



1

a wider space

the sun is rising for the 14th time today, firing the Saharan landmass like a match flame in darkness.

i am sitting in the cupola, watching the earth spin below me, desert rolling past the window of the Moon 2 space station, dunes like waves, sunlight flooding westward.

i don't move. soon, we're over the coast of Africa. sketches of towns. u don't c them so well in the daytime, which means that they almost extinguish in front of my eyes, the tracery of light blinking off as the wall of sun advances.

then sea.

it's always the sea.

people down there call their planet the earth, but it's mostly water. i know every fifth grader knows that. it's just, when u're in orbit, it's really obvious. sometimes Grandpa vidlinks me from down there & he asks me where we are & i don't even look out a porthole, i just say over the ocean & usually i'm right.

Grandpa says it's called the earth because of how farming shaped modern people, or something. he says we learned how to grow things 9,000 years ago & raise animals & it tied us to the land, like tight. like love. he says when the

soil is warm from the sun & u hold it in ur hands, let it run thru ur fingers, u feel a sensation like it's ur mother u're touching.

i wouldn't know. i was born up here.

& my mother is not the touching type.

soon i'll be there tho. that's why i'm in the cupola instead of in class. in a couple of months it's my 16th birthday & Libra & Orion are already 16, which is the age they always said we would be strong enough. strong enough to go home. they call it home, even tho we've never been there.

in fact: i just had a medical & they think my weight is ok now. my bone density. so it looks like we will be going back on the next shuttle.

back: another strange word, for a place we've never been before.

click: 'Leo?'

it's the intercom system. i push up, float over to the nearest terminal. 'yes?'

'i've got a problem with the auto cargo docking parameters for the day after tomorrow. u want to help?'

it's Virginia. i've known Virginia all my life. she is 1 of 2 babysitters, we call them. there's vid footage of Virginia encouraging us to crawl, as babies, on the station's treadmill. strapped down, to simulate gravity. then to walk. sometimes we watch the vids in class, to remind us that we have had to learn everything that comes naturally to those on earth. but i can remember anyway, or at least i think i do: i remember the weights, the straps, the monotony of putting 1 foot in front of the other, again & again.

she's been here 3 months this time, but she rotates in every year for a couple of months. usually people don't visit for much longer than that. even my mother only comes for 1 month a year. they worry about bones. about eyes. about

the body going soft in the wrong places. hard in the wrong places.

Virginia is here for that, in part – to test the limits. a human guinea pig. they take all kinds of data from her body, send it back to Nevada. every 24 hours she has to have an ultrasound of her heart. sometimes she lets me do it. she knows i'm interested in that kind of stuff. by that kind of stuff i mean: everything.

also we test her eyes every week & when she gets back to Nevada she's having a spinal tap for the second time, which she says is going to suck in more ways than 1. she's a scientist & a subject at the same time: long-term effects of 0 g.

i always say: they should really look at me & Libra & Orion if they want to study that.

oh don't worry, she says. they will.

'u in the command module?' i say to Virginia over the intercom.

'affirmative.'

'u mean yes?' it annoys me when they speak like astronauts. i mean they are astronauts. but still.

'yes.'

'ok, i'm coming.'

i leave the cupola & torpedo thru the station. *torpedo*, verb: to move across different modules, floating, arms in front, grabbing handles to pull oneself forward, crouching to touch down on a corner, pushing off again. i've seen vids of people swimming & i suppose it's a little like that.

but faster.

but freer.

i cross a couple of experiment modules – infrared absorption arrays; alpha spectrometer; solar radiation measurement – & take a shortcut up thru the relaxation

module where we watch vids & read & hang out. the station is arranged like a big plus sign, with huge solar panel wings on each of the 4 ends & now i'm in the vertical arm. vertical is a pretty conceptual idea, of course, up here.

i torpedo past the entertainment consoles & grab an instrument panel that i use to propel myself thru a hatch into the conservatory, which opens up around me. they called it the conservatory after some kind of structure made of glass that people used to have hundreds of years ago but really it's a big module full of plants, on tables, with UV lights hooked up above them & drainage in the tables.

the plants are to eat & also for making oxygen. we have other systems too – there's 1 that gathers & condenses all the moisture we breathe out & sweat out & splits it into hydrogen for fuel & oxygen to breathe. but Moon 2 is big on efficiency, so there are the plants too.

no one is surprised & especially not me, to c Libra in there. she dreams of being a botanist. i mean that literally; she probably really does dream about it. that's how much she wants it. if Libra ever disappeared, which is unlikely in the confines of a space station, i know, but bear with me & the authorities asked if there was anywhere she might go, u would say somewhere with plants.

that's mean of me. she's actually very sociable. more so than me & Orion, really.

when i scoot closer to her, i c she's planting seedlings. i think, anyway.

i'm more equations & velocity & the relative motion of objects – Libra is more growing things & animals. often she watches these old documentaries about lions & chimps & elephants & coral reefs. a lot of those things are extinct now because of everything getting too hot but it doesn't stop her.

'hey,' i say.

'hey.'

'where's Orion?' i say.

she shrugs. 'his bunk, i guess.'

they're twins, but u wouldn't know it.

Libra is pushing tiny plants into this kind of foam stuff that the plants grow in. u can't use soil – it would disperse, float around, get into the vents. 'weeks now,' she says. 'days.'

'uh-huh,' i say.

'i'll be touching the *earth*, Leo,' she says. we're all named after constellations. i got lucky with mine. it's a pretty normal name.

'yeah.'

'imagine. imagine how it will feel between ur fingers. between ur toes.' she lifts her hand to her necklace, she doesn't even realize she's doing it. it's a little metal tube & inside is some soil from Florida, where her mother was born. her mother brought it up years ago. Libra wears it like it's precious. *she & my grandpa should get together down there*, i think. talk about mother earth.

me: i want to feel *gravity*. not earth. i want to throw a ball & c a parabola drawn in the air, not just watch the ball float away from me. i want to c & feel the equations i have learned. but i don't say any of that.

Libra puts down the foam & drifts over to me. her fingers brush my arm. 'u ok?'

i nod. i don't know. 'just nervous i think.'

she smiles. she's pretty. she is. freckles, oval face, brown skin. but i can't meet her eyes. 'u'd have to be crazy not to be nervous,' she says. 'we've been here all our lives.'

'yes.'

'but it's exciting too,' she says. 'think about it. air on our faces! breeze. the sea. our toes in the sand.' behind her is a

porthole & she turns to it. she gestures at the star-filled universe beyond, as if to disperse the blackness of space, like smoke. 'real sky. clouds.'

i nod. 'waves,' i say. 'low-pressure systems. precipitation. the sound of an echo.'

she rolls her eyes. 'i'm talking about sensations. not physics.'

'sensations are physics.'

'yeah, yeah. tho i think Orion would agree with u about the echo.'

'about what?' says another voice. deeper.

that's Orion: floating down in a ball from the module above, unfolding, landing neatly beside us. he's holding his flute, like always. he plays it ok. he never seems to get very much better, or rather, he never learns very long pieces: just little snatches of tune.

but anyway, he says, the purpose of art is art, not accomplishment. me, i think he says this only because there's a difference between playing & practicing. practicing takes work.

Orion leans in & looks at the plants. same oval face as Libra, but stronger, thicker, the jaw firmer. same freckles. 'what would i agree with?' he continues.

'Leo was saying about echoes. how he'd like to hear 1.'

'when we're down there?'

'yeah.'

Orion smiles. it's like he makes his own light, inside him. he plays a few notes on the flute. they ripple thru the module, u can almost c them, silver on the air. 'i can't wait,' he says. 'proper acoustics. music needs a wider space.'

'we all need a wider space,' says Libra.

Orion & i don't say anything. because now there's a hope-tinged sadness in the module, almost audible, like

the little tune from the flute. Libra & Orion ended up here by accident. it was a big joint-venture flight – a load of Russian cosmonauts & Americans too. the most people ever in space, for the longest time. it was when they first found an earthlike planet within a few generations' travel distance: there was a whole plan to send a ship up there & colonize it, because it had fresh water, unlike the earth, which was slowly running out & so step 1 was to c how long people could manage to live in 0 g.

1 of the results of the experiment was unexpected: if u put male & female astronauts in a confined space for 2 years, they will eventually have sex. & 1 of the women, in this case, will end up having twins on board.

they hadn't thought of the regular cardiovascular ultrasounds then either: with the 2 years in space & the pregnancy, Libra & Orion's mother's heart ended up shot. she's been up here a couple of times since but she can't do it for long. they vidlink all the time tho. especially Libra.

me, i was more deliberate. my mother was an astronaut to the core. 2 PhDs, military-flight tester, astrophysicist. she was in every accelerated program NASA ever had & then Moon 2 when NASA was privatized. she says she didn't know, when she finally got the call to go up to the station, that she was pregnant; she'd had a fling a few nights before she launched, some Russian ritual involving vodka. so maybe i'm half-Russian; i don't know.

Grandpa says, if it was a fling, it was the only fling she ever had, in her whole entire life.

anyway: she'd had all the scans already, so just before the mission began they gave her the usual physical, blood pressure & resting pulse rate & chest scan for embolisms & that was that.

until i came along.

in space.

9 months later.

& since then we've all been stuck here, for the same reason they wouldn't let our mothers fly back during pregnancy, because they say that a child's body can't handle re-entry, can't handle landing, so we've always known we had to wait till we were 16 & everything i know about anatomy says they're probably right.

a hand crosses in front of my eyes. 'Leo, u with us?' it's Libra, frowning, looking concerned now, which i suppose is better than looking sad.

'sorry,' i say. 'just thinking.'

'about earth?'

'um,' i say. 'yes.'

Libra leans forward & gives me a hug & i tense, so she pulls away, still smiling tho. 'soon,' she says.

yes. soon. soon the waves, soon the wind, soon all the things we have seen on vids but never felt. even just a big room: the acoustics of it. a full day, not 1 that swings around every 90 minutes. colors that are not metal gray, or plastic white. what it feels like to be pulled down to the ground – in the station there is no up & no down & no weight, we all just tumble around, even liquids, they turn into balls, into globules & float in front of u – u can suck them up with a straw from the air.

the intercom: 'Leo, u coming?'

i give Libra & Orion an apologetic look. 'c u,' i say.

'Virginia need u?' says Libra.

'yeah, she wants some help with the cargo docking or something,' i say.

Libra smiles, but it doesn't reach her eyes. 'go on then,' she says. 'work ur math magic.'

Orion nods at me & starts playing the flute again. his expression, like always, is hard to read. u can't really c into

him, he's like a device screen in bright daylight. i c the muscles around his mouth tighten as he purses his lips; a short phrase of music falls like liquid from his flute, flows, not that i've ever seen anything falling, or flowing, except on a vid screen, but still.

when we were kids, we were close, me & Orion & Libra. u c that, on the vids of us crawling, of us walking. & we still come together sometimes, like for the aurora.

but now Libra is always studying. Orion is always . . . doing Orion things. if Orion disappeared & the authorities asked where he was, i'd say look for anyplace where there is poetry. or movies. or music.

anyplace where there are no people but there are things that people have made, to tell stories.

which makes it ironic, then, that i'm the 1 telling this 1.