff and Perera.

ERNST
Looks like you could use some help.

CALVERT
Too right! Am I ever glad to see...

He stops talking when he sees Perera.
NORTON
Well I...

Norton shakes his head and smiles.

PERERA
We have to move quickly.

Perera pulls Norton onto his back. Ernst helps Calvert and Kirchoff pulls both Mercer and Pak.

NORTON
(to Perera)
Who'd have believed that we'd need you to carry us out!

INT. RAMA, HUB - LATER

They pause briefly to get their suits on. With only a glance back at the blackness they enter the air locks.

INT. ENDEAVOUR, REAR OF THE CENTRAL HUB - LATER

Norton staggers through the hatch and it is sealed.

NORTON
Go Boris, Go.

INT. ENDEAVOUR, BRIDGE - SAME TIME

Rodrigo and Barnes at the controls are joined by Ernst and Kirchoff. Rodrigo boosts Endeavour off from Rama.

In front of Endeavour the heat shield is almost complete with only a very thin path through the lattice still possible for an exit.

ERNST
Mind that bit!

RODRIGO
I have it.

The ship squeezes through narrow gaps as construction continues. They approach the outer hole but it looks like they will not make it in time.

ERNST
Fire the main engines!
Rodrigo points Endeavour and fires the main engines. They launch out at speed through the hole.

They are dazzled by the blinding size and light of the Sun.

**ERNST (CONT’D)**
Boost us out of this orbit. Use all the fuel.

Endeavour blasts out to the side of Rama and tucks into Rama’s shadow moving steadily away.

**BARNES**
Rama is continuing to accelerate...
What’s happening to the stars?

The stars streak and disappear.

**RODRIGO**
Our gyros are going crazy!

**PERERA**
We are in the wash of a Space Drive. The very space around us is being warped.

The stars begin to reappear and the gyros return to normal. Endeavour has moved some distance but is otherwise OK.

The crew are relieved but too exhausted to celebrate much and concerned about Pak.

**INT. ENDEAVOUR, LABORATORY - DAYS LATER**

Myrna and Perera pack up samples in the laboratory. Ernst sticks her head around the door.

**ERNST**
Have you two got a minute? I’d like to talk to you in the mess.

Myrna and Perera are puzzled but follow Ernst.

**INT. ENDEAVOUR, MESS - SAME TIME**

Entering the mess they are shocked to see everyone wearing formal uniforms.
NORTON
I have a message from the Admiral.
“For Doctor Carlisle Perera and
Myrna Norton I hereby wave all
entrance requirements for
guarantification to Solar Survey
Astronaut.”

The others cheer and applaud.

ERNST
We have something for you.

Rodrigo and Kirchoff bring over two boxes. Myrna and Perera open them and see their own Solar Survey uniforms.

MYRNA
That’s great. Thanks.

PERERA
This is an honor. And to think I
never even liked space travel!

ERNST
It’s our pleasure. We’ve been lucky
to have you both with us.

They all congratulate and shake hands with Myrna and Perera.

INT. ENDEAVOUR, REAR OF THE BRIDGE - LATER

The crew except for Norton and Ernst are watching Rama going through the Corona of the Sun. Myrna and Perera wear their new uniforms.

MYRNA
Why go that close to the Sun?

MERCER
It looks like Rama could be sucking
matter from the Sun. It’s an
amazing way to refuel.

CALVERT
And still accelerating at the same
time.

Pak comes in still looking unwell but getting better.

CALVERT (CONT’D)
How are you?
PAK
I’m good.

Calvert and Pak gaze briefly at each other.

PERERA
Yes. At that speed Rama will blast out of the Solar System faster than anything we have ever seen.

MYRNA
I miss Rama.

PERERA
I think we’ll all miss Rama for the rest of our lives.

Perera puts his hand on Myrna’s shoulder.

INT. ENDEAVOUR, NORTON’S ROOM – SAME TIME

Norton and Ernst are together in his room. Myrna arrives.

MYRNA
We’re still getting a constant stream of requests for interviews and comments.

NORTON
There’s going to be plenty of time for that in the future. For the moment I’m going to concentrate on what matters to me.

MYRNA
What’s that?

NORTON
Spending time with people I love... And making sure they catch up with the school work they have missed.

MYRNA
Aww Dad!

ERNST
We’re going to be out here a long time before the refueling ship catches up with us. You’ll be happy to have stuff to do.

Norton gazes thoughtfully out of the tinted window towards Rama and the Sun. Ernst and Myrna join him.
ERNST (CONT’D)
The mission went well Bill. What are you thinking about?

NORTON
I’ve got a thought I can’t get out of my head.

MYRNA
What?

Norton looks out of the window at Rama.

NORTON (O.S.)
The Ramans do everything, in threes.

THE END.